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1. METROPOLISATION PROCESSES IN CONTEMPORARY SPACE OF POLAND

1.1. Introduction

Metropolisation of space could be defined as the process of undertaking by some cities of management functions within economic, political and cultural spheres on the supranational scale (Jałowiecki 2005). This process leads to the formation of new types of spatial structures (concentration of development, socio-economic potential and innovations), change of the relations between central places and their hinterlands, changes in the land use structure and expansion of urban solutions originated in the metropolises (Markowski and Marszał 2007b).

Metropolisation, as well as related phenomena, strongly depend on globalisation processes and often are the subject of research. In this chapter a review of Polish achievements in this fields, with a particular focus on the activity of geographers from Łódź University, is presented.

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1.2. Terminological problems

Metropolises are characterised by specific attributes – they belong to various networks of cooperation and interdependence, and they are characterised by high transportation accessibility as well as high quality of human capital. Their rank in the metropolitan hierarchy depends on the degree of integration with other large settlement centres. Other features which influence metropolitan rank include the level of higher education and the development of information society (Namyślak 2007). Metropolises have become centres of global management and they attract high order services, especially those highly specialised and technologically advanced (Maik 2007).

In Polish scientific literature, metropolitan area is sometimes confused with urban agglomeration (Parysek 2008a). According to geographers, a monocentric urban agglomeration is perceived as the spatial concentration of settlement units, characterised by high level of urbanisation, and strongly linked to the central city with the flows of people, goods, money and information (Parysek 2008a, Liszewski 2010). A similar definition was given as early as in the 1980s by Z. Gontarski, who claimed that metropolitan area also refers to a spatially continuous big-city structure, consisting of separate administrative units, which includes at least one big city and its related urbanised zone (Liszewski 2005). Nowadays, according to Polish law, a metropolitan area is defined as the area of a big city and its functionally linked direct surrounding, indicated in the National Concept of Spatial Development (*Act on spatial planning...* 2003). What makes those terms different is the fact that, contrary to urban agglomeration, the centre of the metropolitan area performs exogenous functions related to services and management on global, continental or national scale, which are known as metropolitan functions (Liszewski 2010). Such functions are exogenous, advanced economic activities, favourable to creating external linkages, and, finally, conducive to the competitiveness of the metropolis on the supra-national scale (Marszał 2004). According to M. Privelli (2003), the extent of

metropolitan functions in contemporary world depends on the type and quality of services offered in the city; the level of scientific and technological development, service providers' and consumers' abilities to use the achievements of the civilisation, economic, technical and legal access to those functions, the type of legal and administrative system, and the political situation.

The metropolitan area covers a zone of significant direct range of everyday interactions (places of accommodation vs. places of work), as well as the areas of potential development possibilities in which metropolisation processes are observed. Due to the sufficient concentration of economic activities, this area supplements the functions of the central city. It is characterised by strong infrastructural integration, including well developed transportation network (Kozłowski and Marszał 2010). As far as the morphological criteria are concerned, defining a metropolitan is more problematic. Generally speaking, it is a large monocentric or polycentric urban system comprising both the daily urban system zone and the area characterised by development potential (Markowski and Marszał 2007b).

1.3. Identification of metropolises and delimitation of metropolitan areas

An attempt at delimiting metropolitan areas in Poland was made already in the 1960s by the Central Statistical Office (Liszewski 2010) (Figure 1.1). Afterwards, interest in this concept revived slightly in the 1990s (Pielesiak 2007), followed by intensive investigations in this field in the next two decades.

Significant statements in official documents that referred directly to metropolisation processes did not appear until 2001. That year the *Concept of National Spatial Development Policy* was published, in which, among key elements of the Polish settlement system, a capital metropolis (Warsaw) and so called europoles (other centres of supranational importance) were indicated. To identify europoles, six general features were taken into consideration: multifunctionality, demographic potential of at least 500 thousand

with prospects for lasting development, nodal location in the European communication network, considerable cultural potential, favourable human environment with the prospect of quick adjustment to European standards, and, finally, receptive investment and consumer markets. At first, potential core cities were identified with the use of the demographic criterion. This step was followed by evaluation of various indicators illustrating the socio-economic condition of the surrounding municipalities, which led to choosing the territorial units characterised by the highest level and dynamics of development. Eventually, again the joint demographic potential was assessed to finally indicate europoles. This analysis proved the existence of four metropolises (Warsaw, the Tricity, Poznań and Cracow), and suggested eight more potential centres (Łódź, Katowice, Wrocław, Szczecin, Bydgoszcz-Toruń bipolar structure, Lublin, Białystok and Rzeszów) (Pielesiak 2007, 2012).

The process of identification of metropolises and delimitation of their functional areas was accelerated by the *Act on spatial planning and development* (2003). This document required regional authorities to include the vision of spatial development of the metropolis and its surrounding in the obligatory planning document for each voivodship. Two years later Polish metropolitan areas were designated in the *Updated National Spatial Development Concept*. This time the functional areas of Warsaw, Cracow, the Tricity, Poznań, Wrocław, Łódź, Silesia, Szczecin and Bydgoszcz-Toruń were mentioned. Moreover, in the document also three potential metropolitan areas were mentioned, all of them located in Eastern Poland (with centres in Białystok, Lublin and Rzeszów).

The lack of consent for identification of Polish metropolises in the official documents seems to be the reflection of the scientific discussion on this matter. Undeniably, there is a capital metropolis (Figure 1.2); usually researchers also indicate such cities as Poznań, Wrocław, Gdańsk and Cracow (Ilnicki 2003), Łódź (Budner 2008), Silesia conurbation (Smętkowski et al. 2008), Szczecin (Skotarczyk and Nowak 2010) and Bydgoszcz-Toruń duopolis (Markowski and Marszał 2006a, b). Those cities could be described as “interme-

diate” metropolises since they play an important role in supporting the relations between bigger centres (Namyślak 2007). Definitely less popular are the claims that the set of Polish metropolises contains also such small cities as Lublin, Białystok and Rzeszów, which perform exogenous functions, but only on regional scale, rather than being centres of supranational importance.

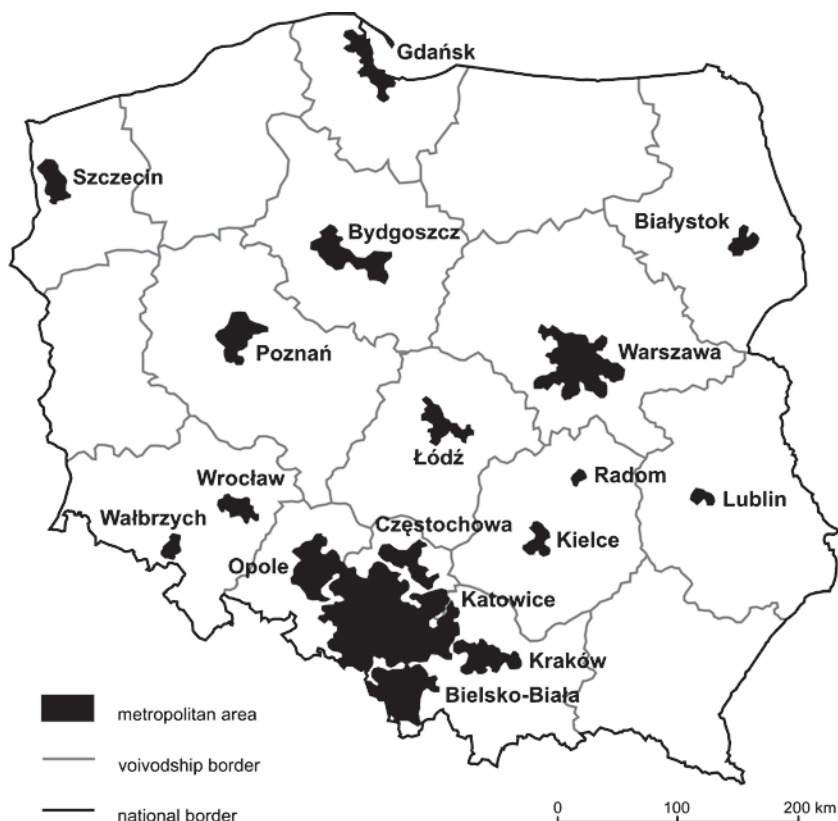


Figure 1.1. Delimitation of metropolitan areas in Poland by Central Statistical Office (1968)

Source: elaboration based on R. Buciak and M. Pieniążek (2013)

An adequate identification of those cities which ought to be considered as metropolitan centres requires the application of proper methodology. For example, D. Ilnicki (2003) based his method of indicating metropolises on Z. Kamiński's centrality index. He aggregated the data referring to 37 types of economic activities, which are bound with a high level of metropolisation in the literature. A different procedure was proposed by M. Smętkowski et al. (2008) who assessed the level of development of metropolitan functions as the conglomerate of controlling and management activities, academic and cultural potential, external attractiveness (measured by the number of people using night's lodging) and transport accessibility.

After the identification of metropolitan cores, the next step requires the examination of their functionally related surrounding areas. According to M. Smętkowski (2005), a metropolitan area ought to be delimited with respect to the following criteria:

- maximum distance – areas located no farther than 50 km from the centre of the metropolis; commuting time (one hour maximum) could become a useful characteristic, too (Smętkowski et al. 2009);
- close neighbourhood – including all municipalities directly neighbouring the metropolis, regardless of the fact whether they meet other criteria of delimitation;
- continuity – including in the metropolitan area only those municipalities which adjoin the metropolis directly or through other indicated municipalities;
- compactness – no territorial gap ought to be left within a metropolitan area; if there is a less developed municipality surrounded by typically metropolitan units, it also ought to be included in the metropolitan area.

Delimitation of metropolitan areas caused many disagreements, because it was not clear whether the basic unit for this operation should be the single municipality or the administrative district consisting of several municipalities (Pielesiak 2007). At first both options were taken into consideration. Choosing the latter possibility was motivated by the statistical reasons as well as the need for future optimisation of metropolitan management. However, K. Bald (2005), taking the example of Łódź Metropolitan Area, made a com-

parative analysis of those two approaches, proving the municipal option to be more adequate. Recently, even the delimitation of Łódź Metropolitan Area, which at first was based on the district level, has been corrected with respect to the municipal division (*Spatial development plan...* 2010).

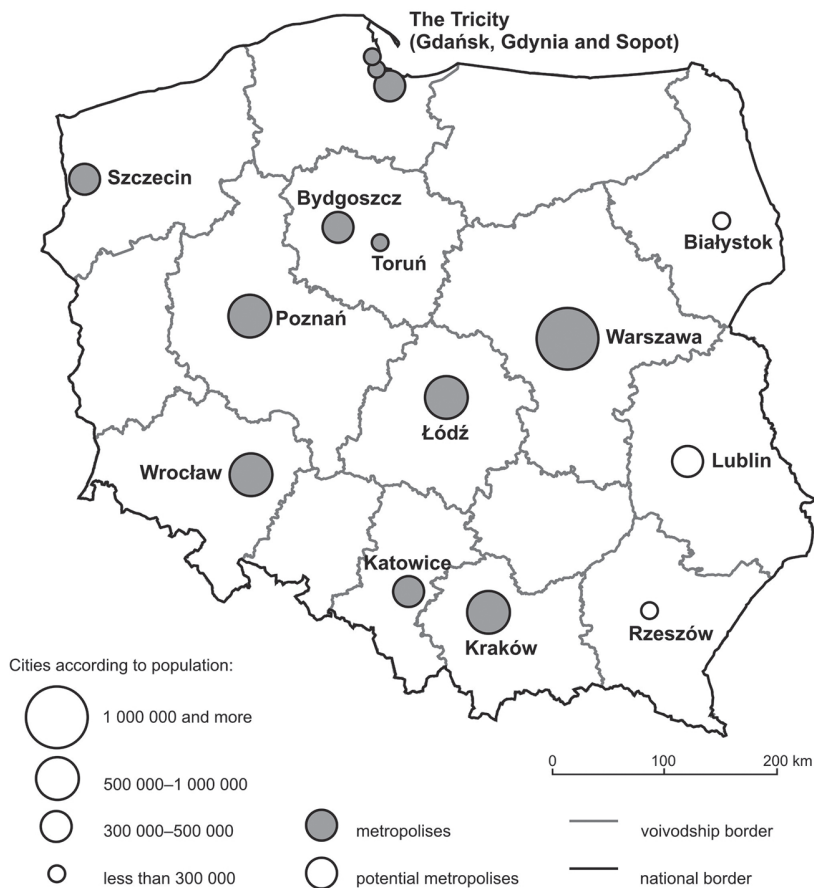


Figure 1.2. Contemporary Polish metropolises according to their population

Source: own elaboration

The administrative approach towards establishing the functional area of the metropolis was criticized by M. Tarkowski (2005). In his opinion the delimitation of metropolitan areas could be based on the concept of daily urban system. A major criterion in this context would be spatial behaviour of the inhabitants, including commuting to places of work, education, or other service facilities. This kind of approach was applied in an extended form in the project under the auspices of Ministry of Regional Development, which was aimed at delimiting the functional areas of all capital cities of Polish voivodships (Śleszyński 2013). In this case seven indicators reflecting functional relations as well as socio-economic and morphological characteristics were used, and these were: commuting flows to places of employment in the central cities, immigration to central cities, the share of non-agricultural employment, the level of development of business activities and high order services, population density and information about housing market.

The necessity for delimiting urban functional areas of all provincial centres in Poland appeared as the result of the provisions of *The National Spatial Development Concept 2030* (2012). Such areas are supposed to be functionally bound territories which face joint determinants of development and share the objectives for the development in future. They are seen both as a tool for diagnosing problems in socio-economic and spatial development, and for optimisation of planning processes. Before the results of delimitation of urban functional areas carried out for the Ministry of Regional Development were published, the Central Statistical Office, too, tackled this problem. In this project, undertaken within Urban Audit programme, Larger Urban Zones of voivodship capitals were established on the basis of commuting flows to places of employment (Figure 1.3).

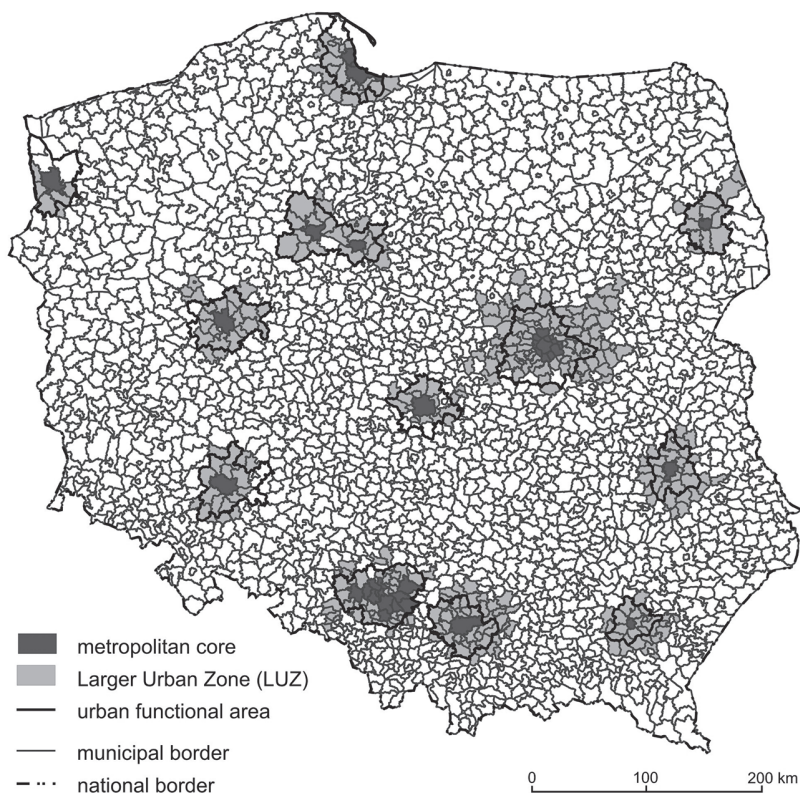


Figure 1.3. Functional areas of Polish metropolises in contemporary public statistics

Source: elaboration based on R. Buciak and M. Pieniążek (2013)

1.4. Institutionalisation of metropolitan areas

Apart from the problem of delimiting metropolitan areas in Poland, the scope of tasks to be assigned to metropolitan authorities is still unknown. In many discussions on this subject, mainly those

responsibilities were indicated which are seen as crucial for development of the metropolis and its direct surroundings, i.e. public transport system, territorial marketing and spatial planning. However, it is also suggested that the metropolitan government's sphere of interest should be maximized, which would make Polish approach more similar to American and Canadian solutions (Pielesiak 2012). More information about such approaches towards metropolitan management can be found in articles published by T. Markowski (2005), E. Gończ (2005) and T. Kaczmarek (2010).

In 2006 a project of a new act on spatial planning was made public, but despite great expectations, it did not propose any important advancements in the question of identification and delimitation of metropolitan areas. The new law on spatial planning was never passed, and neither was the act on metropolitan areas. In the *Bill on urban development and metropolitan areas* (2008), metropolis and its hinterland were supposed to be assigned the coordination of municipal tasks such as land management, public transportation, environmental protection, energy and water supply, sewage disposal, waste management, public order and safety, fire prevention and crisis management.

One more problematic issue in this discussion is the form of the metropolitan managing body. Among possible solutions of this matter are: obligatory and non-obligatory municipal associations, obligatory association of districts, or a completely new managing organ, which could possibly take over some of the competences assigned to communes and/or districts. However, if the latter option was chosen, certainly another discussion on the reasonability for preserving the district level in Polish system of territorial organisation would be raised (Pielesiak 2007, 2012b). Although no decision in this matter has been formally made so far, it seems that the most probable option is the one which assumes creating a board of municipal authorities representatives. This legislative body could be supported by an executive office administered by a professional manager. This solution was proposed in the *Bill on urban development* (2008). The project assumed establishing self-government

delegates' assembly and the executive board, consisting of the heads of local governments.

Even without new legal provisions, regional and local authorities initiated some grassroots forms of cooperation within the major Polish metropolitan areas (Pankau 2005, Pielesiak 2012b). Having no valid metropolitan act to refer to, they used the possibilities for collaboration provided by the *Act on local government* (1990). This means establishing voluntary municipal associations and making inter-municipal agreements concerning the chosen tasks assigned to them by the legislator. Although at first glance this situation does not seem to generate problems, inter-municipal cooperation and the perspective of resignation from some prerogatives in favour of the metropolitan authorities still remains a highly controversial issue. The survey made for the Polish government (*The White Book on Metropolitan Areas* 2013) shows that in local authorities' opinion, contemporary formal frames of cooperation proved to be ineffective. One of the greatest obstacles on the way to successful cooperation seems to be the fear that the central city would completely dominate the surrounding territorial units and adjust the metropolitan policy mostly to its own particular needs. There is also the question of relations between the municipalities of the metropolitan hinterland, which tend to compete with each other. It seems that this problem could be solved only by introducing unified, country-wide, legal regulations. One of the main objectives in this matter should be enhancing effective inter-municipal cooperation and promoting more balanced relations between the core city and its surroundings. It is obvious that this task is extremely problematic. The vision in which municipalities are exploited by the metropolis is common not only in the opinions of local communities, but also in scientific debates.

Becoming a metropolis means the strengthening of connections with other global cities, which offers greater possibility of independent (of its local surroundings) development. This results, however, in serious weakening of socio-economic relations with the municipalities of its hinterland. The problem of spatial discontinuity in this context was raised, among others by B. Jałowicki, G. Gorzelak,

M. Smętkowski (Domański 2008). S. Korenik (2004), discussing this issue, emphasized the need for the metropolis and its surroundings to develop interdependently and harmoniously. This concept, which clearly reflects the idea of sustainable development, is especially desirable in the contemporary socio-economic situation in Poland. Preventing the disintegration of the metropolis and its hinterland is seen as the solution to the problem of existing regional inequalities (Kołodziejski 2001).

1.5. Metropolisation processes in scientific research

One of the main subjects in Polish research on metropolises and metropolitan areas is their functioning. B. Domański (2007) perceived metropolises as the convergence point for relations considered in various spatial scales. W. Maik (2003) made an attempt to conceptualize the problem of measuring metropolitan functions, whereas J.J. Parysek (2003) focused on metropolitan functions as well as on the metropolitan structures. Metropolitan functions became an important problem in the research conducted in Łódź geographical centre. This problem was analysed in the macro scale – with the reference to the world cities (Kozłowski 2003), however, the main subject of interest remained the network of Polish urban centres. Among the contributors to this topic were D. Walkiewicz (2003), T. Marszał and A. Ogrodowczyk (2007). Special appreciation ought to be given, however, to the scientific achievements of T. Marszał (2004, 2005a, b, 2008a, b) who, together with T. Markowski (2005a, b, 2006a, b, 2007a, b), have been investigating for many years the metropolisation processes in Poland in the context of functions, management and role of spatial development.

Geographic publications often relate to urban functions and their development using the cases of single metropolises. An important contribution to this subject was made by S. Liszewski (2010a, c) who analysed the evolution of Łódź – from an agricultural town, through industrial agglomeration centre to its contemporary

role of a metropolitan core. Functional changes in the city, especially with emphasis on the period of transformation, were also analysed by M. Sobczyński and A. Wolaniuk (2006, 2008), A. Wolaniuk (2006a), and A. Suliborski et al. (2009a, b, 2010). Wide theoretical and empirical studies on urban functions were conducted in Łódź geographical centre also by A. Suliborski (2002, 2003, 2010).

In research on metropolitan functions special attention was paid to the role of culture (Kozłowski 2004) and higher education (Wolaniuk 1997, 2001a, b, 2006b, Liszewski et al. 2008), and their influence on the organisation of contemporary metropolitan space. An interesting approach was proposed by E. Szkurłat (2003), who analysed the perception of metropolis through urban prestige and place awareness. Those elements could become, in her opinion, a tool for measuring the intensity of metropolisation processes. An unusual approach towards the analysis of metropolitan functions was presented by M. Wójcik (2010) who focused on theoretic concepts of metropolitan villages and the contexts of their possible application.

The question of metropolitan functions is strongly related to various issues in urban development as well as to the phenomena and processes that accompany it. This relates especially to suburbanisation, which was explored in reference to the biggest Polish cities' influence by J. Jakóbczyk-Gryszkiewicz (1998), J. Jakóbczyk-Gryszkiewicz et al. (2010), A. Lisowski and M. Grochowski (2008), A. Lisowski (2010), J.J. Parysek (2008b), J. Runge and F. Kłosowski (2011), and others. Suburbanisation, together with the problem of underestimating the role of conscious spatial planning by local authorities, leads to the loss of economically and ecologically valuable areas (Parysek 2008a). Uncontrolled urban sprawl results in increase in municipal expenses on development and maintenance of technical infrastructure (Lisowski 2005), as well as in rapidly growing congestion caused by individual means of transport (Jeżak 2005, Lisowski 2010). The problem of inefficient public transport was caused in this case by many factors, such as the lack of supporting policies or procedural disabilities, which enable a single citizen to block

investment processes, even those which are crucial for the whole region (Parteka 2001).

As the concept of metropolitan areas originates from D. Whitteley's theory of nodal region (Parysek 2009), one of the key research problems in the analysed field concerns the strength, structure, spatial extent and the role of metropolitan relations. A complex analysis of the relations observed within urban agglomeration was published by A. Matczak (1993), who took into consideration the shape of the territorial system (distinguishing external and internal relations), the ability to create a system (connecting relations – integrative and non-integrative; non connecting spatial relations), the type of activities (economic, cultural and political), origin (primary, secondary relations), complexity (between human individuals, between subsystems, intersystem relations), the kind of coupling (informative and supply relations), and the type of dependency (functional, dynamic and morphological).

A macro-scale empirical research project investigating this problem was carried out by B. Bartosiewicz and I. Pieleśiak (2010), who focused on the spatial linkages between Polish metropolises and small towns located in their hinterland. The results of a survey regarding local authorities' opinion on this matter were presented as the background to data illustrating the level of municipal socio-economic development, confronted with distance to the metropolis. Other scientific studies in this field emphasized the role of transportation network and the circulation of people and goods (Bernacka-Baranowa 1983, Lisowski 2003). More detailed projects dealing with this issue concerned the situation in the regions of Warsaw and Łódź. In the first case the integrating role of transport infrastructure in the context of circular migrations (Smętkowski 2005) was analysed. Research related to Łódź Metropolitan Area was much wider, covering not only conventional transportation relations (Bartosiewicz and Pieleśiak 2012), but also other infrastructural systems (Marszał and Pieleśiak 2008, Pieleśiak 2012). Moreover, the role of institutional cooperation in the integration of metropolitan areas seems to be an important subject of consideration. Some interest-

ing studies were done for Warsaw and its hinterland (Zegar 2003), the Tricity (Kubiak and Pietruszewski 2005), and recently, for Łódź Metropolitan Area (Pielesiak 2012b). One of the visible results of inter-municipal cooperation is the coherence of spatial planning along borderline zones. Unfortunately, around Polish cities there are many cases of land use conflicts resulting from the imperfect planning system and strong investors' pressure. A detailed analysis of the gap between implementation and planning was described by M. Borowska-Stefańska and J. Ulańska (2012).

As far as linkages between metropolises are concerned, contrary to the above-described linkages, their existence does not require spatial proximity. They are stimulated by the economies of scale, scope and agglomeration (Korcelli 2011). M. Grochowski (2011) suggests that there are five types of relations within the metropolitan networks:

- exclusion – resulting from specific absolute and relative location of the metropolis and/or insufficient level of metropolitan functions development;
- complementary – relating to relatively independently functioning cities; cities complement each other especially when efficient communication linkages connect them and the metropolises have strong positions in the network;
- subsidiary – stimulated by good communication accessibility, systematic cooperation between economic entities and territorial units as well as by the existence of the supporting management;
- hierarchical balance – including a dominant metropolis linked with other cities with subsidiary partner relations;
- hierarchical dependence – including a dominant metropolis which, by the use of the advantage of its development potential, takes over significant functions and deprives the cities located lower in the hierarchy of their development incentives.

Important research projects concerning the structure, strength and extent of socio-economic relations generated by Polish metropolises were made by P. Śleszyński (2008, 2011). In his analyses, P. Śleszyński focused mainly on organisational and ownership

linkages. Also T. Komornicki (2011) and D. Świątek (2011) referred to the topic of spatial relations between the largest Polish cities, analysing transport infrastructure, both regarding the level of its development and the performance of technical infrastructure. Their results were supplemented by analysis of scientific research linkages, including cooperation of Polish institutions within EU Framework Programmes (Siłka 2011).

1.6. Conclusions

The last 20 years of scientific research on metropolises and metropolitan areas in Poland can be divided into three basic stages. The first one, observed at the turn of the 20th century, focused on the implementation of the basic terminology and methodology from European and American scientific literature. That was also the time of the first attempts of identify Polish metropolises and delimit their functional areas. This period strongly influenced further achievements in this field, first of all, two basic approaches towards understanding the metropolis were applied then. The first one, according to the international terminology, refers to a big city which due to well-developed metropolitan functions is considered (or aspires) to be an important centre on the global scale (global metropolis). In Poland only the capital city, Warsaw, to some extent seems to meet such criteria. In such circumstances, this term more and more often was used to refer also to other regional and supra-regional centres. As a result, scientists who certainly acknowledged this nuance, began to equate “metropolitan areas” with “urban agglomerations”. The popularity of this approach could be explained in the context of prestige and political objectives. However, despite the fact that for many years numerous attempts to institutionalize such metropolitan areas have been made, still there is no agreement on the identification of metropolises and the delimitation of their functional areas, not mentioning other issues related to metropolitan governance.

The second stage of research in the described field fell on the first decade of the 21st century. The main focus was on identifi-

cation of metropolitan functions in the biggest Polish cities, usually four or five of them. At that time a dual approach towards the understanding the idea of metropolis was clearly visible.

Nowadays we experience the third stage of metropolitan research, in which the internal structure of metropolitan areas as well as the relations within them attract scientific attention. Simultaneously, numerous projects focusing on smaller territorial units (e.g. small towns located in metropolitan hinterland) are being carried out. It seems that in future this stage could be followed by focusing the interest on the institutionalisation of metropolitan areas. This ought to result in integration of transport policies, land management and performing other municipal tasks, and, in a broader perspective, in establishing complex metropolitan management. The example of considerable advancement in this field may already be found in Poznań, where local authorities, together with the scientific circles, successfully stimulate integration of the metropolitan area.¹

To conclude, metropolises and metropolitan areas are nowadays among the most important scientific research subjects in Poland. Not only does this refer to socio-economic geography, but also to economy, urban sociology and management. A considerable share of the scientific projects in this field has application values – their results are implemented in various planning documents prepared at each level of territorial organisation. This evidently proves the importance of research activities regarding metropolisation processes as well as the necessity of their continuation in future.

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¹ More information about this project is available on the website of Centre of Metropolitan Research (<http://www.cbm.amu.edu.pl>) and Poznań Metropolis (www.aglomeracja.poznan.pl).

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