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ARCHITECTURAL DOMINANTS IN LANDSCAPE OF TRI-CITY

Article presents brief description of dominants' role in landscape of cities, definitions used in research. Main goal was to present mentioned objects, their spatial distribution and role performed in landscape. Article presents also: definitions of key terms, delimitation of area being analysed for presence of predominant features, their localization, classification and role performed in landscape of Tri-City. Also area of study is described, along with its localisation and key spatial characteristics, such as height above sea level, major spatial barriers, along with administrative units.

As a part of the study, cities were divided to groups of districts, chosen from administrative units located next to each other and similar in terms of spatial development. Some groups were excluded from further analysis mainly due to their weak spatial connections with main parts of the analyzed cities.

Within groups of districts not excluded earlier, field studies were conducted. As a result, the catalogue of existing dominants were created, along with their typology. Also, assesment of transformations of landscape in the context of rise of dominants was conducted.

Keywords: dominants, urbanisation, Tri-City, landscape, architecture.

Michał Beger. АРХИТЕКТУРНЫЕ ДОМИНАНТЫ В ЛАНДШАФТЕ ТРИ-СИТИ

В статье представлено резюме изучения архитектурных доминант, расположенных в Три-Сити. Основная цель состояла в том, чтобы представить упомянутые объекты, их пространственное распределение и роль, выполняемую в ландшафте. В статье представлены также: определения ключевых терминов, разграничение анализируемой площади на наличие преобладающих признаков, их локализация, классификация и роль, выполняемая в ландшафте Три-Сити. Был создан каталог существующих доминант, а также их типология. Также была проведена оценка трансформаций ландшафта в контексте развития доминант.

Ключевые слова: доминанты, урбанизация, Три-Сити, пейзаж, архитектура.

Michał Beger. АРХИТЕКТУРНІ ДОМІНАНТИ У ЛАНДШАФТІ ТРИ-СІТІ

У статті представлено резюме вивчення архітектурних домінант, розташованих у Три-Сіті. Основна мета полягала в тому, щоб представити згадані об'єкти, їх просторовий розподіл і роль, виконувану в ландшафті. У статті представлені також: визначення ключових термінів, розмежування аналізованої площі на наявність переважаючих ознак, їх локалізація, класифікація та роль, що виконується в ландшафті Три-Сіті. Було створено каталог існуючих домінант, а також їх типологія. Також було проведено оцінку трансформацій ландшафту в контексті розвитку домінант.

Ключові слова: домінанти, урбанізація, Три-Сіті, пейзаж, архітектура.

1. Introduction. Architectural dominants plays very important role in formation of landscape in cities. They can change it for a very long periods. Additionally, mentioned objects tend to be important factors which causes many changes taking place in the cities, because they can influence development of many areas. Last important characteristic of dominants is that they often become signature of cities, in which where they are located. This applies especially in case of altitudinal architectural dominants, which are also buildings. That's why study focused specifically on them.

Main goal was to present architectural dominants located in Tri-City, describe their spatial distribution and role performed in landscape. This was achieved by conducting a cataloguing of mentioned features and classifying them.

Another goal was to define influence exerted by dominants on their surroundings. Based on analyses of mentioned areas, an attempt was made to determine their influence on building of new dominants and on landscape of whole Tri-City.

2. Methodology.

2.1. Important definitions. Two definitions of most important concepts were created for use in research – landscape and dominant. Both of them already has been widely discussed in literature, so their definitions were created based upon the existing ones.

2.1.1. Landscape. Landscape is term variously defined in many branches of science. It is most commonly used in geography or biology, but also in architecture or biochemistry. However, in everyday language word „landscape” is most commonly used to describe view (Richling, Solon, 1996).

For purposes of research, landscape was defined as follows – it is physiognomy of area perceived by people, whose character results from the nature of natural and human factors, constituting a public good. This definition was created due to character of analysed area, comprised mainly from urban areas.

2.1.2. Dominant. Term of dominant can be defined in many ways, according to branch of science, similarly like in case of landscape, described earlier. Additionally, these definitions varies greatly because are used to

describe roles performed in many different kinds of areas. For example, in architecture dominants are mostly elements of single building (Szolginia, 1992). For this reason, not all definitions of dominants are suitable for purposes of research.

For purposes of research, following definition of dominants was created – building or group of buildings, all of which stand out significantly in the landscape of city and in the same time meet the following criteria:

- are significantly higher than surrounding buildings and/or are located on higher altitude above sea level than their surroundings,
- shape and/or colour particularly distinguish them from the environment,
- their location or environment particularly affect their visibility,
- serve as residential, service or industrial.

Openwork and slender buildings, such as antennas, mast or power poles, were excluded from analysis. This

does not include sacred objects (mostly church towers) because many of them are usually designed as dominants and are still serving that function in the landscape.

2.2. Area of study. Study area consist of selected districts forming cities, which belongs to Tri-City (Gdynia, Gdańsk and Sopot (Fig. 1). Some districts were excluded from analysis due to existence of distinct spatial barriers (like e.g. dense forest areas, rivers, major communication routes). Also, districts are characterized by the dominance of development typically agricultural or forestry. Distribution of districts within individual cities of Tri-City is shown on figure 2, along with the information whether they have been taken into account later in the study. Sopot was considered as a whole because of large number of districts with a very small area, compared to the similar administrative units of Gdynia and Gdańsk.



Fig. 1. Location of Tri-City against voivodships of Poland

Districts taken into account in the study were considered in groups, separated on the basis of the assessment of similarity between buildings and main functions of districts. This method has been chosen because of the administrative nature of existing distribution of the districts – often specific areas of cities forms huge areas, characterized by plain or very similar appearance. However, they are split between different districts because of various reasons. Whereas, districts excluded from analysis were divided into groups primarily taking into account reasons of exclusion. All

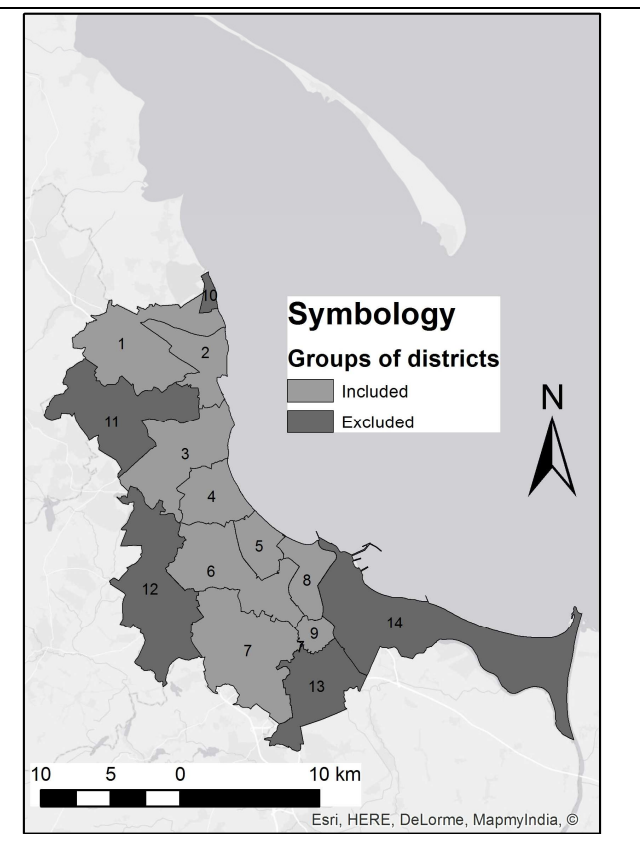


Fig. 2. Districts included and excluded from analysis

mentioned groups are shown on figure 3. Whereas, on figures 4 and 5, they are presented together with height above sea level and existing spatial barriers. Further in the article, short characteristic of group included in analysis were presented.

2.2.1. Gdynia. Gdynia is port city located in northern part of Tri-City. In the past, it was a fishing village. Gdynia obtained city rights in 1926. It was related to the rapid growth stimulated mainly by construction of the port. At that time, considerable spatial development took place – many surrounding

villages were joined to the city. They later evolved into districts. Terrain of the city is diverse – between specific areas there are significant differences in altitude, multiple valleys and hills are present. It is associated with the localization at meeting point of two geographical regions: Kashubian Lake District and Kashubian Coast. For both, characteristic is presence of land forms such as: top and bottom moraines, glacial valleys and erosion valleys (Kondracki, 2000).

Districts of Gdynia covered in analysis were divided into three groups:

1. northern districts (group number 1) – dominating type of building are multi-family residential settlements built in technology called „big plate”. Currently, there are also present large industrial areas;

2. downtown districts (group 2) – in this area, prevailing type of building are modernistic-style, multi-storey houses, mainly residential;

3. southern districts (group 3) – in this area, low single- or multifamily housing prevails. Tall buildings are present only occasionally, with a very strong tendency to concentrate in groups.

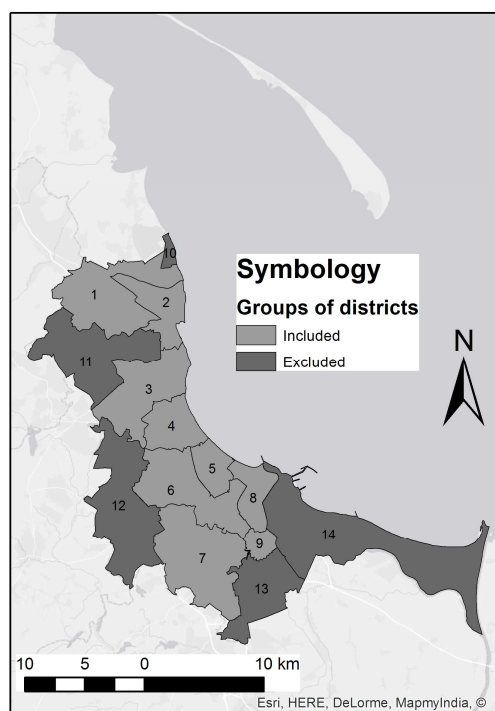


Fig. 3. Groups districts taken into account during analyses

2.2.2. Sopot. Sopot is city located in the middle of Tri-City. Sopot obtained city rights in 1901. City limits are determined by administrative borders of Gdynia, Gdańsk and Gulf of Gdańsk coast. Significant part of the city is occupied by forest areas. Sopot is divided into a number of small districts. In addition, within the city there are no larger areas very different from each other in terms of buildings height, which significantly impedes their division into groups. For this reasons, it was decided to treat Sopot in its entirety as a separate group (number 4 in the map).

The city is located in the following geographical regions: mesoregion of Kashubian Coast, micro-region Terrace Sopotko-Wrzeszczański and Kashubian Lakeland, mainly in western part of the city (Kondracki, 2000). In the eastern part of the city, terrain is mostly flat, height above sea level increases significantly in the western part, where are located moraine hills, mainly covered by forest.

2.2.3. Gdańsk. Gdańsk is city located in southern part of Tri-City. It is the oldest and also the largest of all cities forming mentioned agglomeration. It has long history, which has an impact on occurrence of significant differences between districts as they have been created in

different time periods and were subject to various transformations.

City is located in the four different physical-geography units, mesoregions: Żuławy of the Vistula, Vistula Spit, Kashubian Coast and Kashubian Lake District. Most areas covered in the analysis are located in the premises of last two mentioned mesoregions. This has impact on the existence of significant differences in height above sea level – areas located in western part of the city are at far higher altitude than ones located in the east.

Districts of Gdańsk covered in analysis were divided into five groups:

1. Northern residential areas (group 5) – dominating type of building are multi-family residential settlements built in technology called „big plate”;

2. old residential districts (group 6) – prevailing type of building are single- and multifamily buildings built in different historical periods;

3. residential districts (group 7) – mainly composed of medium and high multi-family housing;

4. port districts (group 8) – dominating function is industry and transport, districts are strongly divided by spatial barriers;

5. city center (group 9) – historical city center, characterized by a large number of historic, monumental buildings.

3. Catalogue of dominants located within analyzed area of Tri-City. As a part of the study, field research was carried out. It's aim has been to catalogue

dominants located in analysed area of Tri-City. Results were presented in the form of catalogue containing descriptions of mentioned objects, their characteristics, localization and surroundings. On figure 6, localizations of this objects are presented.

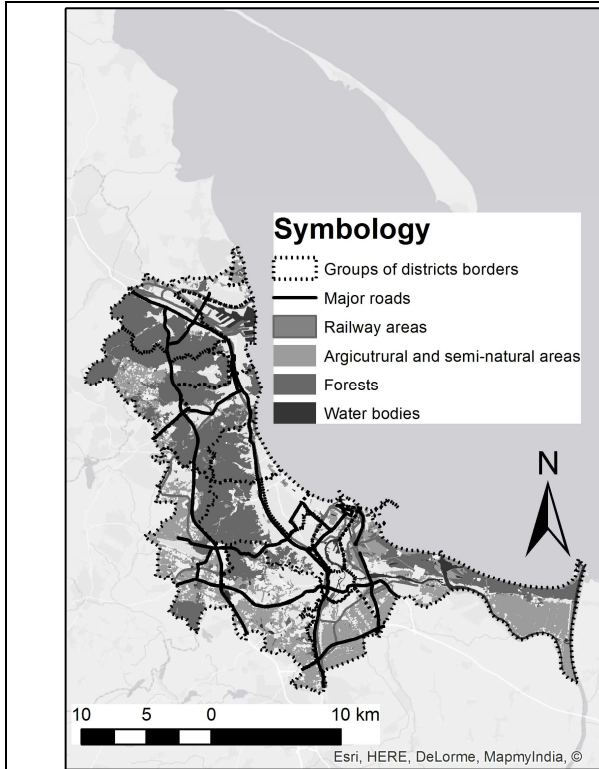


Fig. 4. Groups of districts and major spatial barriers

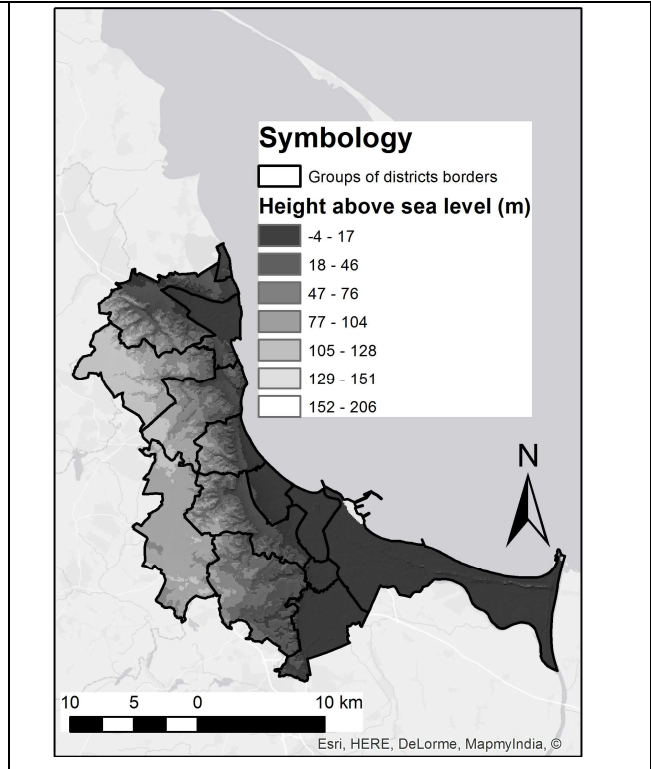


Fig. 5. Groups of districts and height above sea level

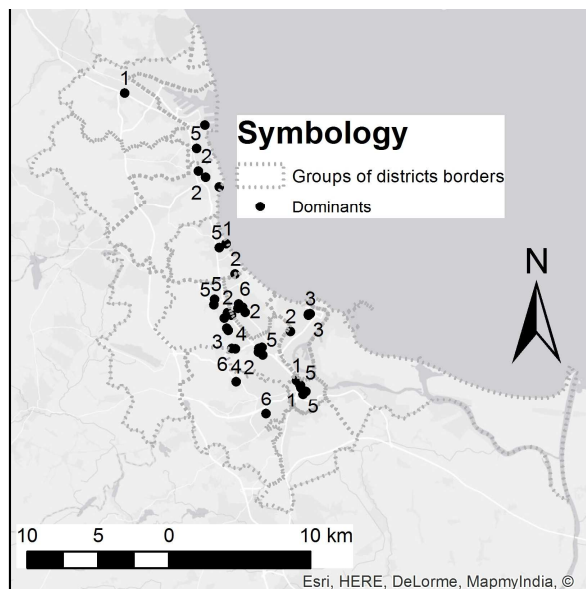


Fig. 6. Types of dominants in Tri-City

4. Typology of analyzed predominant features. After cataloguing dominants, their typology was done. Due to considerable differentiation of individual objects, multi-criteria typology was used. Objects were divided into multiple types, according to characteristics such as

their functions, periods of formation and their height. Then, based on mentioned divisions, most common types of object were identified:

- 1) service or residential-service, built in 1945-1989, height 30-90 m (5 objects);

- 2) service or residential-service, built in 1990-2015, height 30-90 m (10 objects);
- 3) service, built in 1945-1989, height 30-60 m (8 objects);
- 4) service, built in 1990-2015, height 30-60 m (2 objects);
- 5) sacred, built before 1939, height 30-90 m (9 objects);
- 6) sacred, built in 1945-2015, height 30-90 m (3 objects).

Mentioned types were shown on figure 6. Two dominants are marked as „unspecified” and not fall into any type due to their specific characteristics. First is Sea Towers (dual high building located in Gdynia center, height 142 m), second – building of former curative hotel, which is dominant primarily due to its specific position in space.

5. Transformation of landscape in the context of rise of dominants. Last stage of study was an attempt to determine influence of existing dominants on the landscape. This phenomenon was considered in relation to a number of selected aspects: location of mentioned objects, their mutual neighbourhood, height and impressions they make on observer. The article focuses only on a few chosen from them.

5.1. Periods of formation of dominants. Within the typology different type of dominants were featured, taking into account particularly their function and period of origin. First, longest period includes the time before 1939, when only sacred dominants (churches) had been built. These objects are distinguished by their deliberate design as dominating features in landscape, serving as landmarks. In addition, during their erection, no other tall buildings were built, which further strengthened their role.

Second period of the dominants construction covers years 1945-1989, when most analysed object has been built, majority of them are tall buildings built in technology of „big plate”. Their functions are mainly residential or service-residential. In a few cases, objects strictly used for service or sacred had been built. In the described period, first modern tall buildings were built – massive, mostly with elevation based on glass or similar materials.

During the last period, during years 1990-2015,

there was significant intensification of the process of building dominants, especially near already existing ones. They primarily features residential or service-residential functions.

5.2. Influence of existing dominants on landscape.

Influence of dominants in landscape depends on many factors that often are very important to distinct object as dominating. In article, two of them has been discussed – localisation and mutual neighbourhood. Also, spatial distribution of mentioned features was discussed.

Localisation of many objects is crucial factor which decide about distincting many objects as dominating. In addition, it determines the area from which such objects are perceived, affecting the distance of attraction of observer's attention or restricting this interaction only to specific directions.

Mutual neighbourhood is factor considered when predominant feature consists of few buildings and/or other similar objects are located in its close vicinity. Influence on landscape exerted by neighbouring dominants tends to decrease with the number until they cease to stand out in the landscape, creating a wider background. It is caused by the fact that a single object strongly outlines visually in the landscape than the greater number of them, located close to each other.

Dominants are located unevenly through analyzed area – outside the city of Gdańsk there are only a few, isolated objects. Whereas, most of them are located in Gdańsk. Most of them are concentrated in several groups, as shown on figure 6. As can be observed, size of these groups tend to increase when new dominants are built near existing ones. This is especially visible in the case of residential, service or service-residential buildings.

6. Conclusion. During the study, cataloguing of existing altitudinal architectural dominants had been made. Their spatial distribution was examined. In addition, six types of analyzed objects were isolated. They were later used, along with informations gathered earlier, to made assesment of influence of dominants on landscape and ways it changes. This influence is significant. In addition, in the area of Tri-City, takes place a process of disappearance of individual dominants, along with construction of more such objects in the vicinity of existing ones.

Article was written on basis of unpublished master's thesis „Architectural dominants in landscape of Tri-City” (Beger M., 2016, University of Gdansk).

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