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THE ROLE OF INDUSTRY IN FORMATION OF FUNCTIONAL STRUCTURE OF TORUŃ

ABSTRACT. The paper deals with consideration on the role of industrialization in forming the functional-spatial structure of Toruń, one of the oldest Polish cities. The city-developing role of industry came to the light in the latter part of XIX-th century, when the majority of industrial plants was concentrated in city centre. The industrializing processes following next years caused gradual industrialization in the closest surroundings of city centre according to the model of concentric arrangement introduced by W. Burgess. Then, as a result of the industrialization carried out along the city exit roads, new industrial areas were formed, alike H. Hoyt's wedge-shaped model. Nowadays industrial activity becomes less and less important in creating the municipal tissue structure of Toruń. Hitherto existing and new functions mix in traditionally industrial districts. New glance at industry role refers to industrial tourism and development of technological know-how.

KEY WORDS: industry, functional-spatial structure

Social-economic transformations taking place in Poland as an effect of historical processes appear in a special way in cities. A city makes up dynamic organism which strength results from the concentration of population, administrative boards as well as economic activity. The present article has in view the presentation of industry role in forming the functional structure of Toruń, being one of the layer of city spatial structure – beside morphological, demographic and social ones (Liszewski 2004). Functional structure reflects the state of city space development and division into various functions, typical for municipal economy. Although Toruń's development is connected with service functions

(commerce, administration, protektive one), the industry also played an important part in forming the rank of the city.

The city-forming role of industry in Toruń revealed itself in the end of XIX-th century. Growing demand for serial products caused the development of factory industry. In the years 1861-1907 took place elevenfold growth of the industry workers number (from 204 up to 2258 persons) and the seventeenfold increase in number of industrial plants (from 7 to 125). The development of industrial activity influenced revival of the city, which stayed in that time in that time a large industrial centre. The majority of industrial plants appeared as the result of craft workshops development situated in downtown streets – the best equipped in technical infrastructure appliances. The factories of sweets, gingerbreads (1), vodka (2), stamps (3), chemical products (4), furniture (5), machines (6) and others (7) were the largest works within Old Town limits.

More and more numerous, nascent in the latter part of XIX-th century and in the beginning of XX-th century, new industrial plants adapted parts of space bordering Old Town. First power station in Toruń started at Bydgoskie Przedmieście (Bydgoskie Suburb) in 1898, and further in the west the wood harbour and small river shipyard began to work since 1904. North of the city centre at Kościuszki Street the steam wheat-rye mill began its activity in 1887, while at the Olbracht Street two new works were established: a distillery and a spirit rectification works (currently the Spirits Industry Works „Polmos”). Grudziądzka Street is also the place where K&A Raapke’s Machine and Boiler Factory started production.

Favourable conditions for industry development existed in that time also in eastern districts, well linked to the city centre. At the Jakubskie Przedmieście (Jakubskie Suburb) in 1884 there situated the municipal slaughterhouse, and in 1895 also the Potato Works. A year before World War, the city authorities decided that the development of Gingerbread factory G. Weese was impossible in the original location, so that was relocated into this suburb. Large modern works - presently Confectionery Company „Kopernik” - was built in the Lubicka Street.

During interwar period Toruń became the capital of Pomeranian province. The rank of a capital caused the domination of service sector in the functional structure of city economy, among others including administration, commerce, public service and craft services. Despite this fact the industry played important part in formation of the city economy, gathering in 1921 circa one fourth of total workers in Toruń. Even though craftsmen still prevailed in the industry workers structure, the factory industry developed quickly. New industrial plants were either attracted by the centre or searched free space enabling untrammelled extension beyond city centre area. Printing industry works had the greatest power in the market. The administrative and cultural function of Toruń brought about the city area accommodated as much as 9 active printing works (8) and Pomeranian Factory of Stationery Goods. However, on the city outskirts, beyond the built-up area, new plants were founded, mainly the engineering and chemical industry. The favourable conditions for develop-

ment of factories existed in the districts already partly industrialized i.e. Jakubskie (9) and Bydgoskie (10) Suburbs as well as in the northern quarters of the city (11). Individual plants were also located in northeast of the centre (12) and on the right-bank of Vistula River (13), where larger part of Toruń is spread.

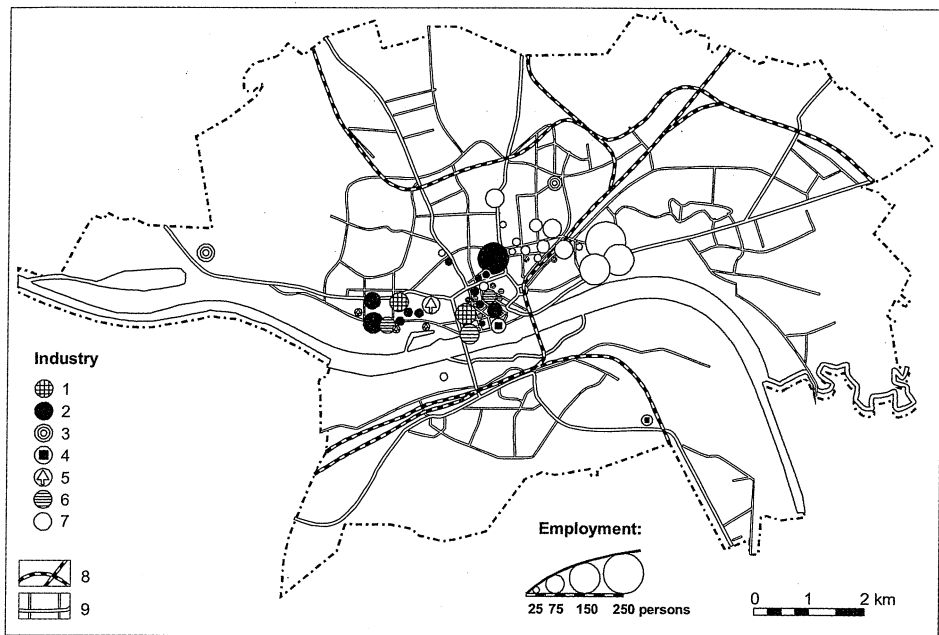


Fig. 1. Location of industrial plants in Toruń in 1936

Legend: industry: 1 – fuel-energy; 2 – engineering; 3 – chemical; 4 – construction; 5 – wood manufacturing; 6 – printing; 7 – food processing; 8 – railways; 9 – streets

Source: own study, based on Rochnowski H., 1978, Toruń Industrial Centre, PWN, Warszawa – Poznań – Toruń: 6

The spatial distribution of industrial plant locations in Toruń in the interwar period enable state, that industrial zones were shaped in accordance with the model of concentric layout of industry, introduced by W. Burgess. Industrial areas created the ring around old centre, although it did not form continuous zone, but constituted series of sections (Fig. 1). Moreover, the city centre was heavily industrialized, accumulating in 1936 some 35% of workers in Toruń industry (mainly small craftsman's workshops and small factories).

After World War II the loss of administrative position influenced the change in functional structure of Toruń. Establishing Nicolaus Copernicus University in 1945 assigned the super-regional function to the city in the field of science and culture, however it did not eliminat industry as a city-forming factor. It should be stressed, that the mechanisms of competition and importance of land rent in the process of city industrialization were set aside then. The plans of

industrialization conforming post-war political doctrine caused, that the considerable areas in city space were reserved for development of industrial function. It was realized mainly through the extension of already existing plants and the adaptation of ongoing buildings in central districts for production needs, often in the vicinity of residential quarters, so in the city centre (14), in western part of the town (15) and in northern districts (16). Also Jakubskie Suburb was extended (17) and old forts surrounding Toruń were used for industrial need (18).

In the late 50»s was made a decision to locate in Toruń two, large key industry plants, in order to overcome the difficulty with the labour market. Close to hitherto existing and still being extended plants there were built new ones: „Merinotex” - the Toruń Worsted Spinning Factory (founded in 1965) nearby the road N° 10 leading to Bydgoszcz and the largest green field investment in north-east part of Toruń - Chemical Fibres Factory “Elana” (arisen in 1963).

The edgy districts with prevailing industrial functions - linked to the city centre with transit lines system - were formed as the result of post-war industrialization. Simultaneously the industry gradually started to withdraw from downtown. The figure 2 shows functional and spatial structure of Toruń in late 80’s, which is similar to wedge-shaped H. Hoyt’s model.

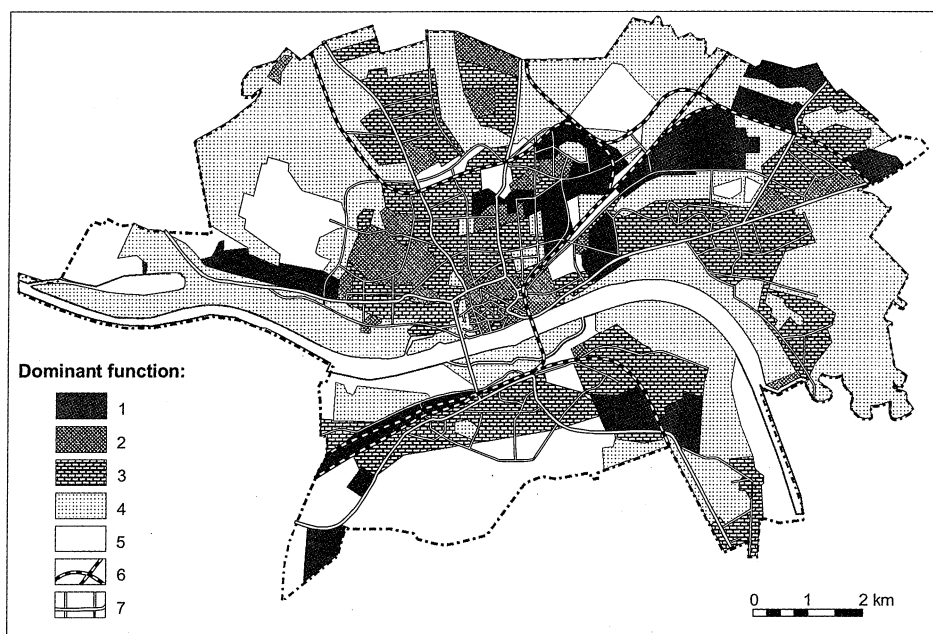


Fig. 2. Functional and spatial structure of Toruń in 2002

Legend: dominant function: 1 – industrial; 2 – commercial; 3 – residential; 4 – recreational; 5 – other; 6 – railway; 7 – streets

Source: own study, based on general plan for spatial management of Toruń

The period of system transformation brought the essential changes to mechanisms ruling city development. The city-creating power of industry weakened clearly in Toruń and in the same time changes in functional and spatial structure started. Increasing share of services in an employment structure influenced evolution of hitherto existing functions in some given areas. That evolution has found its expression mainly in gradual transformation of traditionally industrial and warehouse districts in western and northeast parts of the town into the multifunctional economic areas. This is indirectly connected with decreasing role of large industrial plants. In the years 1996-2003 the total number of industrial plants in the city increased by 36%, while the average size of industrial plant during that time (measured with employee number), decreased almost twice - from 18.6 to 9.5%. For the majority of Toruń's large industrial plants the free market oriented economy requirements were a difficult problem. Because of breaking the cooperation connection, the majority of plants faced the problem of a deep transformation or even liquidation. As it was mentioned, an excessive waste of lands left at plants disposal characterized the period of socialist industrialization. That is why in many cases restructuring activities lead a plant to resignation from apart of used areas even the whole of them, including structures at its disposal. Most often the excluded areas, usually of attractive location, were taken over by services (19). As a result new multifunctional economic areas are formed. The adaptation of vacant post-industrial areas proceeds in Toruń very slowly, because most of them require revitalization. Despite the fact, that the land rent came back to the role of main factor organizing municipal space, the revitalization processes in post-industrial areas of Toruń are still at initial stage. They result from a market game rather than from the planned management of municipal space. Nowadays only 20% of the city area is covered by valid local plans of spatial management. Additionally the process is being delayed due to numerous conflicts between wide understood local administration and potential investors. Moreover, it discourages potential customers from the investment in the city. Partially this is the reason why industrial fallow lands (20) appear. As a rule the fallows emerge when a company is dissolved, ownership is unclear and there exists an unwanted property. The spectacular example of industrial fallow grounds are premises located in exposed districts, formerly belonging to Toruń's Inorganic Industry Plant „Polchem” as well as the ruins of Meat Processing Plant „Tormięs”. These premises occupy considerable area („Polchem” 68 ha, „Tormięs” 4.1 ha) and they occupy an enormous cubature. From the point of city space organization these areas should be as quickly as possible subjected to revitalizing activities such as effective way of their use, that means spatial-functional redevelopment (Kaczmarek, 2001).

One should also pay attention to another aspect of industry in creation of Toruń's image. Because the city has long traditions in industrial production, it could be a good idea to promote industrial tourism. There are rich resources of

industrial heritage in Toruń to contribute the creation of attractive tourist offer or to enrich the one already existing. For example it should include the brick mill close to the Teutonic Order castle, originating from XIII-th century, the tannery mill in Przedzamcze Street 6B from the XVII-th cent., granaries, the iron and steel foundry. Some historical premises are already utilized. For example, the skeleton of municipal gas-works reservoir in Toruń was used as a base for planetarium construction. Other buildings used depending on current needs, like former halls of Born&Schutze's factory transformed into shops. However there is a lack of activities promoting industrial tourism - only few premises in Toruń are prepared for receiving tourists, e.g. the XIX-th system of water-pipes. It seems that usage of industrial heritage could create new tourist product of Toruń, enabling better understanding the regional development.

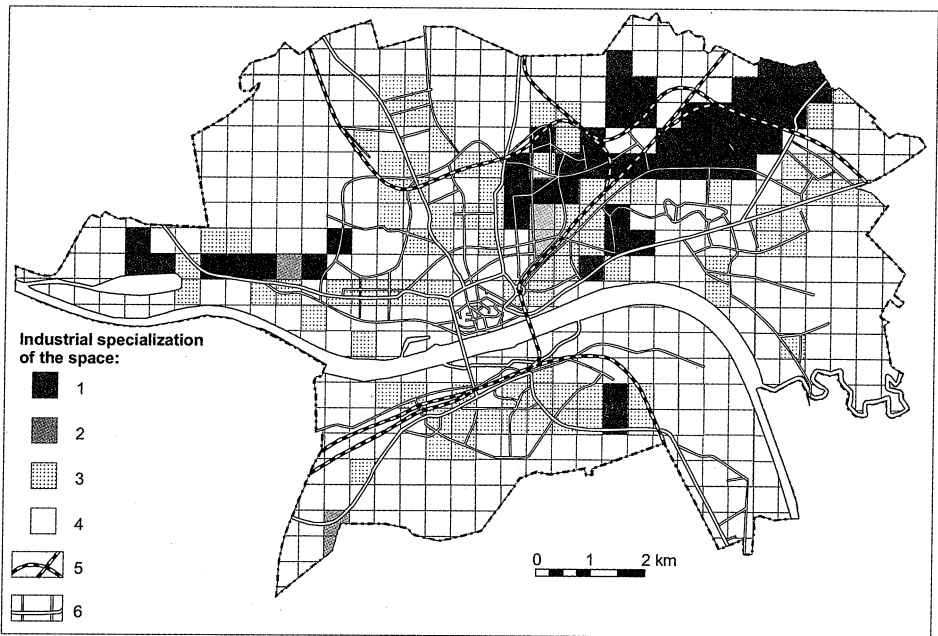


Fig. 3. Industrial specialization of the Toruń's space in 2003

Legend: industrial specialization of the space: 1 – areas specialized in industry; 2 – lands close to the specialization; 3 - areas of weak specialization; 4 – no industrial grounds; 5 – railway; 6 – streets

Source: own study

The consideration on changes taking place in Toruń's space allow to affirm, that industrial activity becomes less and less important in creating the structure of Toruń. Although, in traditional industrial districts, the level of industrial specialisation is still very high, mainly because of existing infrastructure. In other

zones, there is an exchange of functions. Small and medium industries to be more and more significant and come closer to the city center. In the same time, industry district seem to “absorb” more and more service units.

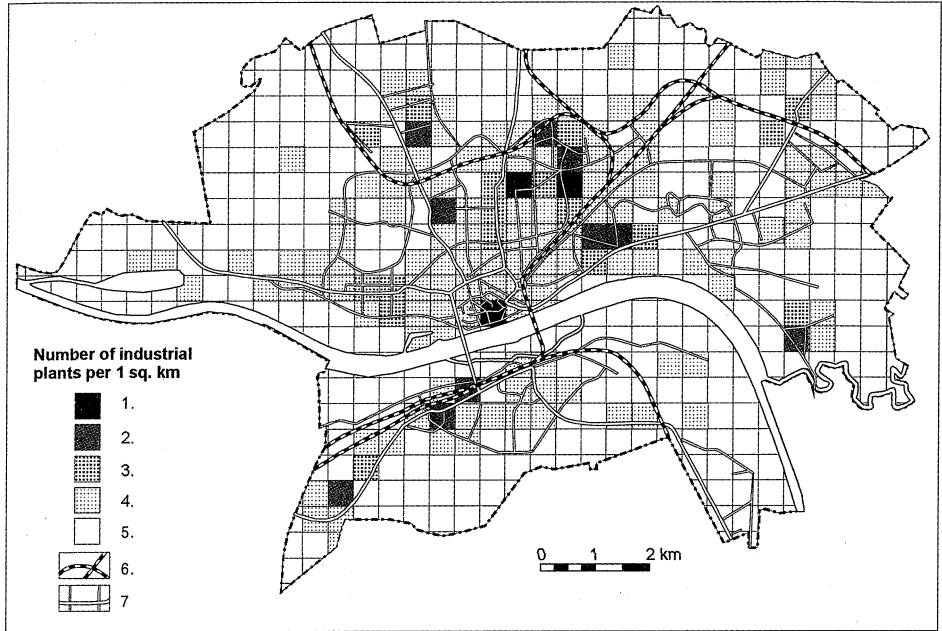


Fig. 4. Location of industrial plants in Toruń's space in 2003

Legend: number of industrial plants per 1 sq. km: 1) above 10; 2) 7-9; 3) 4-6; 4) 1-3; 5) no plants; 6) railway; 7) streets

Source: own study

To sum up one should state that the role of industry in the city space formation clearly diminishes, although a herald announcing new function of industry in the city can be the Centre for Technology Transfer. One should hope it will be a platform of co-operation for science and industry, will import modern know-how to the region, will bring new jobs and as a result will raise position of the city and region in the economic arena.

NOTES

- (1) Among others J. Buchmann's factory in Mostowa St., J. Skoniecki's works in Żeglarska St., Gustaw Weese's gingerbread factory – initially located in Królowej Jadwigi Street soon absorbed neighbouring buildings in the streets of Strumykowa and Małe Garbary.

- (2) A. Gaege's Vodka Factory at Old Town Market, W. Maćkowiak's works in Szeroka Street.
- (3) Toruń Stamps Factory (est. 1902) in Mostowa St.
- (4) Chemical Works of J.M. Wendisch producing soap and washing powder, Szczytna Street.
- (5) Tews Brothers' Furniture Factory in Mostowa St., First Pomeranian Factory of Wettle Furnitures and Baskets belonging to W. Jezierski (Królowej Jadwigi Street).
- (6) Factory of Agricultural Machines and Iron Foundry, F. Drewitz, presently Dąbrowskiego Street, also agricultural machines construction works of A. Born & E. Schutze in Grudziądzka Street.
- (7) For example Asphalt and Pitch Board Factory being a property of Pichert brothers in Przedzamcze St.
- (8) Most of them located in the Old Town area, for instance Workers' Printing House in Piekary St. (1920), Toruń Printing House in Św. Katarzyny Street (1920), close to the centre Chromolitographical Works and Printing House of E. Stefanowicz (1920), Pomeranian Agricultural Printing House (1921).
- (9) The Flow Gauge and Apparatus Factory „Gazomierz” was established there in 1920 (now Fabryka Wodomierzy i Zegarów „Metron”), and in 1938 City Gasworks was relocated to that district.
- (10) In 1928 the Broniewskiego Street witnessed foundation of J. Broda Mechanical Works (being later a base for development of Toruń Machine Factory „Tofama”), and in the year 1930 there started its production Polish-Belgian Chemical Works „Polchem” in Szosa Bydgoska Street – then the biggest plant in the city producing at first phosphate fertilizers for agriculture of Pomerania and Kujavia.
- (11) At Grudziądzka Street there were located: Woyton's Oil & Refinery (1932), First National Plant for Lard Processing and Packing „Standard” (1930), F. Kujawski's Agricultural Machines Factory (1919) and Galvanic Elements Works „Ogniwo” (1927), whereas Pomeranian Factory of Cars, Bikes and Machines was transferred from the centre to Szosa Chełmińska Street in 1923, similarly Workers' Printing House was moved to Legionów Street (1929).
- (12) Among others the Graphic Paints Factory „Atra” was located in Chrobrego Street (year 1922).
- (13) Pomeranian Brewery of J. Chronowski (1923).
- (45) In 1947 in the city centre at Szeroka Street started Toruń Works of Clothing Industry afterward moved to buildings in Chłopicki St. (1958), and then to newly built objects in the Żwirki i Wigury Street (1961); that year in the barack situated in city centre, formerly occupied by soap and powder factory, the initial form of the present plant „Toruńskie Zakłady Materiałów Opatrunkowych” arose (1961).
- (15) Inter alia in objects of former Metal Works in Szosa Bydgoska St. new Works of Sport and Tourism Equipment „Polsport” was founded (year 1951).
- (16) Inside hasbeen lard works buildings in Grudziądzka Street the Toruń Works of Mill Appliances „Spomasz” was opened (1951) while in the objects of former Sign and Stamps Factory and H. Rausch's Metalware Factory started its activity Zakłady Elektronowe „Toral”.

- (17) Herein run Confectionery Factory „Kopernik”, Pomeranian Works of Low Voltage Appliances „Apator”, Toruń Dressing Materials Plant, Potatoes Industry Works (now „Nestle” cornflakes factory), Factory of Clocks and Watermeters „Metron”, Cold Store „Agrochlód”.
- (18) Fragments of fortification in Podgórz District were adapted for needs of Eggs&Milk Works; since 1956 on the right bank of Vistula in XIX-th century forts the Imported Vine Cellars „Torwin” operated.
- (19) In western part of the city the „Merinotex” company was restructured: among others that process consisted in disposal of buildings now used by UNC Institute of Archeology, whereas office blocks were leased to service business – similar phenomena took place in north-eastern part of Toruń.
- (20) According to Jałowicki (1993) the post-industrial fallows are left, unplowed and unused post-industrial grounds. Industrial fallows occur when hitherto used industrial grounds and buildings are abandoned and remain uncultivated.

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