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## Changes in Polish Industrial Geography at the Turn of the 21<sup>st</sup> Century

**Abstract:** The 2014 Regional Conference of the International Geographical Union is a good occasion for reflections on changes that took place in Polish industrial geography at the turn of the 21<sup>st</sup> century. This article discusses several issues which – in the author's opinion – best reflect those changes:

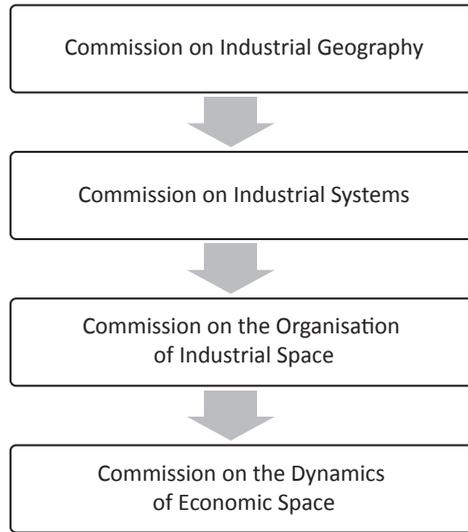
- (a) problems with defining the substantive scope of the discipline;
- (b) new methodological trends (e.g. evolutionary, relational, institutional approaches);
- (c) a new look at the factors of location of an economic activity; and
- (d) the place of industry in present-day spatial processes (globalisation, transformation, tertiarisation of the economy).

The second part of the article offers (1) an analysis of the involvement of Polish industrial geography in systemic transition; (2) a survey of its contemporary most important research problems, and (3) an assessment of the current state of Polish industrial geography, including its strengths and weaknesses. It should be emphasised that this paper does not seek to give a full survey of the latest publications in Polish industrial geography; it is only intended to outline an evolution of research issues against trends in world geography.

**Key words:** industrial geography; location factors; methodological approaches; Poland; systemic transition

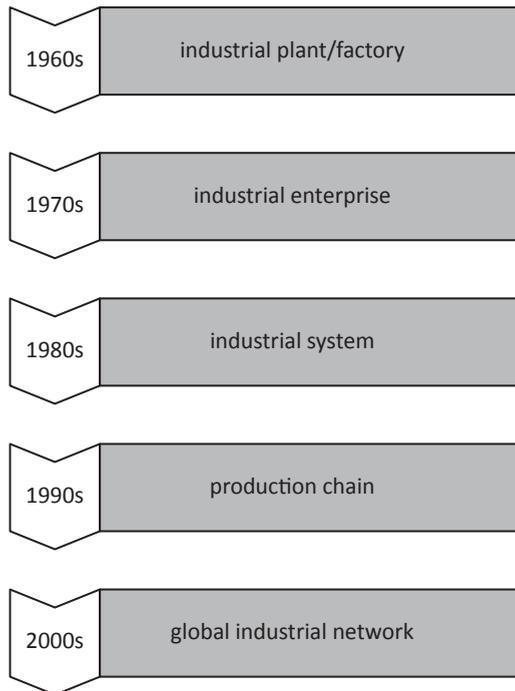
### SYNTHETIC CHARACTERISATION OF CHANGES IN POLISH INDUSTRIAL GEOGRAPHY

An analysis of present-day changes in industrial geography is no easy task due to several causes. One is growing difficulties in defining the substantive scope of this discipline. Industry is the sector of the economy in which boundaries between a considerable proportion of industrial activities and services seem to blur. This is a result of both a long-term structural change and technological advances, especially the new information-communications technology. The scope of problems of the old industrial geography becomes part of research in economic geography (in a holistic approach, i.e. without the division into branches). The research tends to focus on the dynamics of economic space rather than on its spatial structure and organisation. This is a tendency following the world trend. In the institutional aspect, it is reflected in the changing names of successive commissions of the International Geographical Union dealing with industrial geography (Fig. 1).



*Fig. 1.* Changing names of the IGU 'industrial' commissions

Source: own elaboration



*Fig. 2.* Change in the research object of industrial geography

Source: own elaboration

It is also increasingly difficult to define the basic research object (Fig. 2): once this was an industrial plant (or factory), then an enterprise, the industrial system, the production chain (the value-added chain), and today we talk about global economic networks, and in consequence about new forms of the spatial organisation of industry (e.g. the meaning of the notion “industrial district” has changed completely).

When characterising the chief directions and research problems of industrial geography 27 years ago, B. Kortus distinguished three **methodological approaches** (which he considered especially desirable): neopositivistic (connected with the quantitative stream), behavioural, and systemic (Kortus, 1987: 18–19). Today we usually talk about:

- an evolutionary approach, connected with the conception of path dependence;
- a relational approach, connected with the conception of industrial networks, and
- an institutional approach, highlighting the role of institutions (formal and informal) in the shaping of the structure and spatial organisation of industry and locational decisions<sup>1</sup>.

Hayter (2004) identifies three “conceptual pillars” that support modern economic geography (including industrial geography): embeddedness, evolution, and differentiation. The “foundation” of the research is social determinants of economic processes (Fig. 3).

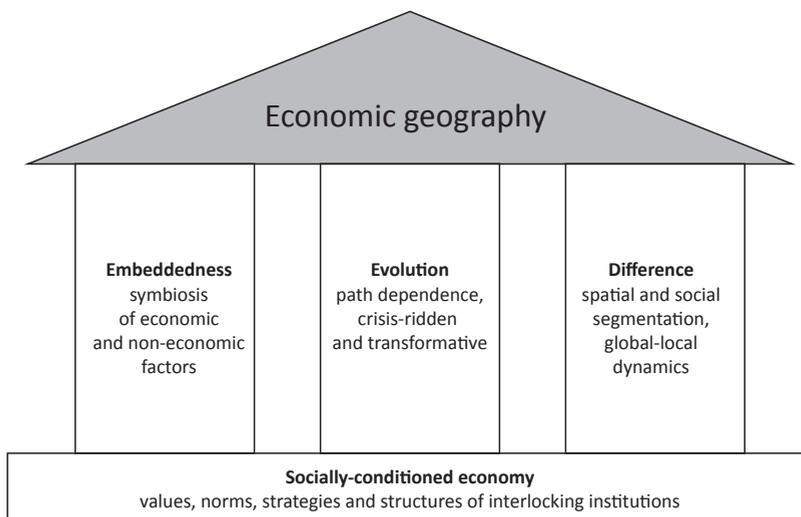


Fig. 3. Conceptual pillars of modern economic geography

Source: Stachowiak, Strykiewicz, 2008: 12, based on Hayter, 2004

The starting point for an analysis of **changes in the research directions of industrial geography in Poland** is my article (Strykiewicz, 1987) published after the first conference of the Commission on Industrial Geography of the Polish Geographical Society in Krakow in 1987. The following directions were then distinguished:

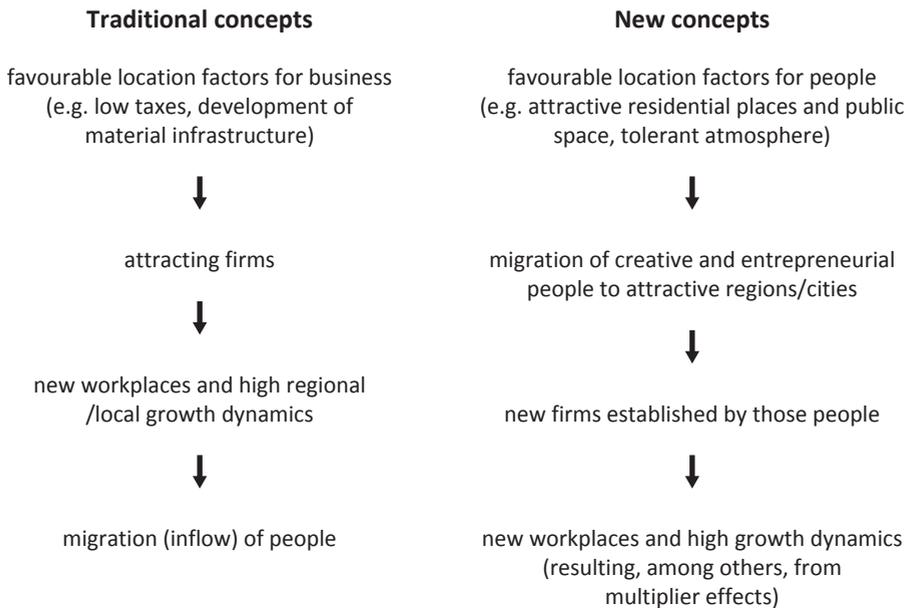
<sup>1</sup> In Polish economic-geographical literature, descriptions of those approaches and/or the theoretical conceptions associated with them can be found in e.g. Domański, 2004; Gwosdz, 2004; Strykiewicz, 2001, 2005, 2007 and Stachowiak, 2008.

1. Genesis and development of industrial centres, districts and regions, as well as industrial branches (geographical-historical studies);
2. Branch and spatial structure of industry and its regionalisation;
3. Industrialisation processes and accompanying phenomena (e.g. social effects of industrialisation);
4. Connections of industry with the geographical environment;
5. Location factors in industry;
6. Spatial production and organisational links of industry;
7. Assessment of the efficiency of location of industrial plants;
8. General, theoretical and methodological issues.

Today some of them have been abandoned (e.g. the assessment of the efficiency of location of industrial plants), other issues have evolved with the changing role of industry in the modern economy (e.g. rather than analysing the industrialisation process, studies are carried out of de-industrialisation, re-industrialisation or restructuring, and their geographical consequences), still other are conducted on different theoretical-methodological assumptions. This concerns e.g. the delimitation and typology of industrial districts on the basis of networking, i.e. a system of relations, and not – as previously – on the basis of quantitative indicators of industrial activity and the criterion of spatial cohesion. In turn, studies of the relationship of industry with the geographical environment are usually carried out in terms of the concept of sustainable development.

However, it should be emphasised that most significant changes occur in the field of the **location of economic activity** (especially modern branches, including the so-called creative sector). McCann and Sheppard (2003), and Dziemianowicz (2008) in Polish literature, indicate three directions in which location theory develops. The first deals with regularities in the formation and distribution of areas of concentration of economic activity (e.g. clusters). The second focuses on redefining spatial transaction costs in the context of new socio-economic trends. The third direction of the evolution of location theory listed by the authors quoted is “introducing an environmental factor into the theory, understood as specific local conditions that affect location (the natural environment, broadly understood infrastructure, the business environment). What needs stressing is the fact that assessments of the environment understood in this way (...) are intended to reveal the behaviour of people as inhabitants rather than as entrepreneurs” (Dziemianowicz, 2008: 63).

It seems, therefore, that what we have in modern location theory is a “mix” or “overlap” of such considerations as factors of location of an economic activity and those describing a population’s quality of life (cf. Swianiewicz, 2005). This approach is closely connected with alternative (or rather complementary) conceptions of the development of cities and regions tackled by the present author more broadly in his earlier articles (Stryjakiewicz, 2008a, 2009, 2010), here illustrated in Fig. 4. A change in this approach is more and more evident in Polish industrial geography and regional studies.



*Fig. 4.* Location of economic activity in traditional and new concepts of regional and local development

Source: Stryjakiewicz, 2010: 6

## POLISH INDUSTRIAL GEOGRAPHY AND THE SYSTEMIC TRANSITION

The current state of Polish industrial geography is a consequence of both the evolution of the discipline itself as described above and institutional changes. The greatest institutional change was connected with the systemic transition started at the beginning of the 1990s.

Unlike economic and political sciences, ideologically closely related to the socialist system, Polish economic geography (including industrial geography) did not experience the shock involved in the socio-economic system passing almost overnight from a centrally planned to a free-market economy, or from socialism to capitalism. That is why the present direction of development of this discipline can be described generally as a combination of the processes of both continuation and paradigm change. The continuation was possible because, as Chojnicki (1996: 12) states, in Poland, “unlike in the USSR and other communist countries, economic-geographical research was not based on dogmatic Marxism, and made use of and developed theoretical conceptions of world geography. Neither was it subordinate to the principles and goals of economic policy set by central planners. It relied on its own

assumptions and expressed a critical attitude towards some directions of economic development and location policy”.

When compared with the shock the economy got, the evolutionary development of Polish industrial geography at the start of the systemic transition had both fortunate and unfortunate consequences. A beneficial consequence was maintaining the continuity of research and scientific contacts, so important in any science, as well as the survival of the majority of scientific institutions and journals. Among the less desirable consequences inherited from the previous system (and still visible) were: the inertia and inflexibility of structures, insufficient dynamism in taking up new challenges generated by the rapidly changing external situation, as well as the inadequate language and methodology of many studies, too slow in adjusting to the requirements of the world scientific market. Another heritage of the past period was the dominance of informative-diagnostic studies and “no deeper reflection on the mechanisms and directions of change, and a scarcity of attempts at formulating theoretical concepts concerning the nature and spatial consequences of the transformation” (Chojnicki, 1996: 13). Industrial geographers had too small a share in formulating programmes of economic development and restructuring of regions and industrial branches. This might have been an effect of the disillusioning experiences with the command economy, when many research results and experts’ reports were ignored in the decision-making process. It seems, however, that when evaluating the output of Polish industrial geography of the transformation time, special attention should be paid to new elements which make the balance of this period a more favourable one.

Changes in the economy and the growing complexity of relations among various actors of the economic game they had produced, made a holistic and an interdisciplinary approach increasingly important. Besides the traditional links of industrial geography with economics, sociology and statistics, new ones were formed, especially with management science.

One should emphasise that the economic-geographic studies of changes involved in the systemic transition in Poland had no ready standard in the geographical literature of the Western countries. Experience shows, moreover, that the assumptions of many concepts worked out in advanced countries with stable, capital-rich economic systems were incongruous with Polish local conditions and processes. Therefore, the participation of Polish industrial geographers in the discussion of the restructuring, new spatial organisation and operation of the Polish economy deserves to be assessed highly. Of no little significance is also the fact that from the very beginning of the transition process Polish industrial geographers found themselves facing a multitude of challenges posed by practice and social needs connected with the creation of new institutions, new legal regulations, and a changed system of operation of economic actors. These challenges, combined with limitations in the state’s financing of science, have often made them engage in the preparation and popularisation of “encyclopaedias” of new concepts, new rules of the economic game, and new analytical tools. Naturally, those “new” elements of Polish economic life (like multinational corporations, the capital market, the marketing of enterprises, towns and regions, or business plans) have long been familiar in the economies of highly developed states, where studies presenting e.g. the basic tasks of local self-government in attracting investments, or the role of

industrial parks or innovation and business-support centres in regional development, would hardly be considered scientific achievements worth mentioning. However, in a country going through a systemic transformation they were important for three reasons:

- a) they helped the decision-making organs and the society at large to develop a new consciousness;
- b) they filled the gap separating the Polish economic system (and Polish economic sciences) from the economies (and economics) of advanced countries; and
- c) they offered creative adaptations of some Western solutions to the Polish conditions.

## MAJOR CONTEMPORARY RESEARCH PROBLEMS

When trying to answer the question of what research problems have been most popular in Polish industrial geography in recent years, one can state in general terms that it has largely focused on the place and role of industry in the spatial processes occurring today, like tertiarisation, de-industrialisation, transformation, globalisation, and integration of the economy. Among the problems addressed one can find such important issues as:

- a) transnational corporations and the spatial organisation of the economy;
- b) the significance of knowledge and the new information and communications technology in the spatial transformation of economic structures; and
- c) globality-locality and enterprise-region relations.

Special attention is given to the transformation of industry in Poland in a European and a global context. In a “branch” approach, what can be regarded as symbolic is a transition from the previously predominant analyses of industries now regarded as traditional (mining, power generation, textile, food processing) to cultural and creative ones and, in particular, to ICT-based industries. Permanent features of studies conducted today are: (1) a joint treatment of industrial and service-oriented activities, and (2) the internationalisation of research projects (although the share of such studies is still too low).

In quantitative terms, the largest group of works in Polish industrial geography at the turn of the 21<sup>st</sup> century have been those on structural changes in industry in the conditions of the systemic transformation (including restructuring processes). Those were problems examined in several post-doctoral dissertations (Paszkowski, 1996; Strykiewicz, 1999; Tkocz, 2001), many doctoral theses, and at a number of conferences; those last presentations have been published, among others, as part of the series of Papers of the Industrial Geography Commission of the Polish Geographical Society (Prace Komisji Geografii Przemysłu Polskiego Towarzystwa Geograficznego). The results of all those studies have contributed to a better understanding of the determinants and course of the transformation in various contexts and at a variety of spatial scales. In the future, more stress should be put on international comparative studies in order to identify the mechanisms of this process more fully and to formulate the regularities that control it.

A consequence of the transformation of industry has been a change in the forms of its impact on regional and local development. This issue is another aspect of the research on industrial geography in Poland intensively studied in recent years, whether with reference to individual industrial branches (including both traditional industries – Czaplinski, 2013 – as well as high-tech and creative industries – Gurbala, 2004; Micek, 2006; Ziolo, Rachwał (eds), 2009; Świdurska, 2010; Stryjakiewicz et al., 2010), to enterprises (in particular supranational corporations – Domański, 2001, 2005; Stryjakiewicz (ed.), 2004; Domański et al., 2008; Ziolo 2009; Tobolska, 2010), or to areas offering specific locational conditions (e.g. special economic zones – Rydz, 2004; Domański, Gwosdz, 2005). Important problems of great cognitive, methodological and practical significance approached in this field include:

- a) multiplier effects of the location of industry (Domański, Gwosdz, 2008, 2010; Rachwał, Widermann, 2008);
- b) the innovativeness of industry and its regional dimension (Gierańczyk, 2009; Siłka, 2012);
- c) economic control functions and the role of large enterprises (Śleszyński, 2006, 2007, 2008);
- d) entrepreneurship and the impact of small and medium-sized enterprises on regional development (Makiela, 2008; Ziolo, Rachwał, 2012);
- e) the industrial specialisation of regions and new forms of industrial concentration, such as clusters (presented in many regional reports);
- f) contrasting experiences with business networking (Stryjakiewicz, 2005a, 2005b);
- g) verification of the conception of path dependence (with the development trajectories of the Upper Silesian industrial centres as an example) (Gwosdz, 2004).

## ASSESSMENT OF THE CURRENT STATE OF POLISH INDUSTRIAL GEOGRAPHY

In a report made for the Committee on Geographical Sciences of the Polish Academy of Sciences (Stryjakiewicz, 2008b), some results of which will be quoted here later, it was found that the relative significance of industrial geography in the general output of geographical sciences in Poland showed great fluctuations. This was due, among other things, to the changing role of industry in the economy, differing availability of source materials in various periods, and the position of scholars interested in this field of study. What needs emphasising is the fact that, thanks to the ceaseless activity of the Commission on Industrial Geography of the Polish Geographical Society, periodic assessments of the output of this discipline have been made (like the one edited by S. Misztal and Z. Ziolo in 1998). In 2001, also on the initiative of the Commission, there appeared a monograph, *Polish geography of industry and construction in the 20<sup>th</sup> century* (edited by T. Marszał), showing its output through the profiles of scholars doing research in the field discussed. Annual conferences held since 1984 in the Pedagogical Academy (now Pedagogical University) of Cracow have become an important forum for an exchange of thoughts by Polish industrial geographers. In recent years those conferences have acquired an international dimension.

In the world forum, the output of Polish industrial geography is mainly presented at conferences organised by the International Geographical Union and its Commission on the Dynamics of Economic Space. This, however, is still too small a contribution in relation to the interest that this field enjoys (it is highly symptomatic that at the Auckland conference in 2006 geographers from abroad presented more papers on industry in Poland than did geographers from Poland). Also too low is the activity of Polish industrial geographers in international research projects, e.g. in the 6<sup>th</sup> and 7<sup>th</sup> Framework Programmes of the European Union. Among the participants have been geographers from the Jagiellonian University in Krakow (the project entitled *Moving frontier: The changing geography of production in labour-intensive industries*) and from Adam Mickiewicz University in Poznań (*ACRE*, a project on creative industries in the metropolitan regions of Europe).

Tab 1. Assessment of the state of Polish industrial geography

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>- Existence of organisational structures facilitating contacts among industrial geographers across the country, exchange of experiences and presentation of output (Commission on Industrial Geography of Polish Geographical Society (PGS), tradition of annual conferences organised by Pedagogical University of Cracow, publication of series <i>Papers of the PGS Industrial Geography Commission</i>)</li> <li>- After a period of flagging interest, a large number of young scholars taking up industrial geography issues</li> <li>- Topicality and diversity of research problems tackled, ever stronger relation with practical needs</li> </ul>	<ul style="list-style-type: none"> <li>- 'Generation gap' among post-doctoral scholars studying industrial geography issues</li> <li>- Too small staff and organisational potential in view of growing demand for results of broadly understood industrial geography studies, aggravated by an outflow of some geographers from industrial problems</li> <li>- Too slow absorption of the world output, especially in the theoretical field</li> <li>- Large number of case studies and descriptive works of local significance; weakness of generalisations and international comparative studies</li> <li>- Insufficient marketing of the research power and achievements of industrial geography, especially among other scientific disciplines</li> <li>- Low, often very traditional level of teaching of industrial geography issues at schools; out-of-date material, and even errors in handbooks</li> </ul>

Source: author's compilation

Table 1 gives a synthetic assessment of the state of Polish industrial geography by presenting its strong and weak points. Gradual elimination of the weaknesses listed in the table – this is the greatest challenge facing industrial geography in Poland today. The most

serious doubt as to its future development concerns the place of this discipline in the system of geographical sciences. In particular, there should be a discussion in search of answers to the following questions:

1. Why is the fast-growing demand for spatial-economic studies not accompanied by a proportional increase in the staff and organisational potential of suitable geographical units engaged in this field?

2. Why are successive research fields being “surrendered” to economists?

3. Why is the teaching of geography (including industrial geography) combined in the educational system exclusively with the teaching of the “nature” block of subjects (and not, e.g., with “entrepreneurship”, so successfully promoted by the Entrepreneurship Department of the Institute of Geography of the Pedagogical University of Cracow)?

The last proposal would strengthen the position not only of industrial geography (and economic geography), but of geography as a whole, and would open up new occupational possibilities for its graduates (which seems especially significant in the period of a demographic slump faced by Polish schools). It seems that – so far – the geographers’ milieu lacks the “critical mass” necessary to initiate such a turn. Hence the situation of Polish industrial geography as described above may not experience any major change in the nearest years. One can only assume with a high degree of probability that the evolution of the economy will force a reduction in the “autonomy” of industrial geography and a fuller integration of the various sub-disciplines of economic geography. An important challenge is still a greater absorption of the output of world geography (and related sciences) and its continuous creative adaptation to the Polish conditions.

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