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## ARE POLISH CHEMICAL PERIODICALS DOOMED TO COLLAPSE?

### CZY POLSKIE CZASOPISMIENNICTWO CHEMICZNE MUSI UPAŚĆ?

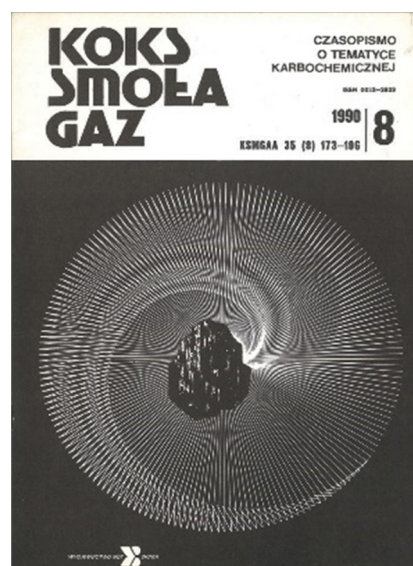
The effective communication between the scientific institutions and industry (i.e. between the scientists and employees of the industry sector) in the field of science and engineering has been for many years ensured by scientific and engineering literature items. It is especially important in respect of chemistry which is an "arcane" science and the knowledge on the chemical processes is not universal. The creators of the Second Republic of Poland were aware of this fact; one of the important aims of their activity included creation of national periodicals which would (in the language understandable for majority of citizens) transfer the knowledge on the situation in chemical laboratories and universities, to the companies which would be able to utilize the possessed knowledge in their industrial practice.

Therefore, the decision of Prof. Ignacy Mościcki, the later President of the Republic of Poland, on creation of the first Polish-language "Chemical Industry" monthly, as undertaken in 1916, was not a surprise<sup>1)</sup>. There was created a platform where the employees of the nascent Polish chemical industry could contact Polish scientists, informing them about their needs and the scientists could make an offer for their cooperation with the industry. The mission of the mentioned journal at that time as well as now has been oriented to the supply of the knowledge on the international progress in chemical technology and engineering and the achievements of Polish research institutes and higher education units in the discussed domain, to Polish engineers-chemists, employed in Polish chemical industry. The mentioned aim included also creation of the conditions for publication of original scientific papers, illustrating the achievements of Polish research institutions and chemical factories. Due to this reason, the mentioned journal is published in Polish language. It is read not only by engineers and managers of chemical industry sector but also by the scientific employees of research institutes and higher education universities, designers from design offices and

by the students of chemistry and related disciplines. They are informed about the problems which are pervading the national chemical industry and they develop their research studies as to meet the challenges set by the discussed sector of economy [1].

During the 1<sup>st</sup> Convention of Polish Chemists in Warsaw (5 April, 1923), Prof. Jan Zawidzki from Warsaw University of Technology and the President of Polish Chemical Society, presented univocally Polish "reason of state" in the field of Polish chemical journals. In his lecture [2], he said that 1 during the first 8 years of the present century (since 1901 until 1908) Polish chemists published 2070 original contributions in total, that is, 259 contributions per year, in average. [...]. It is not a small number; however, before the world war any of foreigners did not realize that there were Polish chemists and that Polish chemistry was in *status nascendi*. It originated from the fact that a dominating part of the mentioned contributions, i.e. 57%, was published in foreign

Fig. 1. The illustrative cover of Koks Smoła Gaz



<sup>1)</sup> Original spelling (ed.)

languages, mainly in professional foreign periodicals. It could not be otherwise as more than a half of the experimental contributions (50.25%) were performed in foreign labs, usually German, Russian and Swiss laboratories. [...]

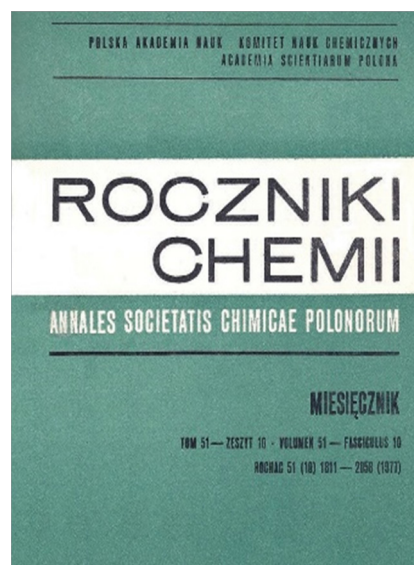
*A general agreement should be arranged between the chemists, stating that all research work, the experimental papers from the domain of pure chemistry, especially inorganic, organic and physical and physiological chemistry should be published in Polish, first of all, in "Annals of Chemistry"; more important of these articles should be presented in foreign-language periodicals (French, English or German) of Polish Academy of Sciences in Cracow, with the aim to publish those materials in Bulletins of Academy. The papers from the field of technical chemistry, especially those experimental ones with a scientific nature, should be focused in "Chemical Industry". Foreign-language texts of the discussed papers could be announced by Academy of Technical Sciences in its Bulletins. When proceeding so, we could achieve a concentration of a prevailing part of our scientific achievements in the field of chemistry in two central units, in the "Annals of Chemistry" and in "Chemical Industry".*

Apart from the mentioned above periodicals, during the inter-war period in the chemistry domain, there were also active Polish-language "branch" journals such as e.g. *Chemik Polski* (eng. Polish Chemist), *Czasopismo Towarzystwa Aptekarskiego* (eng. Magazine of Pharmacists' Society), *Wiadomości Farmaceutyczne* (eng. Pharmaceutical News), *Gazeta Cukrownicza* (eng. Sugar Industry Magazine), *Roczniki Farmacji* (eng. Annals of Pharmacy), *Przegląd Gazowniczy* (eng. Gas Production Review), *Nafta* (eng. Petroleum), *Przemysł Piwowarski* (eng. Brewing Industry), *Technika Gorzelnicza* (eng. Distilling Technology) and *Przegląd Ceramiczny* (eng. Ceramics Review). The mentioned above periodicals are the evidence that „the Poles are not geese and have the language of their own” (taken from famous Polish poet, Mikołaj Rej). As not to have the knowledge contained in the papers and published in the mentioned periodicals dispersed, the First Convention of Polish Chemists<sup>2)</sup> expressed the wish: “*Annals of Chemistry*” and “*Chemical Industry*” shall publish, constantly, the meritorious summaries of all chemical research papers, being published in other Polish scientific journals.

After a break in publishing the Polish-language chemical periodicals, being caused by the Second World War, such journals as *Annales Chimicorum Polonorum* (Annals of Polish Chemistry) and *Chemical Industry* appeared again as early as in 1945. In the successive years, together with the reconstruction of the Country and development of different branches of chemical industry, and especially in connection with generation of the “branch” scientific-research institutes, many new specialist magazines, representing often a very high scientific level, have appeared in the market. We may mention here such periodicals as *Koks Smoła Gaz* (eng. Coke, Tar, Gas), *Inżynieria Materiałowa* (eng. Materials' Engineering), *Przegląd Włókienniczy* (eng. Textile Industry), *Polimery* (eng. Polymers), *Polimery w medycynie* (eng. Polymers in Medicine), *Nafta-Gaz* (eng. Petrol-Gas), *Chemia Analityczna* (eng.

Analytical Chemistry), *Chemia Stosowana* (eng. Applied Chemistry), *Inżynieria Chemiczna i Procesowa* (eng. Chemical and Process Engineering), *Inżynieria i Aparatura Chemiczna* (eng. Chemical Engineering and Apparatuses), *Problemy Eksploatacji* (eng. Problems of Exploitation), *Ochrona przed Korozją* (eng. Protection from Corrosion), *Archiwum Ochrony Środowiska i Elastomery* (eng. Archives of Environment Protection and Elastomers) and many informational bulletins and scientific publications, issued by scientific-research institutes and higher education universities. A special role at that time was played by English-language *Bulletin of the Polish Academy of Sciences - Chemistry*, being founded in 1980. The mentioned periodical promoted Polish science abroad. We should also mention *The Chemist* monthly, founded in 1948 by the Central Board of Chemical Industry in Gliwice (recently published by the Association of Chemical Technicians and Engineers); it promoted chemistry in circles; then, *Chemical News* monthly, founded in 1947 by Polish Chemical Society which published review articles from different chemistry branches. There was also bi-monthly “*Chemistry at Schools*”, published since 1955 by the State Publishing House of School Publications (under auspices of the Ministry of Education), supporting the teachers in teaching chemistry at various levels of education. Institute of Economics of Chemical Industry in Warsaw published, at that time, informational bulletin *Chemical Industry in the World* which appeared even after the liquidation of the mentioned Institute.

Fig. 2. The exemplary cover of *Annals of Chemistry*



The mentioned above periodicals managed to resist the pressure of the communistic authorities and, as a rule, did not publish the papers, promoting the Marxist ideology. There were the cases of promoting the achievement of the Soviet science but often there were conducted the debates on scientific subjects where the periodicals (if it was possible) took the side of truth. Such was the case of dispute on the principle of uncertainty and electronic resonance in organic chemistry [3]. The mean-

<sup>2)</sup> Original spelling (ed.)

ing of the mentioned periodicals in popularization of scientific and technical knowledge cannot be nowadays overestimated. They played especially important role in respect of word formation as together with a rapid development of chemical sciences, the need of complementing Polish-language chemical terminology has appeared. The author of the present paper remembers the discussion conducted in *Polymers* magazine concerning the word "recycling"; there were the attempts to replace this word with terms: "recirculation" or "recyclisation" (the author personally supported this last term!). The periodicals appeared in a high circulation; they were additionally financed from the state means and owing to low prices, they were widely available in manufacturing plants. The circulation of *Chemical Industry* in the seventies of the 20<sup>th</sup> century reached to 3.5 thousand copies and it was available for engineers and technicians, employed in the industry not only in the factory libraries and reading rooms but even di-

rectly at the work place (e.g. in a control room of the production departments). The situation was fundamentally changed at the moment of the system transformation in 1989. Under the conditions of the market-oriented economy, chemical magazines were forced to change the philosophy of their functioning, as being deprived of the patronage of the state; they had to find themselves the financial means necessary for their functioning. It required big efforts of the editors and publishers. At the same time, the requirements of the readers (and of the authors!) were also increased; the magazines were expected to have a modern graphical form, good paper and a "full colour". In the situation of the lack of indispensable means for their activities, the discussed periodicals were often faced before the necessity of suspending their activity. Many magazines undertook the decision of passing from Polish to English in their publications what considerably limited the number of domestic subscribers, not causing simultaneous interest of the foreign readers.

*Bulletin of the Polish Academy of Sciences, Chemistry* occurred to be the first bankrupt. It stopped to be published as early as in 2003. Then, other periodicals disappeared, e.g. *Annals of Chemistry* (their name was changed into *Polish Journal of Chemistry*), as being sacrificed "on the altar of the European integration" and transmitted (in 2009) to the Consortium ChemPubSocEurope where they "exist" further in a form of the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. The author has never heard, however, that any person in Polish chemical industry reads and utilizes the mentioned magazines. A similar situation happened in the case of *Analytical Chemistry* (changed into *Chemical Analysis*) which has entered the composition of *Analytical and Bioanalytical Chemistry* (in 2010), published by Springer-Verlag and in the case of *Chemia Stosowana* (eng. Applied Chemistry) (changed into *Polish Journal of Applied Chemistry* in 1991 and liquidated in 2011).

Another unpleasant blow for Polish chemical literature concerned the suspension (in 2017) of publishing *The Chemist* (Polish: *Chemik*) which was very popular among the readers. The

Fig. 3. The illustrative cover of *Chemical Engineering and Apparatuses*

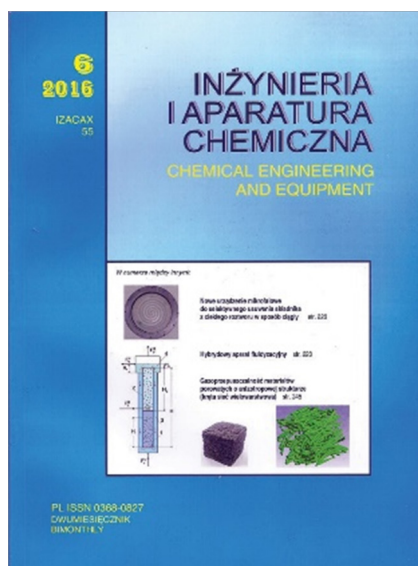
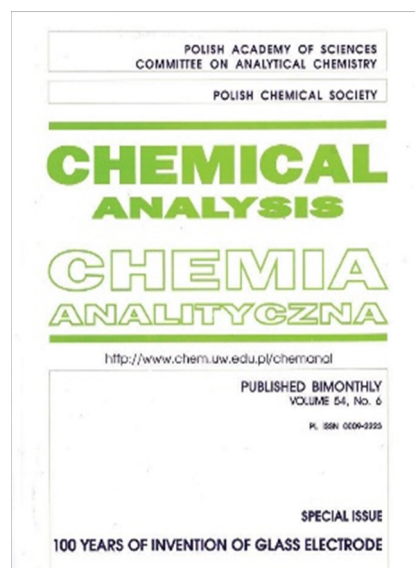


Fig. 4. The exemplary cover of *Chemist*



Fig. 5. The example of the cover of *Analytical Chemistry*





mentioned decision was undertaken due to the financial troubles of the Publishing House *Chempress*, issuing the discussed magazine at the order of the Association of Chemical Engineers and Technicians. The Association undertakes the attempts aimed at reactivation of the mentioned title but until now, without success. Also, a liquidation of the renowned magazine *Koks Smoła Gaz* (in 2016), published by the Institute of Chemical Coal Treatment in Zabrze (recently under the name of Karbo) was a big surprise.

After the economic transformation and liquidation of many chemical periodicals, the initiatives of founding new specialist magazines were born at the higher education entities. Thus, at the West-Pomeranian University of Technology in Szczecin (in 1999) there was created *Polish Journal of Chemical of Chemical Technology* which was expected to replace the liquidated Applied Chemistry; the Silesian Technical University began to publish (in 2005) the *Archives of Waste Management and Environment Protection* which was, in a certain sense, a competitor of the *Archive of Environmental Protection*, published by Polish Academy of Sciences (PAN). Institute of Synthetic Materials and Paints in Gliwice commenced (in 1993) publication of two magazines: *Farby i Lakiery* (eng. Paint and Lacquer Coatings) and *Przetwórstwo Tworzyw Sztucznych* (eng. Processing of Plastics). The new magazines were also created, such as e.g. *Polska Chemia* (eng. Polish Chemistry), published by Polish Chamber of Chemical Industry and also, the periodicals having a commercial nature such as e.g. *Chemia i Biznes* (eng. Chemistry and Business), published by a private publishing house EPS Media; journal *Analytika* (eng. Analytics), being dedicated to promotion of the methods and equipment in the field of chemical analysis, published by private publishing house Malamut and the magazine *Reporter Chemiczny* (eng. Chemical Reporter) published by a private physical person (Mr Jacek Romanowski, [www.reporterchemiczny.com](http://www.reporterchemiczny.com)).

Not all of these initiatives were successful. Although *Polish Journal of Chemical Technology* is still present (only in on-line version) but it does not constitute a bridge between Polish science and Polish industry because it publishes mainly foreign papers

what gives it a guarantee of financial incomes. Unfortunately, the mentioned papers do not originate in the renowned American or German scientific centres but they come from the Third World countries which do not have much to offer to the Polish chemistry. The same method of survival was employed by other chemical magazines, published in Poland (*Polymers in Medicine*, *Polish Journal of Environmental Studies*). The periodical *Archives of Wastes Management and Environment Protection* stopped to be published in 2019, similarly as *Problems of Exploitation*.

In the contrary to the mentioned above magazines, *Paints and Lacquers and Synthetic Materials Processing* became fused in 2020, into one Polish-language periodical *Plastics and Paints* when were encountered with the serious troubles in obtaining the papers. It is expected that 2 editions of the mentioned magazine will appear in 2020. Also, *Nafta-Gaz* journal has not given up its mission and publishes the articles in Polish language, informing the readers about the results of the work conducted by the Petroleum and Gas Institute.

What is the reason for disappearance of the successive Polish chemical periodicals? The ministry of Science decided to perform the assessment of the quality of Polish scientific magazines and entrusted the dedicated team with this task. The mentioned team consisted of the authors (or potential authors) of papers, destined for publication in the discussed magazines. The team did not consider the meaning of the mentioned periodicals in the system of information exchange in the country and only compared the domestic journals with the foreign periodicals (see table below). It was *a priori* known that such comparison would bring the result favourable for foreign magazines. But when it was established that the number of scores (points) granted by the article would decide not only on the career of the scientists but also on the level of governmental donations on the research work, a specific “*punctosis*” phenomenon (striving at the highest number of scores for a paper) appeared and the university authorities recommended their scientific workers to publish their papers in the periodicals which gave at least 70 scores (points) for the paper. As in Poland such chemical periodicals have not existed, a wide stream of papers went to foreign magazines. They were not necessarily the best ones such as e.g. *Journal of American Chemical Society* (200 points) or *Angewandte Chemie International Edition* (200 points) but also, to many minor periodicals such as *Brazilian Journal of Chemical Engineering* (70 points). In effect, scientific and research papers, paid by the Polish taxpayer, not only do not serve this taxpayer but he even does not know about their existence! The magazines connected with environment protection have been found in better situation. One of them, *Archives of Environmental Protection*, obtained even 100 points and may compete with foreign magazines in respect of acquisition of scientific papers from Polish scientific and research units. But any chemical magazine has not been given such chance. It is a proverbial “nail to coffin” of Polish chemical periodicals!

Table. Score evaluation of periodicals from the field of chemistry and chemical engineering, as published in Poland, and of the related domains (environment engineering, materials engineering) as being assessed by the Ministry Scientific and research-

Fig. 6. The example of the cover of the Applied Chemistry

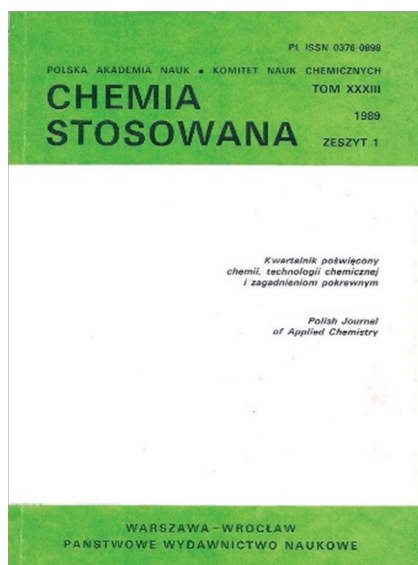


Table. Score evaluation of periodicals from the field of chemistry and chemical engineering, as published in Poland, and of the related domains (environment engineering, materials engineering) as being assessed by the Ministry Scientific and research-scientific periodical which have not been found on the Ministry list, are evaluated at the level of 5 points

Name of magazine	Publisher	Language	Number of points
Archives of Environmental Protection	PAN, Zabrze	English	100
Polimery	ICHp, Warszawa	Polish/English	40
Przemysł Chemiczny	SIGMA-NOT, Warszawa	Polish	40
Chemical and Process Engineering	PAN, Warszawa	English	40
Ecological Chemistry and Engineering S	Opole	English	40
Fibers and Te tiles in Eastern Europe	IBiWN, Łódź	English	40
Polish Journal of Environmental Studies	Olsztyn	English	40
Polish Journal of Chemical Technology	Z T, Szczecin	English	20
Archives of Materials Science and Engineering	PAN, Gliwice	English	20
Ochrona przed Korozją	SIGMA-NOT, Warszawa	Polish	20
Ecological Chemistry and Engineering A	Opole	English	20
BioTechnologia	PAN, Warszawa	English	20
Polimery w Medycynie	M, Wrocław	English	20
Inżynieria Materiałowa	SIGMA-NOT, Warszawa	Polish/English	5
Nafta-Gaz	INiG, Kraków	Polish	5
Elastomery	IIPTiB, Piastów	Polish	5
Przetwórstwo Tworzyw Sztucznych	IIPTiB, Gliwice	Polish	5
Farby i Lakiery	IIPTiB, Gliwice	Polish	5
Wiadomości Chemiczne	PTCh, Wrocław	Polish	5
Environmental Protection and Natural Resources	IOŚ-PIB, Warszawa	English	5

scientific periodical which have not been found on the Ministry list, are evaluated at the level of 5 points

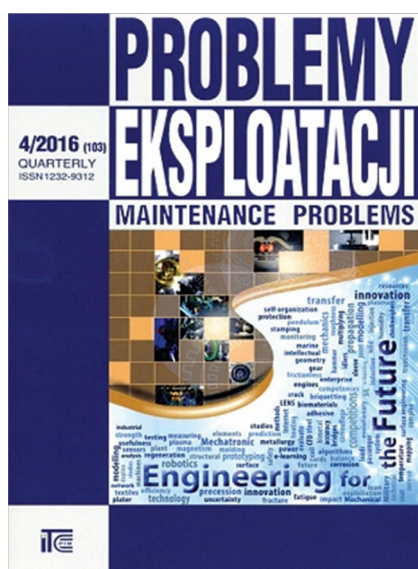
Any of the civilized countries has not introduced such system of score evaluation. In Germany, the results of all studies, financed from the public means by Bundesministerium f.ir Bildung und Forschung and by Bundesministerium f.ir Wirtschaft und Energie are, as a rule, made available at the request of the interested economic entities and natural persons, earlier in a form of report brochures and today – on the Internet pages. Our scientists work for their own sake! None of the ministerial officials got an idea that all studies financed (or co-financed) from the public means were – after their termination – published in Polish scientific – technical press, even in a form of short release. Later on, they could be published at any magazines. Such offer was submitted few years ago, by *Chemical Industry* when reviewing a list of “strategic projects”, implemented from the governmental financial means in the field of chemistry [4]. The mentioned offer has remained without reply until now. The assessment of the value of periodicals should be performed by experts who utilize the published papers. Many years ago when cooperating with one of the greatest German data banks, conducted by Fachinformationszentrum Technik in Frankfurt n. Men (development of Russian

periodicals for this institution), the author of the present paper suggested to include certain Polish scientific-research journals, being unknown for them, to the mentioned base. I supplied, at the own cost, several “advance” copies of Polish scientific-research periodicals which were subjected there to professional evaluation (the author of the present paper did not participate in it). As a result of the mentioned evaluation, German experts selected some journals, published in Poland and the published papers were found in the resources of the great data bank which is now called TEMA (Technology and Management). I must state regretfully that only two periodicals have survived the period of reform i.e. *Chemical Industry* and *Polymers*. But their ministerial evaluation has been considerably lowered (from 20 points in scale 0-50 points to 40 points in scale of 0-200 p.). The remaining magazines have not been found at all in the Ministerial list of the best periodicals (see Table above) or have ceased to be published, or are found in the state of deep collapse.

But even those magazines, which have survived, have the problems with the decrease of the number of papers, submitted for printing. In the case of monthly *Przemysł Chemiczny* (eng. *Chemical Industry*), the mentioned number dropped from 487 in 2016 to 343 in 2019 and 243 in 2020 (state for 12 November).

During the recent 2 years, the number of the papers to be printed in *Przemysł Chemiczny* as submitted by chemical institutes, grouped in the Research Network Łukasiewicz has been dramatically decreased. Aren't they performing research there? Chemical industry in Poland covers not only State Treasure companies but also several thousand small and medium-size private enterprises which gain the knowledge about the work of scientists in the institutes and universities just from scientific-technical press; they would like to get familiarized with the mentioned knowledge in Polish language which is the official language in our Country. An access to such knowledge has become recently considerably limited.

Fig. 7. Example of the cover of *Problems of Exploitation*



The need of promoting the achievements of Polish chemistry abroad cannot be negated. At present, Polish papers published in foreign periodicals are dispersed from among thousands of articles, being found there every year and they do not meet their function. It would be a good initiative to publish English-language magazine: *Chemistry in Poland, International Edition*, which would

contain translations of the best Polish-language papers, published in such periodicals as *Przemysł Chemiczny* (Chemical Industry), *Wiadomości Chemiczne* (Chemical News), *Nafta-Gaz* (Petrol-Gas), *Polimery* (Polymers) and magazine *Polska Chemia* (Polish Chemistry). Such periodical, as being published e.g. as a quarterly in a form of a special additive to the universally known Chemical Industry, and dedicated to chemical concerns all over the world and international research centres, would ensure a real promotion of Polish achievements in this respect. It is a pity that the Ministries do not have financial means for such purpose. A similar initiative in the field of technology has been already undertaken by Publishing House SIGMA-NOT – *Technical Review*. It is implemented in a form of English-language periodical – *Polish Technical Review* (Editor-in-chief – Prof. Michał Szota, the Vice-President of FSNT-NOT).

The discussed above problem has also a “political” aspect. In the ruling camp, we can hear constantly the voices about the necessity of “re-polonization” of media. In the case of chemical periodicals (and more widely, scientific-research magazines) the imprudent governmental policy has brought about the ruin of the achievements of few generations and destroying of national periodicals which were Polish in origin and their “re-polonization” was unnecessary.

It is difficult to perform a full evaluation of the history of scientific magazines published in Poland and their importance for information circulation in the science-industry system when doing it in a short comment. We have, however, to sound the alarm and carry out the complete analysis of the existing situation as well as to undertake the appropriate measures before it is too late. It is also necessary to withdraw immediately all decisions, which lower value of national Polish periodicals as they were undertaken without any substantive justification. A “good change” is urgently necessary just in this respect!

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