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BOLDLY FACING CHANGE

What kind of reform is the Polish Academy of Sciences in need of? An outline of the goals and tasks for the future

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The Polish Academy of Sciences occupies a special place in the landscape of Poland's scholarly institutions. It acts as a scientific society with an elected body of members, as the country's strongest network of research institutes, as a patron of the arts, and as an scholarship-awarding institution. It also successfully supports Polish researchers in writing applications for ERC grants.

The Polish Academy of Sciences represents Poland in many international organizations and maintains high-profile research centers in major European capitals – in Berlin, Brussels, Kyiv, Paris, Rome, and Vienna. If we include the foreign outposts maintained

by the PAS institutes, the Academy is also represented near both of the Earth's poles – by the Hornsund Polish Polar Station at Isbjørnhamna bay, Hornsund Fjord in Spitsbergen, and by the Arctowski Polish Antarctic Station, located off the coast of Admiralty Bay on King George Island in the Southern Shetland archipelago in Antarctica. The Oceania, the PAS Institute of Oceanology's Research Vessel, conducts research on the world's seas, there is a Polish astronomical observatory in Chile, and hardware built at the PAS Space Research Centre is used on numerous interplanetary missions. The PAS is an important member of the European organizations that bring together Europe's most important academies of sciences: the European Federation of Academies of Sciences and Humanities (ALLEA), the European Academies' Science Advisory Council (EASAC), and the consortium of academy networks (SAPEA) within the European Scientific Advice Mechanism, and it respects the guiding principles of these organizations.

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Keeping up with the world

The future of the PAS should be considered in the context of its strong representation in the international arena, and the overriding goal of all of the Academy's activities should be to strengthen its position in the system of science and higher education in Poland. This will lead to the achievement of the best quality in the form of scientific excellence, and consequently to increased global presence of Polish science. Such a goal will be achieved through efforts to improve the application of international research and education standards (for example with the use of international advisory bodies). We also want to increase the presence of the Polish Academy of Sciences in debates on important issues in public life.

Any future changes should serve to strengthen the scientific position of the PAS institutes in the national and international arenas. The key to stimulating progress in science lies in competitiveness. In the conditions of strong international competition, the Academy must work to attain and maintain its rightful place.

Discussions on the future of the PAS are part of the debate on the future of the academies of sciences in general – in the time-frame of several years, but also decades. We must be able to integrate the role of the Academy into the new reality, characterized by the presence of knowledge-based societies, the provision of education in the digital sphere, and learning throughout life. We are now witnessing a fourth industrial revolution, involving such processes as the growing use of cyber-physical systems, the Internet of Things, and cloud computing, which will undoubtedly gain momentum in the coming years. The future world may be indeed very different from what we have become accustomed to. Academies must respond to the challenges posed by changes that result from the climate crisis, demographic problems, migrations, and the rapidly changing labor market.

Some talk about a coming era of transhumanism, with advances in science and technology resulting in the improvement of living conditions for humans and the elimination of various limitations on human life. In such a scenario, academies, which stimulate the development of science, should take up a very important place, but only if they are able to adapt to the rapidly changing reality.

Although they enjoy enormous authority, academies are in a sense independent of the formal education system. As such, they can boost the value of the numerous new study programs being developed at various stages of education, which is unlikely to be limited to the formal system. Academies are likewise top-class think-tanks – indeed they may be described as “edu-tanks” – and their expertise should be used in the effective management of regions, countries, and even international institutions.

Probably all academies of sciences are involved in the debate on the future, including as participants of science organizations. Undoubtedly, it is a lot easier to discuss the future of universities, as their social importance, resulting from their educational function, is immediately noticeable to the outside world. Importantly, however, many academies, including the Polish Academy of Sciences, perform important educational functions, and should continue to do so in the future.

Discussions on the role of academies of sciences are particularly important at a time when populism and nationalism are growing in strength in many places in the world, and disinformation is everywhere. Academies of science should speak a strong voice, bring science and its findings closer to the public, provide it with reliable information, and speak out on the most important issues. Academies of sciences must promote the values of humanism and critical thinking, which should be the foundation of public education. There is no doubt that one of their main tasks involves restoring and reinforcing trust in science.

Reforming academies

Ongoing changes in the external environment are prompting many academies to reform. Some are setting up research universities on the basis of their institutes, whereas others are streamlining their operations by investing in stronger internationalization, quality of research, and significantly improved social communication. Among European academies, we can notice considerable structural similarities in the Austrian Academy of Sciences and the Royal Netherlands Academy of Arts and Sciences, which have similar goals: scientific excellence, multidisciplinary, mobility of scholars, international cooperation, and involvement in the improvement of the quality of life for societies. They play the role of leading research centers in their respective countries, and work closely with their self-governing associations of member-scholars. This model works very well. Both in Poland and abroad, academy institutes generate a significant share of the scientific output of their respective countries, and at the same time participate in the internationalization of science. This would therefore indicate that any and all planned reforms should strive to strengthen the aforementioned integrity.

The academy of the future should be a role model in promoting and creating scientific excellence, co-create and fulfill what we call European values, develop ethical standards, and provide advice on compliance with ethical principles and on academic freedom. We would like to have the tools to provide independent advice to all decision-making bodies using the latest advances in science in all of its disciplines. At the same time, the Academy should act as a source of reliable knowledge for the public, work out effective and attractive science promotion mechanisms, speak



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out on matters related to the evaluation of scientific research, and help to formulate the highest standards for such evaluation. In other words, we see the PAS as an important platform for intellectual exchange and scientific reflection, visibly and audibly present in the public debate, and firmly rooted in its economic and social environment.

In practical terms, the Polish Academy of Sciences should be an autonomous scientific institution observing the principle of freedom of research. To advance its goals effectively, the Academy should have the opportunity to obtain substantial funds for research from domestic and foreign sources. Its research institutes must provide it with the tools for conducting groundbreaking and pioneering interdisciplinary research of theoretical and practical significance, and ensure the publication of research results in reputable journals. At the same time, what distinguishes the PAS from numerous similar institutions in the world is that the Academy should provide education at the doctoral and post-doctoral level (potentially also masters-level graduate education) in the form of problem studies according to an individual program and through the active involvement of doctoral students in the research process, which involves solving scientific problems.

At the PAS, doctoral candidates are not students in the traditional sense, but young researchers and scholars in their own right who are preparing for a future academic or professional career. Over the years, the Academy appears to have proven its effectiveness in education. To negate its engagement in this area would mean squandering a public good. However, the profile of PAS graduates should be that of young holders of doctoral degrees free to choose also a professional career and able to develop skills useful in work for in the public or private sectors, including the acquired ability to analyze processes and data in various fields. For this reason, PAS institutes should have the right to confer degrees in selected scientific disciplines, while maintaining stringently high requirements and standards, and should be able to create and promote interdisciplinary dissertations.

Headed for change

The Academy has appointed a team to develop a draft amendment to the Act on the Polish Academy of Sciences, so as to ensure greater integrity of the Polish Academy of Sciences. The idea is to link the elected body of Academy members (the “corporation”) more closely to the PAS institutes, which will participate more intensively in the work of the elected body of scholars. In turn, the member-scholars will have relevant opportunities for academic and expert monitoring of the activity of the institutes. Simultaneously, the institutes will retain their independence, which is

indispensable for the conduct of scientific research at the highest level.

The integrity of the PAS as a whole is also ensured in the draft bill that has been developed by means of a strong link between advanced research and advanced education, provided within the Academy at the doctoral and post-graduate levels. The draft introduces structural solutions that will definitely facilitate institutional flexibility and internationalization, thus ensuring that a high level of quality of all PAS units. We are convinced that the best way to improve the quality of the Academy’s functioning involves boosting its integrity and basing it on new principles, because it is this very integrity that builds the potential of the Academy.

We have introduced many mechanisms into the draft bill to integrate various parts of the Academy: at the level of the General Assembly, the Presidium, the Divisions, and the Branches. We have simplified the structure of the Divisions, and described in detail the various decision-making processes within the Academy as a whole. Among the new measures, we propose the establishment of an “International Council of the Polish Academy of Sciences,” which should speak out on matters of importance to the Academy, especially its strategy, the directions of its development, and the general matters specified in the individual provisions of the law. It is an important instrument for internationalizing the PAS and integrating the elected body of scholars and the network of research units.

The draft also provides for the establishment of a General Assembly of the PAS Institutes, a body with broad powers to deal with matters relevant to the functioning of the research institutions within the Academy. We also propose the establishment of a council of chairs of the Academy’s committees to highlight their role and to include them in the decision-making process. We envision the establishment of a federation of doctoral schools as a form of their in-depth cooperation. The schools will meet the highest standards developed within PAS. We have also provided for the possibility of creating a federation of institutes, which may establish new legal entities – Academy research centers. Importantly, a certain symbiotic relationship between all of the elements that make up the Polish Academy of Sciences guarantees that politicians will have limited influence over the freedom of scientific research and how it is organized.

The elected body of scholars and the network of research institutes, as two integral and interconnected parts of the Academy, will stand a chance of generating the critical mass needed to for the results of the Academy’s work to be attained and presented as a whole, not in a scattered way. In this way, the autonomy of the PAS will be reinforced, including by amending the Act on the Polish Academy of Sciences in order to include these principles. ■

Further reading:

Raich M., Dolan S., Rowiński P.M., Gisullo C., Abraham C., Klimek J., Rethinking future higher education, *The European Business Review*, 1/2019, pp. 33–49, <https://www.europeanbusinessreview.com/rethinking-future-highereducation/>