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THE ACADEMY: THEN AND NOW

The Staszic Palace in Warsaw was the first seat of the Polish Academy of Sciences. It continues to house PAS scientific institutes and auxiliary units, including the PAS Institute of Philosophy and Sociology and the Council for the Polish Language



PAS ARCHIVE

On the changes that have taken place
in the Polish Academy of Sciences over
the decades and its goals and tasks
in science and beyond.



ACADEMIA PART I The Academy Ideal

Jerzy Duszyński

President of the PAS

The Polish Academy of Sciences was founded back in 1952, in what is described as the Stalinist period in Poland's history. For this reason, the Academy is sometimes said to have "tarnished origins," so to speak. However, that was also a time of rebuilding Poland after the terrible war-time devastation. WWII had left many cities in rubble, and this especially held true for Warsaw, which was almost completely and totally destroyed.

The beginning

World War II devastated the infrastructure of scientific institutions in Poland, but more importantly it also decimated the scholarly community. As a result of the war, Poland had its borders redrawn. Prior to WWII, two of the four prewar Polish universities (the John Casimir University in Lwów/Lviv and the Stephen Báthory University in Wilno/Vilnius) operated in areas that ended up outside Poland. In the years immediately following the war, cities, roads, bridges, railroads, and the educational institutions, along with the very system of education in Poland, had to be rebuilt from the ruins.

Undoubtedly, a key role in those efforts was played by the Polish Academy of Sciences, which pulled together many of the most prominent Polish scholars. It influenced the whole of the system of science in

The Kórnik Castle, the new facade. The Castle is home to one of the many libraries of PAS

Poland – as a result of severe staff shortages, it was common practice for scholars to be employed simultaneously at an Academy research unit and at a university. Moreover, the assembly of Academy members has been dominated from the outset by scholars employed at universities, who now account for 70% of its members.

Today, the legal rules that govern the functioning of the Academy bear little resemblance to the ones in force at its inception. The parliamentary acts regulating the Polish Academy of Sciences have been revised on many occasions. The first "Act on the Polish Academy of Sciences" was passed in 1951. The next one was enacted in February 1960, then amended in 1963, 1965, 1970, and 1973. The third act was passed in April 1997, and the current and fourth one dates from April 2010. In recent years, the current governing bodies of PAS have also worked intensively to prepare the Academy to meet the upcoming challenges. In 2019, by virtue of a decision of the PAS President, a team was set up to draft guidelines for an amendment to the current Act on the Polish Academy of Sciences (from 2010). In 2020, the team's efforts resulted in the drafting of an amendment to the PAS Act. Here, it should be added that the Academy's body of elected members (the "corporation," as it is known) has been supplemented with new members many times over the past 70 years, with the scientific merits of candidates (male or female) playing a decisive role in their selection.

Scientific activity

Although the Polish Academy of Sciences has played an important role in the system of science in Poland from the outset, the Academy's scientific activity has risen in significance even more over the years. There is no doubt that the PAS is now a leading scientific institution in Poland. To back up these words, I can cite the results of the latest evaluation of scientific units conducted in 2017 by the Committee for the Evaluation of Scientific Units (KEJN). It examined the activities conducted in 2013–2016 by a total of 1,000 units, including university faculties, PAS institutes, and research institutes. Among these, 63 units were awarded the highest category (A+), and 14 of those were PAS institutes. Among the 387 units that were given the category A, there were 44 PAS institutes. An analysis of the Academy's publication and grant-winning activity in 2019 revealed that scholars affiliated with PAS institutes published as many prestigious papers (top 25%) in 2013–2018 as those affiliated with Poland's three largest universities with the best publication figures, taken together. Importantly, each of these largest universities employs as many staff members as the whole of the Academy. Likewise, the PAS is a leader in obtaining European funds for research projects. Under the EU Program "Horizon 2020," PAS insti-



KÓRNIK CASTLE

tutes have obtained as much funding as six leading universities taken together. We are a leader in terms of the number of internationally renowned researchers. The list of the World's Top 2% Scientists 2020, compiled by Stanford University in collaboration with Elsevier, included 726 researchers from Poland, including 134 from the PAS, 58 from the University of Warsaw, 45 from the Jagiellonian University, 42 from the Warsaw University of Technology, 34 from AGH University of Science and Technology, 27 from the Wrocław University of Technology, and 25 from the Adam Mickiewicz University. These are just some of the figures illustrating the stature of the PAS within the system of science in Poland.

Organizational structure

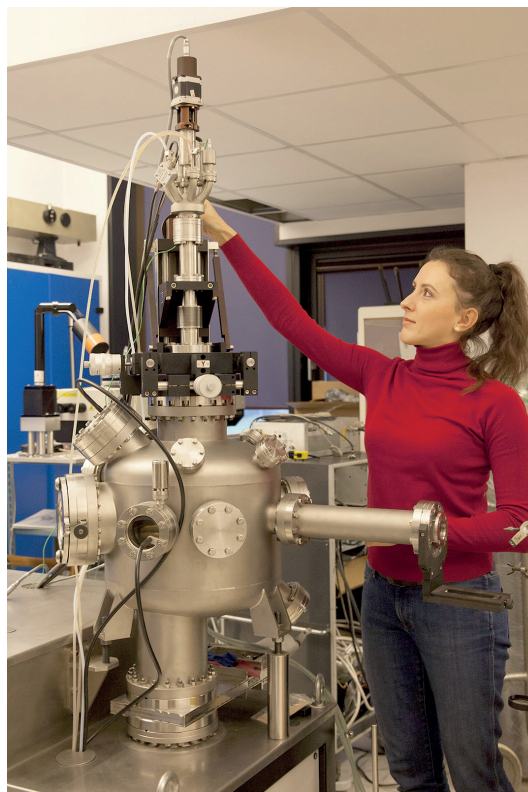
The PAS consists of its elected body of Academy members (the “corporation”), numerous PAS committees, and 80 scientific institutions, which include institutes, laboratories, centers, botanical gardens, and other units, as well as auxiliary units: archives, libraries, museums, foreign research stations, and so on, which conduct research or R & D work.

The elected body of Academy members can legally include no more than 350 members. Their duties involve working in the five divisions of the Academy (I – humanities and social sciences; II – biological and agricultural sciences; III – mathematics, physics, chemistry, and Earth sciences; IV – engineering sciences; and V – medical sciences). In addition, they exercise oversight over the activity of the PAS institutes. The supreme governing body of the Academy is its General Assembly, which is a meeting of PAS members held at least twice a year.

The PAS institutes are primarily engaged in research, employing a total of over 9000 staff, including almost 4100 research workers. The Academy is recognized in Poland and abroad as a prominent scientific institution thanks to the outstanding research achievements of the scholars affiliated with the PAS institutes, which also promote the positive international image of Polish science. The PAS institutes are able to offer doctoral, post-graduate, and other educational programs. Currently, 59 PAS institutes plus the International Institute of Molecular and Cell Biology are involved in providing programs at different 23 doctoral schools: nine of them are run exclusively by the PAS institutes, six in collaboration with universities, five in collaboration with research institutes, and three in collaboration with research institutes and a university.

Education

Currently studying in the doctoral programs and doctoral schools run by the PAS institutes, independent-



ADAM HOLNICKI/PAS INSTITUTE OF FUNDAMENTAL TECHNOLOGICAL RESEARCH

The A+ evaluation category was awarded to such PAS units as the Institute of Fundamental Technological Research. Photo: Division of Technological Laser Applications, Department of Experimental Mechanics, PAS Institute of Fundamental Technological Research. Chamber for thin film deposition using the laser ablation method

ly or in collaboration with universities and research institutes, there are 1803 PhD students (with women accounting for 56.3%), including 359 from abroad (data as at the end of 2020). In 2019, there were 1874 PhD students (the share of women was 57.7%), including 302 from abroad. In 2020, 341 PhD students were admitted to doctoral schools, up by 133 compared with the year before (208 students in 2019).

Doctoral students are represented at the Academy by the PhD Student Council of the Polish Academy of Sciences, on matters concerning science, culture, and social and financial conditions. The Council promotes the integration of the PAS doctoral student community, and also represents it by engaging in the work of the National Representation of Doctoral Students (KRD). Forms of support for the educational activity of the institutes include the Scholarships of the PAS President, awarded to PAS PhD students. They are awarded to candidates with outstanding scientific achievements in their field. The PAS research institutes also provide second-cycle and post-graduate studies and numerous specialist courses. However, in spite of these unquestioned achievements, I do realize that the Academy's educational mission should be even much more advanced.

Additional funding

In recent years, one of the most important tasks of the Academy's governing bodies has been to obtain more EU funds and grants for science institutions. To obtain more EU funds and use them effectively, the Academy established the Department for Excellence in Science, which provides researchers with support

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The PAS Botanical Garden in Powsin actively promotes greater public understanding and appreciation of botany



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in applying for European Research Council grants. Thanks to the Department's activities, the Academy launched the PASIFIC (Polish Academy of Sciences' Individual Fellowships: Innovation & Creativity) Fellowship Program with a budget of nearly 12 million euros. It is addressed to top young scientists from all over the world who want to conduct research at the PAS institutes.

The voice of experts

We have observed a rise in the significance of the opinion-shaping role played by the Academy's assembly of members, supported by its scientific and task-force committees. The PAS reacts to current events. One example is the work of the Interdisciplinary COVID-19 Advisory Team. Its tasks include monitoring the course of the COVID-19 epidemic in Poland and analyzing possible scenarios for the development of the epidemic in Poland and Europe. The team's work resulted in the publication of *Understanding COVID-19: Report of the COVID-19 Advisory Team at the President of the Polish Academy of Sciences*, which presented the current state of knowledge about SARS-CoV-2, COVID-19, and its medical, psychological, economic, and social impacts. Since June 2020, the team has also released 31 detailed position statements presenting selected aspects of the COVID-19 epidemic.

Since April 2021, the Polish Academy of Sciences and the Copernicus Science Centre have been organizing a series of online meetings entitled "Coronavirus in the Crosshairs." Its guests include experts from the COVID-19 Advisory Team, as well as other prominent experts from various disciplines of science. For most

of the meeting, the experts answer questions asked by the audience. The purpose is to offer ordinary people direct access to experts and dispel their doubts related to the pandemic and COVID-19 vaccines. Videos of all the meetings are available on the PAS channel on YouTube.

Among the numerous activities undertaken by the Polish Academy of Sciences in recent years, especially noteworthy are those focused on the broadly-understood concern for the environment – the conservation of biodiversity and the fight against the climate crisis. The PAS adopted a strong stance in support of protecting the Białowieża Primeval Forest against large-scale felling of trees and called for the urgent development of a coherent strategy for preserving this unique site.

The PAS committees and commissions have expressed vocal opinions on nature conservation topics. Examples include the position statement on the conservation of wolves in Poland issued by the Commission for Nature Conservation and Management at the PAS branch in Olsztyn and Białystok, the position statement of the PAS Committee of Environmental and Evolutionary Biology on the conservation of old-growth forests, and many more. This shows that the PAS has one of the most influential voices on issues related to nature conservation and the climate crisis in the broad sense. As a member of the European Academies' Science Advisory Council (EASAC), the Academy also publicizes the EASAC statements on climate and biodiversity.

There is no doubt left about the rapid nature of ongoing climate change, which has been caused mainly by human activity. In 2020, to help the scientific community speak out with a stronger voice on the

alarming phenomena related to the worsening condition of climate, the Academy established the Advisory Group on Climate Crisis affiliated with the Academy President. This team consists of 15 experts representing various disciplines, ranging from physics, biology, and medicine, through energy, water management, and urban planning, to law and sociology. The Group formulates recommendations related to the state's interventions and bottom-up initiatives in social processes, the economy, and the world of business. It provides substantive support in the development of climate policy and the plans for a transition towards a zero-carbon economy. The group's position statements influence public opinion through the media, especially in the discussion on the rising sea levels.

The Academy undertakes numerous initiatives promoting broader collaboration between the Polish scientific community and research centers and organizations throughout the world. International collaboration manifests itself in the establishment of very valuable relations with leading experts in various fields of science through the participation of Polish scholars in international meetings, symposiums, and conferences. International collaboration and scientific exchange are based on numerous bilateral agreements, as well as the Academy's membership in over 100 international scientific organizations in the world. An important role in promoting the achievements of Polish science, but also of Poland's history, culture, and economy is played by the PAS research stations in Berlin, Paris, Rome, Vienna, Brussels, and Kyiv.

Science popularization

Publications, funding of numerous science projects organized by the PAS committees and scientific units, and support for the science popularization efforts made by the PAS institutes are all aimed at disseminating cutting-edge science.

Every year, the Academy, its institutions, and committees publish several hundred titles in print, nearly half of which are scientific journals and publishing series. One of them is a series of books *Wybitni uczeni we wspomnieniach* (Recollections of Prominent Scholars).

The Academy's official scientific journal is the quarterly *Nauka* (Science), which publishes peer-reviewed original research papers and articles in various disciplines as well as articles devoted to current problems related to the organization of science and higher education. *Academia*, the Academy's popular-science quarterly published in Polish and English – in which this very article is appearing – promotes the achievements of Polish researchers in Poland and abroad. Each issue has a specific theme, recent examples include: climate change, water, energy, and tenderness. All issues are available in print and online.

The promotion of culture is the domain of auxiliary units operating within the organizational structure of PAS: the Gdańsk Library, the Kórnik Library, the Congress and Conference Center in Jabłonna, the Museum of the Earth in Warsaw, the PAS foreign stations, and the Botanical Garden in Powsin. The Gdańsk Library of the Polish Academy of Sciences, which is celebrating its 425th anniversary this year, organizes numerous promotional campaigns involving the local community (such as city games, promotional campaigns on the library's activity, for example a specially marked streetcar or a mural). Events related to the anniversary celebrations included the inscription of five works by Johannes Hevelius on the Polish National Register of the UNESCO Memory of the World Programme, including unique copies of works containing dedications written by the author and drawings he had personally colored.

In addition to providing access to its collections, the Kórnik Library teaches classes on the use of the library, database searches, library catalogs, and digital libraries. The Congress and Conference Center in

The PAS has one of the most influential voices on issues related to nature conservation and the climate crisis in the broad sense.

Jabłonna organizes exhibitions of paintings, photographs, and posters, as well as concerts and science festivals.

The PAS Botanical Garden in Powsin plays an important role in broadening the public awareness of botany. Every year, the garden is visited by hundreds of thousands of people, who have a chance not only to spend their time in an enjoyable way, but also to learn more about the Polish and foreign flora. The garden organizes numerous scientific and educational workshops and cultural events. Apart from organizing exhibitions in the traditional sense, the PAS Museum of the Earth and the Evolution Museum of the PAS Institute of Paleobiology play an educational and science-communication role by organizing workshops and publishing interesting films in social media.

Overall, the Polish Academy of Sciences is one of Poland's leading scientific institutions. It is active in research, in education, and in science popularization and dissemination. Without any doubt, we can certainly say that it is important institution whose achievements are recognized abroad. ■