

POLISH POLAR RESEARCH	19	1-2	11-13	1998
-----------------------	----	-----	-------	------

## ANTONI BOLESŁAW DOBROWOLSKI

(6 June 1872 – 27 April 1954)



A. B. Dobrowolski on board of *Belgica*

*Photo-collection of Baron Gaston de Gerlache de Gomery.*

Antoni Bolesław Dobrowolski, a prominent Polish polar scientist, geophysicist and educationalist, was born in a small village Dworszowice Kościelne in the Łódź district, central Poland. His early life and career were extremely difficult. Born to a poor family, he was forced to take up work already at an early age of 12 to pay his education.

It was only six months after his graduation that he was arrested by the tsarist police and sentenced to three years jail for his patriotic political activities in the

then Russia-occupied part of partitioned Poland. He was released from jail only to be deported to Caucasus. From there, after two years of detention and exile, followed by a dramatic escape, he finally reached Switzerland.

While in Zurich, he took up first philosophical, then biological, and finally geophysical university studies. There he met Dr Henryk Arctowski who later invited him to join the Belgian Antarctic Expedition on *Belgica* (1897–1899). Dobrowolski, who first signed on the ship's crew, was later transferred by the expedition's commander Adrien de Gerlache de Gomery, to scientific staff of the expedition. In recognition of his excellent voluntary research work, Dobrowolski was thus appointed laboratory assistant and scientific assistant in meteorology to help Arctowski.

On his return from Antarctica, Dobrowolski, together with Arctowski, had joined the *Belgica* Commission and participated in editorial work of the research materials collected during the expedition to Antarctica. He contributed in particular to volumes III and IV of the Expedition's Results dealing with meteorology. It gained him recognition and helped to win a two-year scholarship for continuation of his university studies, and to get a paid job (1905–1907) at the International Office of Polar Problems in Brussels.

In his publications, Dobrowolski explained the formation of hail as a glaze on granular snow, and discovered a new type of atmospheric ice crystal which was responsible for all forms of the halo phenomenon. One of his hypothesis, based on long observations during his stay in Antarctica, concerning the existence of special systems of clouds, has recently been confirmed by satellite observations. He also proved that all forms of ice crystallize in hexagonal class.

In 1907, after the amnesty granted by the Russian tsar for political exiles, Dobrowolski returned home. In his still Russian-occupied homeland, he worked till 1914 as schoolteacher, and took up his pedagogical studies embarked on in Zurich a decade before.

The outbreak of World War I surprised Dobrowolski in Sweden where, as a recipient of a private Polish foundation scholarship, he continued elaboration of his own observations on snow and ice formation initiated during the *Belgica* expedition. These studies effected in a monumental treatise on "Natural history of ice" published in 1923 in Poland. With this treatise, he initiated cryology – a new geophysical discipline dealing with snow and ice in all their forms and phenomena.

A. B. Dobrowolski was a multi-dimensional personality, dividing his talents and erudition between various occupations, both in education and science. In the early post-war years, he became deeply involved in the organization of education in Poland, the country liberated now after 123 years of partition between Russia, Prussia and Austria. Holding responsible ministerial and other educational posts, he advanced and carried into effect many progressive and even visionary ideas. While teaching pedagogics at the Polish Free University in Warsaw, Professor Dobrowolski developed in numerous publications his original ideas on the

universality of education (*Universitas Rediviva*), and on ethics for the conduct of scientific research.

In the middle of the twenties, Dobrowolski returned to geophysics – his main profession and speciality. In 1924–1929, holding the post of the deputy-director, then director, of the State Meteorological Institute, he became one of the founders of the Polish meteorological surveys. On his initiative, there were established and/or revitalized already existing institutions, such as the Marine Observatory at Gdynia, the Aerological Observatory at Legionowo near Warsaw, and the Seismological Observatory in Warsaw. He founded the Polish Geophysical Society and the “Polar Circle Club”, becoming their first president.

At international forum, Dobrowolski initiated formation of the Commission on Ice and Snow of the International Union of Geodesy and Geophysics, becoming its vice-president.

Within his own capacity, A. B. Dobrowolski was also a very strong supporter of polar activities and research in Poland. His authority and influence in this respect is clearly traceable during organization of the first Polish expedition to Bear Island during the 2nd International Polar Year (1932–1933), and the Polish Spitsbergen Expeditions of 1934 and 1938. He became also a well-known author of numerous books on polar exploration, and scientific articles dealing with geophysics, glaciology and pedagogics, altogether about 100 items.

After World War II which he spent in German-occupied country, Dobrowolski contributed again to reconstruction of the strongly damaged structures of Polish education and science revitalizing, among others, the Polish Geophysical Society.

As a prominent humanist, Professor Dobrowolski was trying to find answers to many fundamental interdisciplinary questions, such as the essence of interrelations between the natural world and the general laws of the universe (“the puzzle of the world”). In his view, the answer to these questions belongs to science, and only to science, rather than to philosophy. His next concern was the meaning and purpose of human life and the attitude of man towards the universe (“the puzzle of life”). In his view, the answer to this question should be based on the rational analysis of the human nature, on the nature of the universe, and also on the human activities and works which can be acknowledged as “cosmic”, rather than on philosophy or religion.

The scientific achievements of A. B. Dobrowolski were widely acknowledged in the scientific community. The first Polish Antarctic Station – at Bunger Hills in East Antarctica, opened by the Polish Academy of Sciences in 1959, bears his name. Dobrowolski was also commemorated in numerous new geographic site names in Antarctica and Spitsbergen.

Professor A. B. Dobrowolski passed away in Warsaw on April 27th, 1954. His ashes rest at the Powązki Memorial Cemetery in Warsaw.