Geological Museum of the Polish Geological Institute

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Compared to museums with traditions dating back many centuries, the Geological Museum of the Polish Geological Institute cannot claim equally ancient pedigree. The Institute was officially established on 7th May, 1919. The PGI faced multiple difficult tasks. One of the decisions by the founders of the Institute was that it should possess *...a museum of fossils* [traditionally meaning all things excavated] *found in the Polish territory, ...a museum, that would hold a possibly complete collection of fossil* [i.e., again, geological] *specimens found within the area of Poland and which would keep the originals and materials documenting scientific memoirs published by the Polish Geological Institute...* (Morozewicz, 1921).

Among the principal statutory aims of the Institute is *...establishing and completing petrographic, mineralogical and palaeontological collections, as well as those of useful mineral resources, and generally, materials serving to elucidate the geological structure of the country and documenting its mineral treasures* (Graniczny et al., 2003). The need for the Museum was never put into question.

Fig. 1. Jan Czarnocki — the first curator of the Geological Museum, PGI. Photo Archives, PGI

During the first years of its existence, the Museum developed successfully due to efforts of its first curator, Jan Czarnocki (Fig. 1), who was also its main sponsor. He donated to the Museum his personal collections from the Holy Cross Mountains, gathered during more than a decade. The collections included about 74,000 specimens. The Museum still had no exhibition room and the collections were kept in storage.

In the initial stage, the Museum of the PGI amassed more than 180,000 specimens (Fibich, 1972). Besides Jan Czarnocki, other geologists generously offered their own collections; e.g., J. Samsonowicz donated about 10,000 specimens from the Palaeozoic of the eastern part of the Holy Cross Mountains, P. Koroniewicz — about 10,000 Jurassic fossils from Jura Krakowsko-Częstochowska (S Poland), S. Kontkiewicz — about 6,000 specimens from the Holy Cross Mountains, Jura Krakowsko-Częstochowska and Zagłębie Dąbrowskie (Silesia-Cracow area) and B. Rehbinder — some 10,000 specimens from Jura Krakowsko-Częstochowska. Most of the specimens were already catalogued, determined and labelled. From this substantial material, several educational collections were assembled and transferred to geological faculties of the universities in Poznań and Vilnius (then Polish Wilno).

In the Autumn of 1930, the Institute moved to a new building, designed by the architect Marian Lalewicz. The whole ground floor was dedicated to the Geological Museum. The design was based on similar architectural solutions in other geological museums, e.g., in London or Munich, where the exhibition hall forms the core of the building and is surrounded by smaller rooms for minor exhibitions, laboratories and offices.

In 1938, preparation and sectioning labs were established in the Museum. The archival materials were stored in 20 cellars of the building. *A fairly large team of employees was engaged in the museum work, because this labour was regarded as fundamental, along with other current routines performed in parallel* (Bohdanowicz, 1938).

Only in 1939, in the central hall of the main building of the Institute, the exhibition of mineral resources of Poland was opened, and in the western room — an exhibition of the geological structure of Poland in regional approach. The exhibitions presented a comprehensive overview of the geology of Poland. They were supplemented with maps, geological cross sections and models. Among the most interesting ones was a model of the Upper Silesian Coal Basin.

Fig. 2. Exhibition hall of the Geological Museum, PGI, after bombing in September 1939. Photo Archives,

In 1939, the Museum collection was estimated to consist of several hundred thousands specimens, being the largest geological collection in Poland (Fibich, 1972).

During the World War II, the Museum suffered heavy losses in the September 1939 bombing (Fig. 2). The glass roof was largely damaged, all doors were broken off their

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frames, most metal showcases were shattered and the display specimens were destroyed (Janczewski, 1946). Even greater losses happened in 1944, during the Warsaw Uprising; a large part of the building burned down, together with the most precious collections. Only about 30% of the pre-war items survived.

After the war ended in 1945, salvaging of special collections began. Only part of the collection stored in cellars survived. All exhibition specimens perished. The materials from the Holy Cross Mountains were decimated, especially the Jan Czarnocki collections.

The initiative to rebuild the Museum after the war was enthusiastically accepted by the whole staff of the Polish Geological Institute. Special field trips were organized to collect display specimens. After the call issued by the PGI management, numerous exhibits were sent in from mines, quarries and other companies.

Soon, the Ministry of Industry and Commerce prompted the Museum to organise an exhibition on *Industry of the Regained Territories*. In May and June 1947 several tens of thousands people visited the presentation of northern and western lands of the new Poland.

In 1950s, work began on a new permanent exhibition. Two major exhibitions were prepared: *Mineral Resources of Poland* on the ground floor of the museum hall and *Stratigraphy of Poland* on the upper floor.

In 1957, the Museum gained new attractions: skeletons of large Pleistocene mammals — a mammoth, woolly rhinoceros and cave bear. Also a fragment of a large-diameter borecore from the salt mine in Kłodawa went on display. Among the most precious specimens, there is salt from the "Crystal Cave" in Wieliczka, excavated already in 1907, and donated to the Museum of the PGI by the Faculty of Geology of the Jagiellonian University in Cracow (Żelichowska, 1970).

In 1975, the Museum offer was enriched by next two permanent exhibitions: petrographic and mineralogical one, with hundreds of mineral and rock specimens of high display quality.

Current Status

The 1990s was the time of a major reorientation of the Geological Museum of the PGI. It began a transformation from a purely scientific, research oriented institution, into one aimed mostly at geological education. The existing exhibits needed a major renovation. The educational activities of the Museum are reflected by numerous temporary exhibitions. In 1997, the world's first life restoration of a feathered dinosaur *Dilophosaurus* (Fig. 3), based partly on footprints found in Poland, gained a nationwide publicity.

Modernizing such a large museum, as the Geological Museum of the PGI needed tremendous logistic and financial efforts. Several research trips to major European geological museums were undertaken (Mizerski & Sylwestrzak, 1997). The National Fund for Environmental Protection and Water Management provided partial funding. Thanks to great efforts of the Museum staff, on 21st October, 1999, the new exhibition was opened, which exists till now, undergoing successive modifications (Fig. 4).

Fig. 3. A feathered restoration of *Dilophosaurus*. Photo B. Ruszkiewicz

Fig. 4. New exhibition of the Geological Museum, PGI. Photo M. Krzyżanowski

Fig. 5. Karst phenomena: a model of a cave. Photo M. Krzyżanowski

Fig. 6. Calcite from Machów open strip mine, Poland. Photo I. Ploch

Fig. 7. Mandible of a cave lion from Pyskowice near Katowice. Photo A. Nowicka

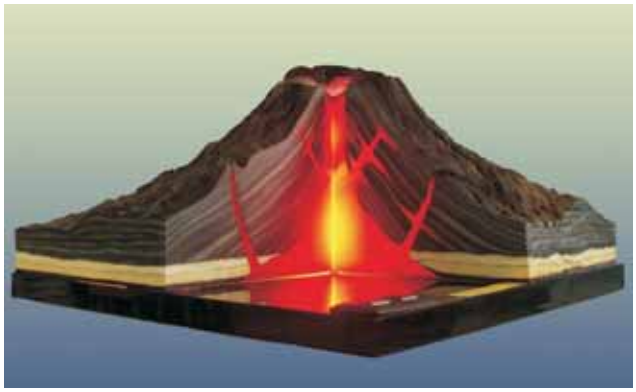

Fig. 8. Model of a volcano. Photo B. Ruszkiewicz

Fig. 9. Celestine from Machów open strip mine, Poland. Photo I. Ploch

Fig. 10. Fragment of the Baszkówka meteorite — mass 16 kg, diameter approx. 40 cm. Photo M. Krzyżanowski

The new permanent exhibitions include, among others, custom-made geological and palaeogeographic maps on the walls, and a huge stratigraphic timeline adorned with examples of organic evolution. There is a karstic cave diorama, with stalactites dripping water into ponds with cave pearls (Mizerski & Urban, 2000).

The following permanent exhibitions, addressed mainly to young visitors, including students are now on display at the Geological Museum. The ground floor hosts three exhibitions: *History of Poland Written in Stone, Matter of the Earth* and *Mineral Resources of Poland.* On the upper floor, there are three exhibitions: *Fossilized World, Igneous Processes, Sedimentation and Diagenesis*, and *Metamorphism,* as well as two dioramas: *Karsitc Phenomena — Model of a Cave* (Fig. 5) and *Model of a Desert*. This year the permanent exhibitions will be expanded by the *Origin of the Earth*.

The new exhibitions include all the most precious specimens displayed previously (Figs 6, 7, 9 and 10). Unfortunately, the function of the building (with numerous scientific laboratories and researchers' offices) and the architecture of the exhibition hall did not allow for introducing elements of sound and motion into most displays.

There is a stand selling rocks, minerals and fossils. The visitors can get acquainted with the Museum attractions and the layout of exhibitions by reading the new Museum leaflet. In 2004, the model of an erupting volcano was integrated into the exhibition (Fig. 8).

Forms of activity

The statutory obligation of the Geological Museum of the PGI is collecting and archiving of geological specimens and making them available for research purposes. The collections are divided into six sections: mineral resources, palaeozoology-stratigraphy, palaeobotany-stratigraphy, mineralogy, petrography, and dynamic geology. Another division comprises about 100,000 thin sections. The Museum has also a unique micropalaeontology archive, with collections of microfossils from several thousands of boreholes.

Access to all specimens is possible due to catalogues. It has become even easier since implementing the computer database of the collections of the Geological Museum. The collections attract interest of numerous scientists nationwide and from abroad; each year, several tens of researchers visit the museum to study relevant collections.

The Museum has a modern storage facility with mobile compact shelves, enabling storage of about half a million specimens on a relatively small surface, and facilitating the access to the collections. Construction of the new storage facilities in the basement of the Museum building was the most costly enterprise of the PGI in 2001. Geological specimens documenting the geological past of Poland have been gathered in the storage room extending at more than 800 m^2, meeting all requirements of a modern archive. The collections, many of them unique, are now better protected and easier to access both for research and educational/exhibition purposes.

The Geological Museum of the PGI in Warsaw since many years conducts educational activities aimed at schools. Geography teachers, not only from the Polish capital, often make use of the museum. Usually, however, the teacher intends only to show the specimens on display. Not many of the educators are aware that in the Museum, many interesting lessons can be taught, fitting not only geography curricula, but also those of biology/environment, chemistry or even art. The broad offer addressed to schools is the more remarkable, that the entrance to the museum is free, as are the lessons guided by highly qualified staff.

The educational offer of the Geological Museum of the PGI includes:

- ❏ museum lessons;
- ❏ lectures on selected topics pertaining to various aspects of Earth sciences;
- ❏ workshops on identifying fossils, rocks, and minerals;
- ❏ natural history video shows.

The educational outreach is not restricted to the Geological Museum of the PGI in Warsaw, but is also done in its Regional Branches in Kielce, Kraków, Sosnowiec, and Wrocław, where numerous temporary exhibitions are organized to supplement the permanent ones.

The filial branches of the Geological Museum of the PGI in Regional Branches of the Institute launch annual contests of geological knowledge for college students and art contests (e.g., featuring *Prehistoric Landscapes*) for pupils of grammar schools; thousands participate each year.

The Museum uses educational software; some programmes are installed in multimedia stands in the main hall and near the entrance. The user interface is very easy, and the visitors like to test and expand their knowledge on the evolution of the Universe, structure of the Earth or the world of dinosaurs.

The Geological Museum of the PGI welcomes also to its homepage (http://www.pgi.gov.pl/muzeum_geologiczne/). The web page is very rich, including not only historical information and data on great geologists, rocks, minerals, fossils, but also interactive museum lessons on various topics related to the Earth sciences. Visitors can find there many fascinating facts, and participate in a monthly quiz.

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