

Museum of minerals and rocks: geoscience cultural heritage in northeast Brazil

de Brito Barreto S^{1*}, Rodrigues da Silva T², Bittar S M B³, Jussara P¹

1 - UFPE/Department of Geology *sandradebritobarreto@gmail.com 2 - UFPE/Department of Mining Engineering 3 - Universidade Federal Rural de Pernambuco

The Museum of Minerals and Rocks, at the Federal University of Pernambuco, was inaugurated in 1968. This Museum gathers collections of two older museums of geosciences, built in the 1950s in two educational institutions in geosciences, Escola de Geologia do Recife and Instituto de Geologia, both located in the city of Recife, state of Pernambuco. The collection consists of minerals and rocks nowadays numbering about 5,000 samples. The mineral and rock collections show the development of the scheelite and industrial minerals mines on skarns and pegmatites. These mines are situated in the northeast of Brazil, in the region of Borborema Province, especially Rio Grande Norte and Paraíba states. The mineral and rock collections consist of reference collections bought for the beginning of geoscience education on that time. The development of teaching and research in geosciences allowed the creation of teaching collections and collections intended for the museum.

Throughout the history of the museum, into the collection were incorporated various scientific instruments produced in the first half of the twentieth century, which nowadays are part of a collection consisting of about 100 pieces including goniometers, thermometers, refractometers, compensators, scales and microscopes of various models, produced primarily on metal and glass, wood, plastic and resin components. These objects of S&T come from the divisions of Mineralogy, Petrology and Paleontology of the former Institute of Geology (1957), from the offices of professors of Geology and Mining Engineering, from the laboratory of Mineralogy Optics, Department of Geology, from the former laboratory of X-rays diffraction analyses and from the classroom mineralogy of UFPE. The vast majority have German origins and the collection is quite heterogeneous when it comes to manufacturers. We identified several European houses such as Ernst Leitz (Wetzlar - Germany), Carl Zeiss - (Winkel - Germany), Hertel & Reuss (Kassel - Germany), Stoe & Cie (F. Rheinheimer Heidelberg - Germany), Nonius (Delf - Netherlands) and to a lesser extent, North American (Eimer & Amend - New York), Japanese (Rigaku Denki Co. Ltd.), and Brazilian manufacturers (Asca - RJ / SP / RS), among others. Recently, the museum in 2013 had a donation of a collection of geophysical instruments named after Professor Helmo Rand, who was a pioneer in teaching and research of geophysics in the northeast of Brazil. The collection includes 245 documents (scientific books, literature, periodicals, photographic registers of field trips and meetings) and 25 instruments (altimeters, scintillation, resistivity, magnetometers, geophone, seismographs, arms and precision balance). The instruments are manufactured mostly in USA and secondarily Sweden, Germany and Japan. This is a very significant collection in the fields of mineralogy, petrology and geophysics, especially when it comes to training of geologists, mining engineers and natural historians. This paper expects to be a way to present its collection to the geoscience community and to value this cultural heritage.

The historical mineral collections of the University of Liège, Belgium

Hatert F

University of Liège fhatert@ulg.ac.be

The Laboratory of Mineralogy, University of Liège, possesses a mineral collection mainly consisting of old and historical samples, preserved since the middle of the 19th Century. The first entries in the collection are reported by Gustave Dewalque (1826-1905), who was Geology Professor from 1857 to 1897. A nice meteorite collection was built at that time, with 3 Belgian samples (Tourinnes-la-Grosse, Lesves, and St-Denis-Westrem) and several famous European meteorites (Ensisheim, L'Aigle, Château-Renard, Orgueil, Juvinas).

In 1891, Giuseppe Cesàro (1849-1939), born in Naples, Italy, was appointed to the mineralogy chair. Cesàro was a great mathematician and crystallographer; he can be considered as the founder of the mineralogy and crystallography school of Liège. He was teacher of mathematics for the King Leopold III of Belgium, and was the mentor of the famous crystallographer J.D.H. Donnay. The Cesàro collection mainly consists of calcite crystals collected in Belgian limestone quarries; the morphology of these samples was investigated by Cesàro, who annotated all crystal faces. Many calcite samples were collected in the Rhisnes quarry, in which Cesàro described a new morphology: the isoscelohedron, for which Rhisnes can be considered as the "type locality".

In 1939, the Mineralogy Institute bought the complete collection of the famous French mineralogist Henri Léon Ungemach (1879-1936), from Strasbourg. The Ungemach collection is a first-rank collection, since it is mainly constituted by old historical European samples, many of which were collected in famous mines like Freiberg (Germany) or Sainte-Marie-aux-Mines (France). During the Second World War, the collection was seriously damaged by fire, but the majority of these unique samples are still preserved.

Henri Buttgenbach (1874-1964) was mineralogy Professor from 1921 to 1945. After the Second World War, he decided to rebuild the collection, and received samples from many international museums and universities. He was responsible for several prospecting campaigns in Katanga, Congo, where he found and described many new copper- and uranium-bearing mineral species. The holotypes of these species, for example fourmarierite, sharpite, cornetite, and buttgenbachite, are a significant part of our mineral collection.

Finally, more recent samples were also introduced in the collection, resulting from the research projects of Joseph Mélon (1898-1991), André-Mathieu Fransolet (1947-), and Frédéric Hatert (1974). These samples contain many holotypes, as for examples those of viséite, vantasselite, graulichite-(Ce), ferrosemaryite, and qingheite-(Fe²⁺). These historical samples are actually not accessible to the public; however, in a few months, they will be exhibited in a new and secure room.