



Museology and Contribution of Museums in the Field of Geology

KEYWORDS

Museology, Geological museum, Model

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ABSTRACT *Museology is the study of museums. Museums are scientific institutions, which has been playing a crucial role in our society. This paper attempts to identify the adequate position of museums in geology by emphasizing the ways in which geological museums helps geologists for a better understanding of the subject. The subject of geology involves a large number of things which are difficult to understand without seeing them. These includes crystal structures, fossils, geological structures such as fold, fault etc. Understanding of these geological things become easier by studying them in museums. Moreover, different types of rock samples, minerals or fossils collected from the field which are far away from us can be kept in our geological museums and we can study them at any time without going there. Thus, the role of geological museum is very significant in the society of geologists.*

INTRODUCTION

According to the International Council of Museums (ICOM) Statutes, adopted during the 21st General Conference in Vienna, Austria, in 2007, a museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment. Museology deals with the study of museums. It includes history of museums, their functions, types, legislations concerning museums, collection and documentation etc. The concept of museums in India may be traced back to the historic times, in which references to the chitrasala (picture gallery) do occur. However, it post-dates the same in Europe.

At the beginning, museums were private and access to these museums was only to those people of the owner's choice. The oldest such museum in evidence was Ennigaldi-Nanna's

museum, dating from c. 530 BC and devoted to Mesopotamian antiquities. At present, almost all the major cities have museums open to the public. The oldest public museums in the world opened in Rome during the Renaissance. The city with the largest number of museums is the Mexico City with over 128 museums. According to The World Museum Community, there are more than 55,000 museums in 202 countries.

Museum is a very important part of the institutes which are engaged in the study of geology. Geological museums have a lot of things to display including beautiful fossils, attractive crystals, gemstones, models of natural features like volcanoes, rivers, glaciers, models of machineries used in exploration and production of hydrocarbons etc. Examples from the museum of the author's department (Department of Applied Geology, Dibrugarh University, Assam) are presented in Figure 1 (a) and (b). Figure 1 (c) presents a model of geological clock in the S.P. Nautiyal Museum of Wadia Institute of Himalayan Geology, Dehradun.

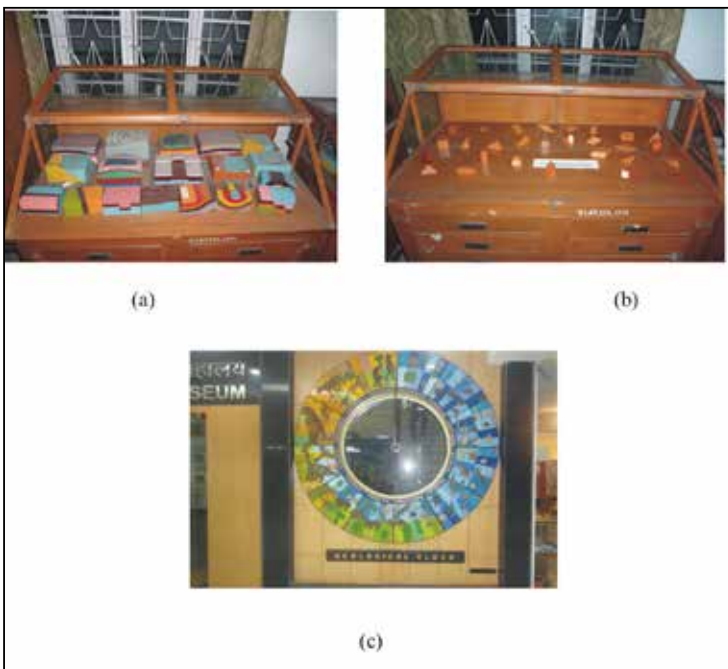


Figure 1: (a) Models of geological structures, (b) Models of crystals and (c) Model of geological clock

GEOLOGICAL MUSEUMS IN INDIA

In our country, many of the organisations related to geology have their own museums. Such organisations include Wadia Institute of Himalayan Geology, Geological Survey of India and the universities and colleges having geology as a subject. Museums of this type display toposheets, geological maps, rock samples collected from fields, mineral samples, fossils as well as different types of geological models. Although these institutes have their museums, they contribute only to their institutional needs. Geological museums with great public demand are still very limited in numbers in our country. An example of such museum is the Digboi Centenary Museum in Digboi, Assam. Digboi is the place in the north eastern part of our country, where the first oil well of India is located. The Assam Oil Company (part of Indian Oil) established a museum at Digboi in 2002 as part of the centenary celebrations of the first production oil well in India. This museum preserves a large number of machineries used in the oil field since its beginning. Moreover, the first oil well of our country is also beautifully preserved within the museum. Few photographs of this museum are presented in Figure 2.



Figure 2: Author in the Digboi Centenary Museum- (a) India's first commercial oil well and (b) machineries used in the oil field

Moreover, a number of parks have been attracting public which are displaying geological things. Examples are Suketi Fossil Park in Himachal Pradesh and National Fossil Wood Park in Tamil Nadu, which are maintained by Geological Survey of India. The first one is the Asia's oldest fossil park which displays lifesize fiber reinforced plastic models of animals lived during Mesozoic era. The park is situated in upper and middle Shiwaliks, where these fossils have been discovered. The National Fossil Wood Park has an area over 247 acres, in which wood fossils are fenced within nine separate enclaves. Of this, only a small portion is open to the public. According to Geological Survey of India, these fossil woods were formed as a result of huge floods that occurred millions of years ago.

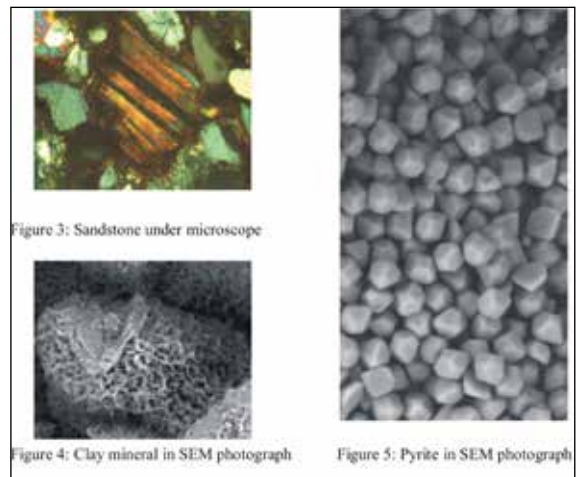
GEOLOGICAL MUSEUMS IN OTHER COUNTRIES

In places outside India, geological museums open to the public have great demand in their society. The Geological Museum (originally The Museum of Practical Geology) is one of the oldest museums in the world and now part of the Natural History Museum in London. It was established in 1837 at a building in Craig's Court, Whitehall, at the suggestion of Henry De la Beche, the first Director General of the Geological Survey. Another famous geological museum is the Egyptian Geological Museum which was opened for the public in 1904, as a part of the Egyptian Geological Survey. Some of the geology museums include mining localities. One of these is the Rosia Montana, situated in the so-called "Golden Quadrilateral" in Apuseni Mountains, in the central-western part of Romania. It is a mining site exploited from Stone Age and during the Roman period was known as Alburnus Maior (Cristina et al., 2011). In 2006, it was closed down due to the implementation of the industrial restricting process at national level. The mining site is now opened in the form of a technical museum. In this museum, old traditional and industrial

installations for operating gold deposits have been displayed which are really informative to the visitors.

MUSEOLOGY AND GEOLOGY

Like other subjects, the science of geology too has a lot of things that are not known by many of the people those are not directly related to the subject. Even to the geologists themselves, it is not possible to know everything or visit everywhere with geological significance. In such a situation, a well maintained geological museum helps a lot. When we see an object, we get a better idea about it than we read about the same. Similarly, geological things are also not exceptions. We read in the geology books about structures such as folds, faults, unconformities etc. But in many cases, they are in very large scales covering kilometers and we are not able to see the exact structure. If there is a model of this structure in the museum, it will give us a good idea about the actual thing. Similarly, in crystallography, the crystals are elaborately described with their internal structures. But it is not possible to see them all and if seen, not their internal structures. In such cases, crystals displayed in museums are very useful for us. Moreover, for people outside the field of geology, it is generally not possible to know the things, by knowing which, they will really surprise and enjoy. For example, we are surrounded by rocks or stones from our houses, roads upto our offices. Most of them are of grey or dark colours which normally could not attract our minds. But inside them, a world of beautiful colours are there in their constituents called minerals visible under microscope. Figure 3 represents such colourful minerals within a grey sandstone. Similarly, within rocks, there are some constituents, which are really eye-pleasing. Figure 4 represents pea-like things which are actually crystals of pyrite. Figure 5 represents clays which are like flowers in these Scanning Electron Microscope (SEM) photomicrographs which otherwise has not attracted us with their normal appearance of clays. There are also a lot of very beautiful objects which are studied in the science of geology like varieties of gemstones and fossils. Such things are rare as well as very much attractive. If they are kept in a geological museum, they will be the centre of attraction for the visitors. Thus, a geological museum can help us in many ways in understanding the subject.



CONCLUSIONS

It is apparent from the above discussion that geological museums are of immense help in making us understand the subject. There are many things within the subject which are really eye-catching and it is not other than geological museum that can bring us to the world of wonder within the rocks surrounding us. Moreover, in case of such museums, our country is still lagging behind. So, it's the time to give more thought in this matter.

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