

BRIEF HISTORY OF THE GEOLOGICAL MUSEUM OF THE BARCELONA SEMINARY (MGSB). ITS RESEARCH WORK

It might seem strange today to imagine the church backing the creation of a geological museum and for it to be located in a Conciliar Seminary building. Both these conundrums are easily answered, even more so given the Catholic Church's traditional role as a cultural hub since the Middle Ages.

The Geological Museum of the Barcelona Seminary (MGSB) was founded in 1874, the year that the Conciliar Seminary was made a secondary school attached to the Provincial Institute (by State Decree of 29 July 1874). Due to this designation, the classes taught at the Seminary were officially recognised and made open to all students, and not just seminarians

The chair of Natural History and Physiology was entrusted to Jaume Almera i Comas, who had received his doctorate in Natural Sciences that same year of 1874. Shortly after, geology was made an independent subject.

As we can see, the Museum owes its origin to education. Almera continued teaching geology until 1885, shortly before he began the enormous task of producing the Geological Map of the Province of Barcelona, commissioned by the Regional Council.

This teaching work always went hand in hand with the geological and paleontological research that would mark the future of the Museum. No sooner had it opened, Jaume Almera and his students started collecting materials for the new museum, and they did so for two purposes: for the collection to serve as a support for theory classes and for the materials to be more fully and scientifically examined.

In 1879, Salvador Casañas, rector of the Seminary, sent a circular to the rectors, vicar and all the clergy of the diocese asking them to help enrich the collections of the Museum of Natural History and Geology that would be on show in the new building in Carrer de la Diputació, opened three years later in 1882.

Despite the dual initial purpose for creating the Museum, teaching and research, there would be a gradual shift towards the latter. Jaume Almera, who had no theoretical background in geology, was faced by the need to complete the Museum's exhibits, and especially to build a library of geology and palaeontology. In one of his works (*Cosmogonía y geología*, page XIII, 1877), Almera mentions that 3,000 pesetas were spent over two years on purchasing descriptive books on fossils. That's a huge figure by today's standards, amounting to about 15,000 euros.

Paleontological research, both then and now, involves studying and classifying different specimens by referring to previously published work. It soon became apparent that Jaume Almera's intention was to import existing documents from around Europe to ensure the success of such studies. An 1885 note by Artur Bofill, one of Almera's colleagues, states that *"we finally got to see the important Natural History library in the Museum itself, and were able to admire the wealth of publications, some rare and others expensive, referencing everything on the Secondary palaeontology of India, Portugal, France, Belgium, Italy, Switzerland and the little that has published on Spain and the Balearic Islands"*. (A. Bofill, official visit – Associació d'excursions catalana, 1885)

It was then that Almera began his work in the field, following practical lessons with the geologist J. J. Landerer. It was Landerer who proposed Almera as a member of the *Société Géologique de France*, which he was already a member of along with many of the grand masters of geology. Almera was inducted to the Society on 3 December 1877, and from there went on to attend several of its meetings, as well as sessions of the International Geological Congress. It was from these experiences and the relationships he forged with other geologists around the world from then onwards that he embarked upon his research work. For example, in 1879 he and his colleague Artur Bofill began the paleontological study of Tertiary molluscs, which years later resulted in the publication of three monographs that are nowadays viewed as a masterpiece that was very much ahead of its time.

Almera was offered a unique opportunity to continue his geology research in the field: the creation, together with Bofill, of the Geological Map of the Province of Barcelona commissioned by the Provincial Council in 1885. When he realised what a huge endeavour that would be, Almera entrusted his geology classes and care of the museum to Joan Palou Dachs, who continued his teaching work until his death in 1919, the year when Almera also died.

From 1919 to 1926, all historical studies mention a crisis in the operation of the Museum. This crisis, evidently exacerbated by the death of Jaume Almera, had its origin in the transfer from 1918 onwards of Almera's collections and other documents related to his work on the Geological Map to the Martorell Museum, the idea being to create a single centre containing all exhibits and geological knowledge of Catalonia at the Geological Museum of Catalonia.

However, care was taken to maintain the Museum's collections, with the Martorell Museum being sent duplicate copies. The period also brought the loss of staff and documents related to the Geological Map, which until 1915 had always been held at the Seminary Museum. This decrease in human and material resources could have led to the disappearance of the Museum due to the lack of clear motives to keep it going.

The downward slide ended in 1926 with the appointment of a new Bishop of Barcelona, Josep Miralles, who immediately set out to raise the scientific level of the Seminary. He appointed specialist heads of studies to each subject, and the chair for Natural Sciences and Astronomy was given to one of Almera's former disciples, Josep Ramon Bataller.

Bataller injected new life into the Museum. His combination of field surveys and numerous publications had earned him major international recognition (among others the President of the French Republic named him a Doctor Honoris Causa by the University of Toulouse in Languedoc); he was a member of the *Société Géologique de France* and a professor at the Royal Academy of Sciences and Arts, as well as being the first lecturer on palaeontology at the University of Barcelona (1949).

This revitalisation led to an increase from 1926 to 1936 in the number of scientific publications at the Museum both by Josep Ramon Bataller and by other national or foreign researchers, as well as an increase in the number of new fossil specimens collected in fieldwork – to the extent that, although there was plenty of space, there was a shortage of display cases and filing cabinets, and new ones needed to be brought in with financial support from Bishop Miralles. A modern petrographic microscope was purchased in 1929 for the study of the hundreds of lithological sections that the seminary students prepared in their free time.

These materials and documents, the result of Bataller's dedication to cause, as well as

the contributions of almost three generations of geologists, were virtually all lost during the Spanish Civil War (1936-1939) when the Seminary was practically destroyed.

When the war was over, Josep Ramon Bataller endeavoured to re-gather whatever scattered materials had been salvaged, and used these and those of Almera (which were fortunately all saved) to continue his field surveys, and with the help of his students, his scientific production increased at an extraordinary rate, while new display cases were built out of the remains of the former seminarians' beds.

With the intention of creating a publication to present the work done by the Museum's researchers and to foster exchange with other national and foreign scientific publications, the first volumes of *Trabajos del Laboratorio de Geología* ('Work of the Geology Laboratory') were produced in 1949.

Under Josep Ramon Bataller's direction, work began on numbering the fossil and mineral specimens in the Museum's collections, as well as an index with the corresponding cards for all the books and publications in the library. This process has continued through to the present day, nowadays together with the digitisation of all the fossil specimen data.

1951 brought the creation of the Palaeontology Section of the *Centro Superior de Investigaciones Científicas* (CSIC) in Barcelona, which had its headquarters in the Museum and was managed by Josep Ramon Bataller. This Section, together with the additional staff and funds, was a major driver of scientific research at the Museum, and led to Bataller attending a number of international congresses.

Josep Ramon Bataller died in 1962 and his successor was his disciple Lluís Via, who was already a teacher at the Seminary and a researcher at the CSIC. As he was not the holder of the chair of Palaeontology at the University, the Palaeontology Section was transferred to the University in 1963, but his membership of the CSIC meant that a new section of the CSIC could be created at the Museum in 1964, the subsidised Biostratigraphy Section, a partnership that would produce an enormous amount of work.

The most important of these was a file titled *Biostratigraphia hispanica* in which more than 25,000 fossil specimens classified at the Museum are compared and contrasted, giving rise to 2,500 biostratigraphy cards. It was the first time that such a file had ever been produced in Spain and was also ahead of most foreign museums. The cards contain stratigraphic data on each site and relate the different found and catalogued fossil specimens with their record number and physical location within the Museum. Some of these cards also contain site details, such as the stratigraphic column and references to articles published and deposited in the library.

Work continued on publishing the volumes of *Trabajos del Laboratorio de Geología del Seminario de Barcelona* that had started in Bataller's time. From 1963 to 1982 a total of 150 research studies were published.

Lluís Via continued the work of his predecessors to scientifically enrich the Museum, opening up what he called the 'research assistance service and research initiation service' to researchers and amateur enthusiasts. In ten years (1964-1974) it was visited by 316 researchers, 55 of whom were foreigners, and 217 were university students.

The following description of Lluís Via's endeavours was penned by the then dean of the Faculty of Geology at the University of Barcelona, Salvador Reguant: "*The Seminary Geology Museum, especially since 1963, when Dr. Via took over its management, has*

decidedly taken on a pedagogical dimension, both in the installation of display cabinets organised for didactic purposes, and in the constant attention to university and other students in order to provide them with material, bibliography and precise guidelines for proper initiation in the fields of palaeontology and biostratigraphy ... the Geology Museum of the Barcelona Seminary is practically the only museum in Catalonia today, and probably in Spain, that has an adequate infrastructure for the collection, consultation and use of fossilised invertebrates, both in systematic and stratigraphic terms”.

Under his management, the Museum was expanded and restructured, eventually occupying the same space as it does today. In 1966, the Seminary transferred new rooms so the building could be divided into the museum (which was open to the public), laboratory, library, offices and archives. Josep Ramon Bataller's personal library of 4,000 books and Marià Faura i Sans' collection of 2,000 were also incorporated, and by 1982, the Museum's library contained as many as 11,000 volumes and 4,300 articles.

During that period, the number of classified fossils rose to almost 40,000, of which 381 holotypes were deposited in the Museum's new 'Typotheque' display cabinet purchased in 1991. By then, the Museum's main hall had about fifty display cabinets, most of which were illuminated.

Apart from the improvements made to the library and to the Museum hall, significant investments were made in the laboratory with the purchase of several specialised instruments, including a complete set of photography equipment, new microscopes, cutting tools for fine sections and an ultrasonic device for cleaning microfossils, highlighting the importance that Lluís Via attached to research and the need to keep the Museum up to date.

On his death in 1991, he was replaced by his former assistant, Sebastià Calzada, who still manages the Museum today.

Under Calzada's leadership, the Museum has increased its presence in scientific society. He and other researchers at the MGSB have published a huge number of paleontological articles, and the determination of new species continues to increase, published in accordance with the strict standards of the present day, together with ongoing revision of earlier determinations. From 1991 to 2013, 316 new species were determined and their holotypes are now on display in the Typotheque. As of October 2020, there were 83,875 taxa deposited and registered in the general collection.

In 1994, and at the behest of Sebastià Calzada, the Friends of the Seminary Geological Museum association was created with the clear objective of using membership fees to provide financial support to the Museum's activities, and especially its periodical publications. There is a tight and active bond between the members of the association, who organise geological outings, visit other museums and disseminate important scientific news, particularly via its blog at museugeologic.blogspot.com.es.

The Museum currently publishes two periodicals:

- *Batalleria*, published once or twice a year since 1988, depending on the number of articles.
- *Scripta*, published in three different series, classified by topic:
 - *Paleontological Series*, with 20 issues published to date.
 - *Miscellaneous Series*, with 3.
 - *Malacological Series*, with 2.

Scientific partnerships have been generated out of exchange with universities and museums around the world, and also through the electronic publication of research, with frequent visits to study the Museum's specimens on site or borrow them for study in other laboratories. In recent years, members of the British Museum and visitors from the universities of Prague and Buenos Aires have been regular guests at the MGSB.

The library has continued to increase its number of books and articles, reaching 17,771 items by 2020. In 1999, the exhibition space was expanded with the inauguration of the Cardinal Carles Hall, annexed to the Museum premises and used as a work area by visiting schools. It is designed to present natural life didactically, especially using real fossils, rocks and minerals. Twelve issues of the *Pagurus* newsletter have been published since it was created, and it can be viewed online.

In 1994, director Sebastià Calzada, following the instructions of the Government of Catalonia's Ministry of Culture's Museum Law, which sets out the conditions that a museum must meet in order to be included in the official Museum Register including the requirement (Article 11) that "every museum must make an inventory of all of the cultural assets in its collections," personally began work on digitising all of the handwritten records of fossil specimens at the MGSB. This work is now almost complete and also involves digitising all of the other data files in the Museum described earlier, such as those on sites in Catalonia and the creation of a database on the holotype collection, which is now easily accessible with digital photographs linked to each specimen.

Now that the legal requirements have been fulfilled, by resolution of 10 January 1995, the MGSB is included as entry number 45 in the Register of Museums of Catalonia as a thematic museum.

It is easy to appreciate that institutions like the Seminary Geological Museum struggle to bear the human and material costs of continuous research alone, especially with the constant updating that the modern-day information society requires. And it is a non-profit organisation with no regular income, because visits to the Museum, consultations at its library, scientific guidance with national and international research and so on have always been offered for free. The ordinary costs of maintaining the premises, such as paying for electricity, water and security, among others, have always been borne by the Church (Conciliar Seminary), while such 'extraordinary' costs as publications and attending conferences have traditionally been supported by the people who do research at the Museum, either personally or through the Friends of the Museum Association.

As happened to the CSIC during the period under Josep Ramon Bataller and Lluís Via, the MGSB is now receiving support from the Cartographic and Geological Institute of Catalonia (ICGC) as formalised through a Framework Agreement signed in 2007. Through specific agreements, research is conducted at the Museum and work is being done to preserve its archives and collections in order to make them available to society via the ICGC.

In 2009, the Government of Catalonia awarded its *Creu de Sant Jordi* (St. George's Cross) to the Museum "in recognition of its scientific work". The application for the award was endorsed by many universities around the world, as well as senior figures from Catalan culture.