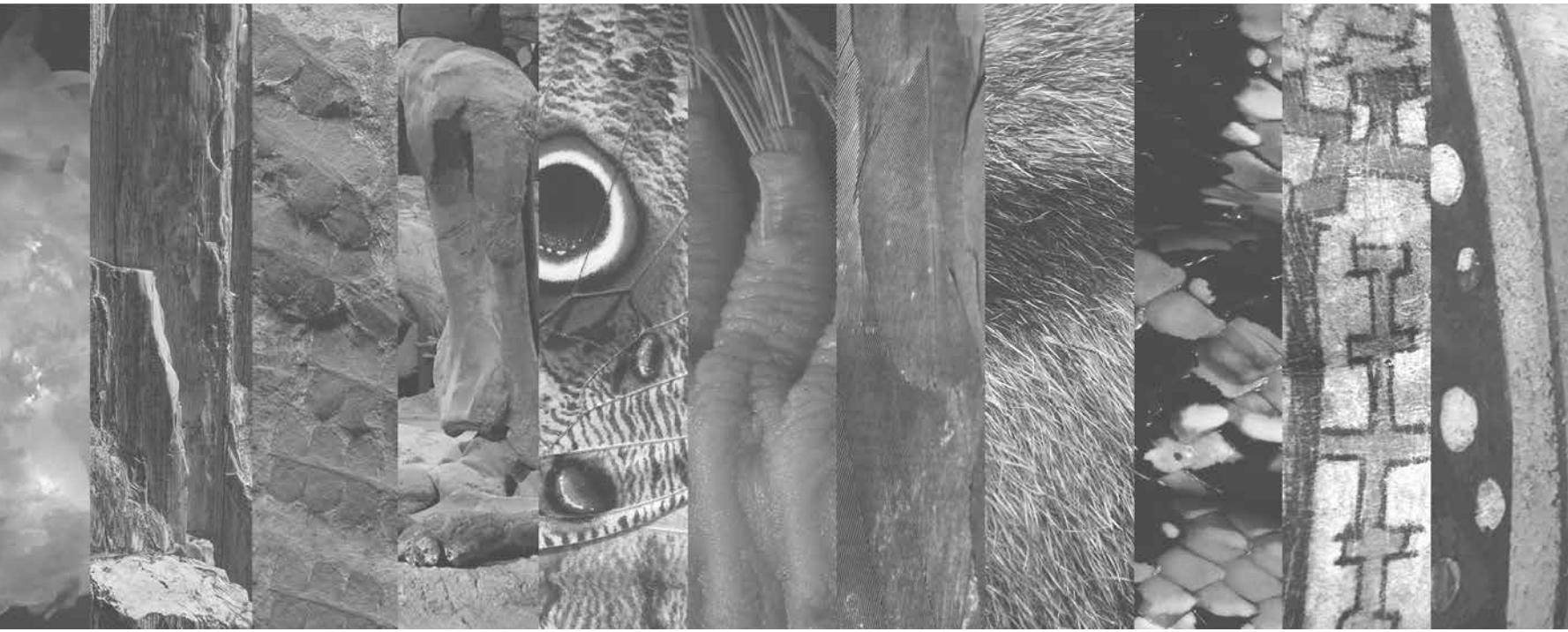
MUSEUM OF LA PLATA
OFFICIAL GUIDE



MUSEUM OF LA PLATA
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CONTENT

PRESENTATION

The Museum of La Plata is an emblematic institution of the capital city of Buenos Aires Province, Argentina, and is considered one of the most important natural history museums in Latin America. It was created as a provincial museum and since 1906 belongs to the Faculty of Natural Sciences and Museum of the National University of La Plata.

The **neoclassical monumental building,** ornamented with motifs from Pre-Columbian American cultures, was created in 1884 and inaugurated on November 19th, 1888, on the sixth anniversary of the founding of La Plata city. On October 24th, 1997, was declared National Historic Monument, along with other historical places and urban architectural ensembles in Argentina (Decree 1119/97 of the Executive Branch).

The historical collections were donated by the naturalist and explorer Francisco Pascasio Moreno, mentor and first director of the Museum of La Plata. Specimens and objects increased in number throughout exploration trips, purchases, donations, exchanges with other institutions, and field work done by its own staff. Currently, the collections gather near three million pieces, most of them from Argentina and from other South American countries.

The **mission of the Museum** is to study, conserve and exhibit its collections, for the generation and divulgation of new scientific knowledge in the fields of Geology, Paleontology, Biology, Anthropology and Archeology, while respecting the natural and cultural heritage of all peoples.

The researchers, technicians and educators of the Museum develop several projects, produce and communicate new scientific information, and bring counseling and services to other national, provincial and municipal museums and institutions, and to the general community. In addition, they work on the design and maintenance of the exhibitions, and participate in several educational activities, in order to generate learning experiences that bring visitors closer to scientific knowledge in accessible way, with an inclusive perspective and the goal of social development.

The permanent exhibitions are organized in 20 rooms distributed in two floors. The tour begins with the origin of the universe and the formation of the Earth, continues with the fossil evidence and the evolution of the biodiversity, and concludes with the origin of humans and the development of the Pre-Columbian cultures of Argentina and of other South American countries.

Museum of La Plata is a **landmark institution** in the international and national tourist circuit.

THE BUILDING

The placement of the Museum of La Plata is in the main green park of the city, called Paseo del Bosque, close to the Zoo (currently Biopark), the Botanical garden, the Astronomical Observatory, the Planetarium, and the faculties of Veterinary, Medicine, Agronomy and Natural Sciences.

The construction of the building started in 1884 and ended in 1887, but the final official inauguration took place a year later. The project was designed and directed by the Swedish architect Henrik G. A. Äberg and the German architect Carl L. W. Heynemann, who worked under the careful supervision of Francisco P. Moreno.

In its **monumental architecture** the Museum of La Plata resembles other Natural History museums created in the 19th century. The oval plan building, 135 by 70 meters, combines a central rectangle with two hemicycles at the sides. The total surface area is about 16,000 m^2, distributed in four main levels:

Level 0 is ground level. It houses the workshops, the service departments, most collection deposits, research labs and cabinets.

Level 1 is the main floor, elevated three meters above the ground level. It includes 14 exhibition rooms, the library, the auditorium, the 'Victor de Pol' Foyer for art exhibitions, a station for information, an interactive classroom, the buffet, and the gift shop.

Level 2 is the upper floor and the top one for visitors; it has the 6 remaining exhibition rooms, including the Moreno Room. The Jesuit collection is exhibited in its rotunda.

Level 3 harbors some research departments and collection deposits.

The museum management offices, the meeting room, the historical archive and most administrative offices are located between levels 2 and 3.

The **Museum façade** is preceded by a broad staircase of granitic material on whose landing is engraved the date of construction, in Roman numerals (MDCCCLXXXIV-MDCCCLXXXVII). This staircase leads to a colonnade with six ribbed columns having Corinthian capitals that support the frontispiece, which bears an engraving of the name of the institution: Museo de La Plata.

The main tympanum is crowned by a sculpture allegorical of science, and the lower lateral tympani are decorated with polychrome sgraffito canvasses. The lateral tympanum on the right represents Mayan motifs of the Temple of the Foliated Cross of Palenque, Mexico, and that on the left, motifs of the Gate of the Sun of Tiahuanaco, Bolivia.

On each side of the main façade there are six concave niches with the busts of renowned personalities of the Natural Sciences, Archaeology and Anthropology of the 18th and 19th centuries. They were founders of new disciplines or postulated new theories, while others contributed to the knowledge of the Natural Sciences in South America.

The **ceiling of the first rotunda** is supported by eight metal Ionic columns and is decorated with panels inspired on Diaguita, Araucanian, and Peruvian textiles, and disks based on metallurgy of some ancient cultures from northern Peru. The walls are decorated with oil -painted murals framed by ochre- moldings that illustrate landscapes and scenes with representations of the extinct and extant native fauna and the native peoples of our country.

The **largest murals consist of eight paintings,** 320 by 190 cm, located between the pilasters that flank the openings to the different rooms; the smallest paintings, 50 by 190 cm, are located on the lintels of these openings. All of them were done by outstanding Argentine and foreign art painters who arrived in the country at the end of the 19th century or the beginning of the 20th century.

The names of the largest murals of the main rotunda are the following: "Indiada tehuelche" by J. Bouchet; "Una cacería prehistórica" by L. de Servi; "El mastodonte y los gliptodontes" by P. Matzel; "El esmilodonte" by E. Coutaret; "La caza del guanaco" by J. Speroni; "Un parlamento indio" by J. Bouchet; "Descuartizando un gliptodonte" by L. de Servi, and "Toldería india" by R. Giudici. Near the murals, 15 busts of American native fauna done by the sculptor Máximo C. Maldonado (La Plata, 1900-1980), are arranged on wooden pedestals.

Some of the scientists on the right side are: the French paleontologist and zoologist Georges Cuvier, who set the bases for Comparative Anatomy; the Swedish naturalist and botanist Carl Linnaeus, father of Taxonomy or the science of the classification of living beings; and the German physician and anthropologist Johann F. Blumenbach, creator of the so-called Physical Anthropology, who applied the methods of Comparative Anatomy to the study of human populations. Some of the busts on the left side are the English naturalist Charles Darwin, who proposed the Theory of Evolution by means of Natural Selection; the French malacologist Alcide d'Orbigny, and the Spanish naturalist Félix de Azara, who contributed to the knowledge of geography and natural resources of South America. In the rear façade of the building there are also concave niches, but without sculptural portraits.

Behind the colonnade, there is an exterior foyer richly ornamented with Aztec, Mayan, and Peruvian motifs. The main door of this foyer is flanked by a pair of medallions inspired in Mayan motifs and gives way to an upper rotunda, with a skylight that allows daylight to enter from the upper floor. At the center of the rotunda the **bust of Francisco P. Moreno** is located on a stone pedestal. This sculpture was done in 1923 by Alberto Lagos (1885-1960), a sculptor and ceramist born in La Plata.

A **marble staircase** bifurcating into two branches leads to the upper floor. The walls of the staircase are decorated with medallions of Peruvian, Diaguita, and Araucanian motifs, and with a reproduction of the Mexican calendar. This kind of decoration with Native Americans motifs is repeated on the ceilings of the two rotundas and on the walls of every exhibition room of the Museum, thus accentuating the importance of American indigenous art.

The sculpture that crowns the main tympanum is a human or angel-like figure with a naked torso and outstretched wings, similar to Hellenic victories. With its left hand, it holds a laurel branch and with the right hand, it draws back the mantle that covers the globe, on a background studded with stars.

This sculpture symbolizes the triumph of knowledge and science as the primary purpose of the institution. It is attributed to the Venetian sculptor Victor de Pol (1865-1925), who arrived in Argentina in 1887 and was hired to work on various sculptural works in La Plata, Buenos Aires, and other cities in the country.

De Pol also made the sculptures of the “saber-tooth tigers” or smilodons located on the lateral walls of the staircase that precedes the main entrance of the building.

EXHIBITION ROOMS

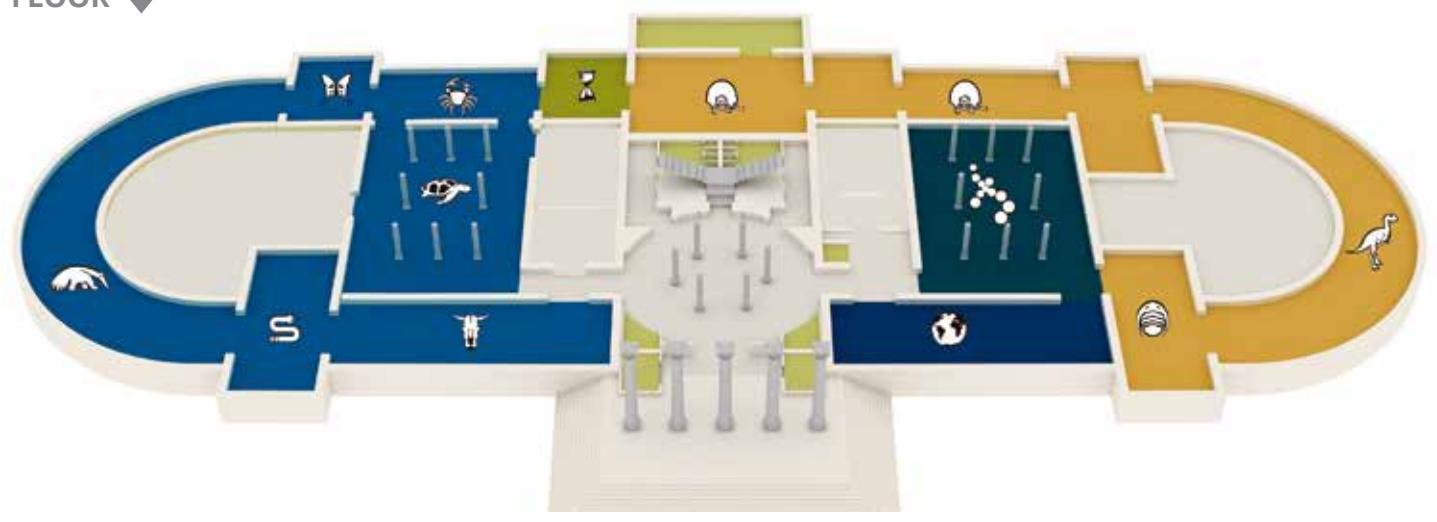
The exhibition of the Museum of La Plata is organized in 20 rooms originally intended to represent a journey through time and evolution.

The evolutionary sequence begins with the origin of the universe, the Solar System, and the Earth, and ends with the evolution of the human species and the expressions of different cultures. It depicts the transformation of inorganic and organic matter, the origin of the first living beings, the diversification and extinction of species, known only through fossil remains, and the current biological diversity, especially from Argentina and South America.

The 14 exhibition rooms on the first level deal mainly with subjects of Geology, Paleontology, and Zoology, while the six rooms on the second level treat topics of Biological Anthropology, Ethnography, and Archaeology. The Egyptian Room, the only exhibition referring to a non-American culture, and the Moreno Room, dedicated to the founder of the Museum, are also located on the upper floor.

EXHIBITION ROOMS

FIRST FLOOR



The Earth
A history of changes

Time and Matter
Mazes of evolution

Life on Earth
Precambrian and Paleozoic

Mesozoic
Age of Reptiles

Cenozoic
South American Megafauna

Pre-Columbian flavors
Temporary exhibition

Diversity and Habits
of Invertebrates

Entomology
Life of Insects

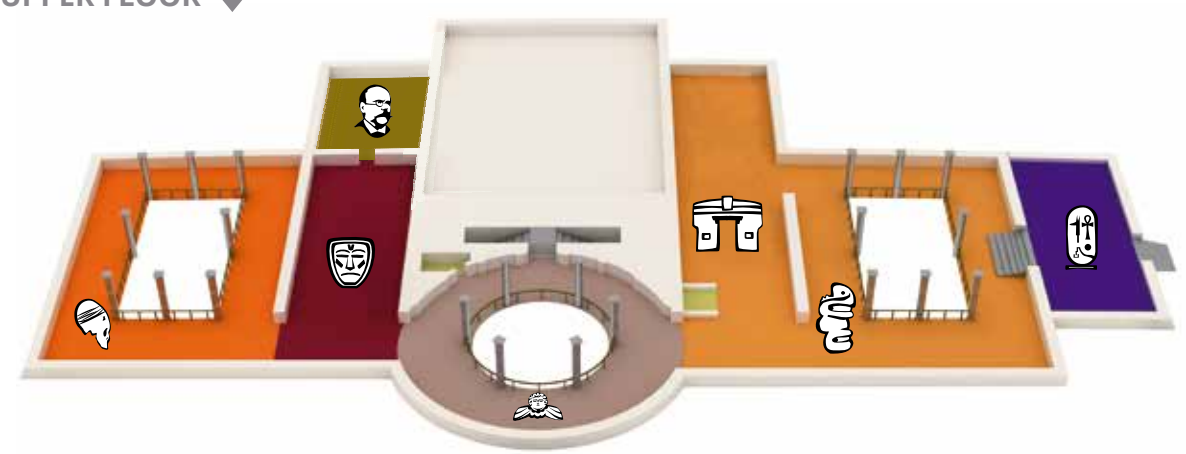
Diversity
of Birds and Mammals

Diversity of Amphibians and Reptiles
Gaining ground

Comparative osteology
Historical exhibition

Vertebrates
Aquatic and semi-aquatic

UPPER FLOOR



Jesuit collection

Human evolution
being and belonging

Ethnography
Cultural mirrors

Archaeology
Latin American

Archaeology
Northwestern Argentina

Egypt Room
Fragments of History
on the banks of the Nile

Moreno Room
Época fundacional


DIVERSIDAD EN EL PASADO
LA TIERRA:
UN PLANETA ÚNICO
Mesozoico
Paleozoico
Precámbrico

THE EARTH
A history of changes

This is an introductory room that shows the main processes of change that occurred on Earth, from its origin to the diversification of the main groups of living beings. It promotes **reflection on the value of Natural History collection**s as heritage of nations and native communities, and their importance for the development of societies, education and scientific knowledge.

At the entrance, **a typical 19th century work cabinet**, with furniture and instruments used by the earliest naturalists of the Museum, was recreated. It shows a petrographic microscope for studying thin sections of rocks and a reflection goniometer for measuring the angles between the faces of crystals. Among the historical objects, some that stand out are a set of rocks and minerals collected by Francisco P. Moreno at the age of 8; the skull of a cod assembled from its disarticulated bone components, using 19th century techniques, and the Capper meteorite, found by Moreno in the province of Chubut, Argentina, in 1896.

Meteorites are fragments of extraterrestrial material originated at the beginning of the Solar System that reached the surface of the Earth. Most of them come from the asteroid belt. Their study provides valuable information concerning the evolution of the Solar System. These fragments fallen from the sky are revered by some native peoples, especially from the provinces of Chaco and Santiago del Estero (Campo del Cielo).

The **origin of the universe** is represented by effects of light and sound that simulate the Big Bang, an explosion of super concentrated matter that took place approximately 14,000 million years ago. It is followed by a model of the Solar System with its planets showing their different sizes and distances relative to the Sun, as well as very ancient rocks found in Argentina. Based on rock dating, the age of the Earth is estimated in about 4.5 billion years.

The following section illustrates some of the **processes of change characteristic of the dynamics of our planet:** plate tectonics, rock cycles, and volcanism. According to the plate tectonics theory, the outermost and rigid layer of the Earth crust is composed of plates that move slowly over the more internal and fluid layer called mantle. The movement of plates over millions of years has changed the shape of the continents and the oceans. When colliding with each other, these plates have formed mountain ranges, caused earthquakes, volcanic eruptions, and lifting and lowering of the continental masses and the ocean floor.

Earthquakes and volcanic eruptions are frequent in those regions where collisions between tectonic plates occur, such as the Pacific Ring of Fire. The activity of volcanoes, with their great eruptions of lava, ashes, and incandescent vapors, has transformed and is still changing the surface of the Earth, proving that our planet is in constant change. A map illustrates the areas with the greatest volcanic activity from the world. Lava flows are exhibited together with videos of volcanic eruptions.

Different types of rocks formed as a result of different transformation processes -igneous, metamorphic, and sedimentary- are shown together with a rich diversity of minerals. Among them, a beautiful quartz geode from Altos del Río Uruguay, with amethyst crystals inside, stands out. Geodes are spherical or ovoid-shaped cavities found in different types of rocks, normally closed and with their internal walls covered by crystals.

The **biological diversity** that evolved on Earth is represented by fossilized algae, ammonites, graptolites, trilobites, and other extinct invertebrates. Representative species of some extant groups, such as insects, mollusks, echinoderms, birds, and vascular plants, are also shown. This biodiversity was able to evolve due to the oxygen released by the photosynthetic cyanobacteria that inhabited the primitive seas and formed an oxygen atmosphere.

Near the end of this exhibition there is a sample of the **main biomes of Argentina** (rainforests, woods, grasslands, and steppes), with their characteristic landscapes, flora and fauna, and some samples of minerals and rocks useful as geological resources. An evolutionary synthesis of the biological diversity is represented by **a spiral, indicating the time of origin of the main groups of organisms** that have inhabited and live on Earth.


TIEMPO Y
MATERIA
LABERINTOS
DE LA EVOLUCIÓN

TIME AND MATTER
Mazes of evolution

Do rocks, the ***Diplodocus*** dinosaur and living species, including the humans, have something in common? Yes, from rocks and minerals to the DNA of living beings, matter is composed of atoms that are combined into organic and inorganic molecules, forming all known substances.

> The main goal of this exhibition is to lead to an understanding to the transformations of matter and energy, and the mechanisms of evolution.

In a **model of the Periodic chart of the chemical elements** the visitors can identify which ones are present in different objects and materials of daily life. In this chart, first developed in 1869 by the Russian chemist Dmitri Mendeléyev, the chemical elements are ordered according to their atomic numbers.

Minerals with different properties, such as color, luster, weight and hardness, are shown as an example of the diversity of inorganic matter. The minerals are arranged on an ascending scale of hardness, from talc to diamond.

A model of the macromolecule shared by all living beings, **deoxyribonucleic acid (DNA)**, is represented with its double helix structure and complementary chains. From bacteria to humans, DNA allows the transmission of heritable characteristics from parents to offspring and generation after generation, thus demonstrating that all living beings share a common inheritance from the origin of life.

Matter is recycled and rearranged over time with dissimilar rhythms. The formation of oil is a good example of this. Hydrocarbons originated as a consequence of organic matter transformation, from fossil marine micro-organisms buried over millions of years, under special physical and chemical conditions. The visitors can see the performance of an oil pumping equipment.

Fossils are the result of different processes, such as petrification or mineralization, impression, carbonization, mummification, or their variants and combinations. Paleontologists study fossil evidence, in some cases restricted to footprints of animals or imprints of leaves on the rocks. The visitor can see a fragment of a petrified ***Araucaria*** trunk (wood replaced by silica minerals) from the Petrified Forest Natural Monument, Santa Cruz Province, Argentina.

Several panels of this hall are dedicated to the mechanisms of evolution, such as mutation and natural selection. The **Theory of Evolution of Species by means of Natural Selection** by Charles Darwin (1859) is briefly explained, as well as some ideas anterior to this theory, as well as Neo-Darwinism as a synthesis of Darwin's ideas and those coming from genetics.

Biological evolution is the change in inherited traits that takes place within groups of individuals or populations throughout their history, and includes the processes of speciation and extinction.

The most remarkable object in this room is a complete skeleton of *Diplodocus carnegii.* This herbivorous dinosaur was a large Sauropod that lived about 150 million years ago in North America. It was 27.2 meters long, 4.3 meters high, and weighed about 10 to 16 tons. Its head was small in proportion to the body, the hindlimbs longer than the forelimbs, and both its neck and its whip-shaped tail were very long.

The original skeleton of *Diplodocus carnegii* is housed at the Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, United States of America. The replica exhibited in the Museum of La Plata since 1912 was donated by the North American magnate and philanthropist Andrew Carnegie, as the response to a request by Dr. Roque Sáenz Peña, then president of the Argentine Republic.

Near ***Diplodocus***, there is a pair of original femora, which belong to a Sauropod called ***Antarctosaurus***, found in Río Negro Province, Argentina. This dinosaur lived in Patagonia about 60-80 million years ago and was much larger than ***Diplodocus***, as evidenced by comparing the femora of both species.


Vida
en la
Tierra

LIFE ON EARTH
Precambrian and Paleozoic

How and where did life originate? What are the main changes that took place through time? What are the factors that caused mass extinctions? The evolution of life on Earth is a history of millions of years "written in the language of fossils". **Paleontology** is the science that looks for answers to these questions, throughout the study of fossil evidence as testimony of the past, with the complement of other disciplines such as Geology, Stratigraphy, Comparative Anatomy and Phylogeny.

This first room of Paleontology is devoted to the origin of life in the Precambrian and the creatures that lived during the Paleozoic Era.

The **Precambrian** is the longest stage of geologic time. It encompassed the first 4,000 million years of Earth history and witnessed the origin of life and of the first cells. The organic molecules that were the precursors of life (nucleic acids and proteins) would have originated from inorganic elements under the conditions of the primitive atmosphere, or could have reached the Earth from the stellar space through meteorites.

The first organisms capable of releasing oxygen into the atmosphere were the cyanobacteria, whose photosynthetic activity made our planet suitable for the origin and evolution of aerobic life. In the exhibition room the visitors can see a piece with **stromatolites**, as evidence of the activity of these organisms, preserved as finely stratified bio-constructed mineral structures.

The **Paleozoic** began 540 million years ago and lasted approximately 290 million years. It is divided into several geological periods, each one characterized by climatic-environmental events and the diversification and/or extinction of some biological groups. These Periods are as follow: Cambrian, Ordovician, Silurian, Devonian, Carboniferous, and Permian.

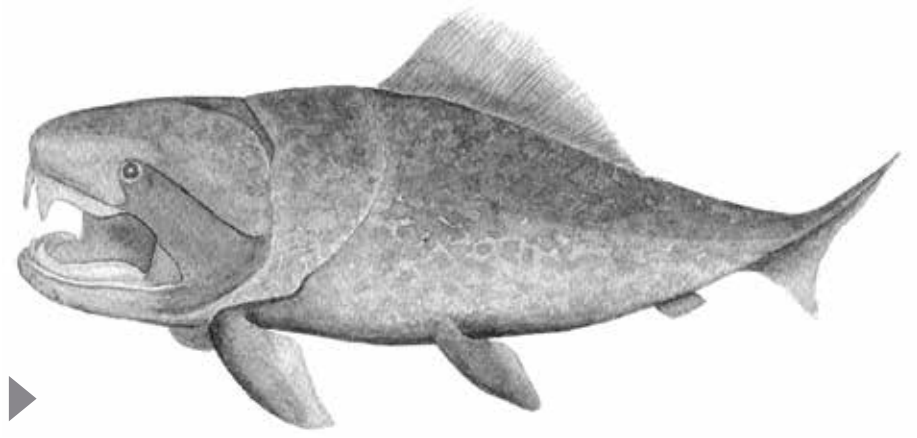
At the beginning of the Paleozoic, there was a great blossoming of life, especially in the seas, inhabited by different groups of invertebrates generally covered by shells or exoskeletons. Some of them, such as **trilobites** and **eurypterids** or sea scorpions, became extinct toward the end of this Era, as well as the primitive armored fish called **placoderms**. Others have living representatives but are less diverse than in the past, for example calcareous sponges, brachiopods, echinoderms, and some crustaceans.

Some Paleozoic animals and plants were extraordinarily large compared to other species of the same group or close relatives. For example, the giant 70-centimeter dragonflies, millipedes and sea scorpions more than two meters long, and tree ferns 35 meters high. **Gigantism** was probably favored by the high concentration of oxygen in the atmosphere during the late Periods of this geological Era.

During the Paleozoic some primitive vascular plants, such as ***Cooksonia*,** conquered the terrestrial environments, as also did tetrapod vertebrates and several groups of invertebrates such as centipedes, scorpions, and primitive insects. Conifers and reptiles evolved during the late Periods of this Era, in which the five current continents formed a supercontinent called Pangea, whose climate and environments were very different from the present ones.

After this extinction, the surviving groups colonized new environments and were able to diversify, becoming dominant in the next Era.

The Paleozoic finished with the largest mass extinction ever occurred on Earth. During this event most of the marine and terrestrial species known up to that time became extinct due to deep geological and climatic changes affecting the entire planet. The loss of biodiversity at the end of the Paleozoic entailed the disappearance of 98% of marine species and 75% of terrestrial vertebrate species.



Reconstruction of an extinct fish belonging to the group of Placoderms.

One of the highlights of this exhibition room is the replica of Bradysaurus, a basal reptile from South Africa, about 2.5 meters long. It has a very large head, short thick limbs and dermal shields covering its body. This reptile was a plant-eater with a gait of a tortoise.

Reconstruction of a primitive reptile belonging to the species *Bradysaurus baini.*

MESOZOIC
Age of Reptiles

The Mesozoic Era or “Age of reptiles” took place between 250 and 66 million years ago and is divided into three Periods: Triassic, Jurassic and Cretaceous.

During the Mesozoic, dinosaurs dominated on land, while large marine reptiles such as ichthyosaurs and plesiosaurs were dominant in the seas. This exhibition shows complete fossil skeletons, skulls, bones and shells of these animals, both original and replicas.

At the beginning of the tour there is an ancient reconstruction of ***Herrerasaurus,*** a carnivorous dinosaur whose remains, about 230 million years old, come from Ischigualasto or Valle de la Luna, in San Juan province. The first dinosaur described for Argentina was ***Argyrosaurus superbus,*** excavated by the traveling naturalist Carlos Ameghino in Río Chico, Santa Cruz province. The large femora housed in the Museum of La Plata suggest that the complete specimen may have been over 20 meters long.

Other exhibited dinosaurs are a small ***Guaibasaurus*** from Brazil; a complete skeleton of the herbivorous ***Iguanodon*** from Belgium, and skulls of various dinosaurs from North America, such as the famous carnivore ***Tyrannosaurus rex*** and the herbivores ***Prosaurolophus*** and ***Centrosaurus*** (original remains). The latter has a large horn on its forehead, a pair of smaller horns between the eyes, and a “frill” on the back of the skull. The skull of ***Protoceratops***, from Asia, is similar to that of ***Centrosaurus***, but without horns.

The Sauropods, such as ***Diplodocus***, ***Antarctosaurus*** and ***Argentinosaurus***, are among the largest Mesozoic reptiles. The visitor can see the original skeleton of ***Neuquensaurus,*** which was as large as an elephant and inhabited Patagonia about 80 million years ago. A diaphysis of ***Argentinosaurus***, a dinosaur that weighted

60 tons and whose body size is equivalent to eight African elephants, is also exhibited.

The visitors can appreciate the replica of a **large ichthyosaur**, a marine reptile up to 18 meters long, characterized by its spindle-shaped body (like a fish or a dolphin), huge eyes for hunting in the depths of the sea, a long snout with numerous teeth, and limbs transformed into fins (combined with a dorsal fin for balance and a crescent-shaped tail fin, with its ventral lobe supported by the vertebral column). Ichthyosaurs fed on fish, small reptiles and mollusks similar to modern squids, and they gave birth to live young, like modern cetaceans. The original fossil of this ichthyosaur come from Neuquén Province, Vaca Muerta Formation and is 150 million years old.

Another outstanding fossil exhibited in this room is *Notobatrachus*, one of the **oldest extinct frogs**, which lived in Patagonia, Santa Cruz Province, about 170 million years ago. The slight difference between the anatomy of these extinct frogs and the current frogs is striking.

The remains of ***Archaeopteryx***, a name that means ancient feather, were found in Germany, in 1861, and its discovery caused great international impact, because this animal about half a meter long, showed intermediate characters between dinosaurs and modern birds: sharp teeth in its jaws, large feathered wings, three toes with extendable claws, and a long tail. It is supposed to have been able to fly or glide.

The **vascular plants dominant in the Mesozoic** were Gymnosperms, Cycadales and Ginkgoales. Cycads resemble palm trees, because of their vertical stem and large compound leaves gathered at the apex, but they do not belong to this plant group. Although widely distributed in the Mesozoic, nowadays they are restricted to tropical areas of America, Africa, Asia, and Oceania.

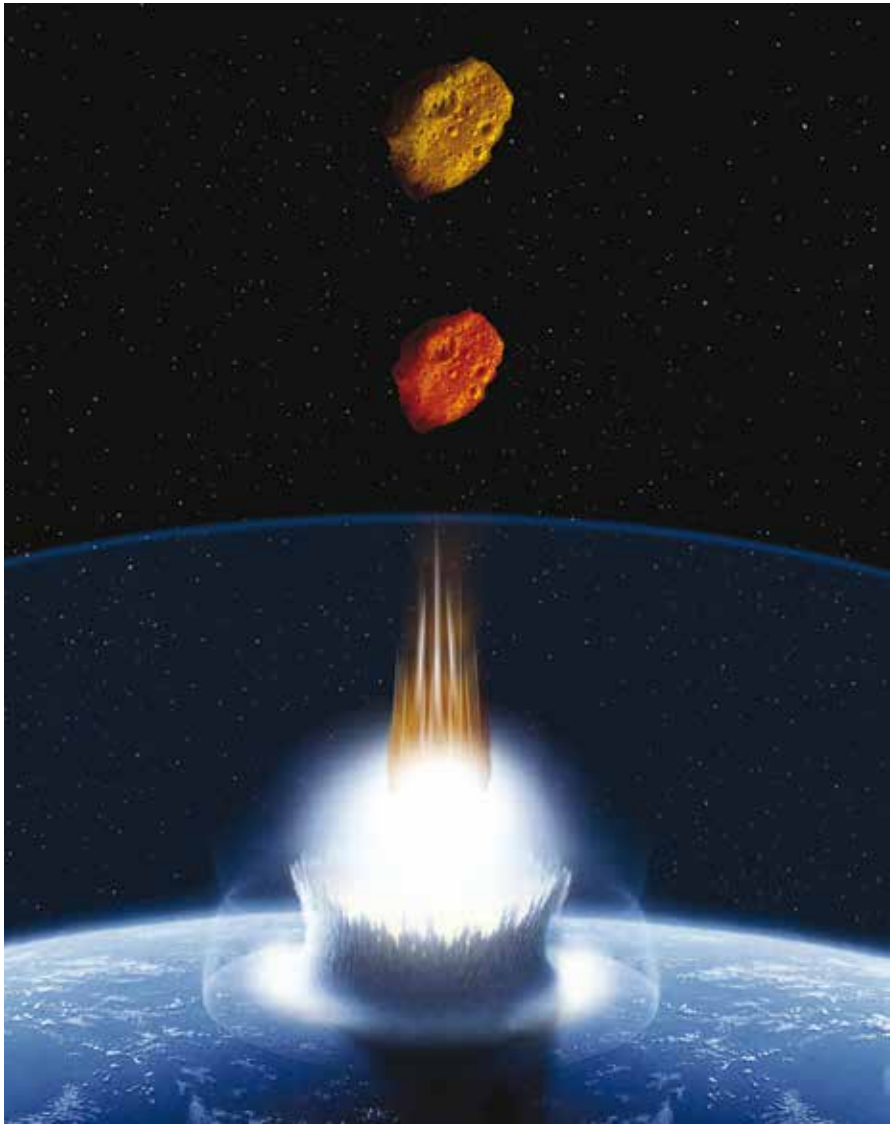
Ginkgoes are primitive trees that were quite diverse until the late Mesozoic; their retraction started in the Cenozoic. The only living species is ***Ginkgo biloba***, which grows as native only in China and is considered a living fossil. Its fan-shaped leaves are distinctive and can be seen in the showcases of the room, as imprints on the rocks, as well as in the trees growing along the access road to the Museum of La Plata.

Towards the end of the Mesozoic Era, the Angiosperms or flowering plants, those that have seeds within fruits, began their diversification and became dominant from the Cenozoic to the present. The evolution of Angiosperms accompanied the great radiation of insects, birds, and mammals, many of which favored the pollination, dispersal and speciation of these plants.

Replica of Archaeopteryx exhibited in the Museum of La Plata.

The Mesozoic ended with a great **mass extinction** that marked the end of the domain of giant reptiles. The most widely agreed hypotheses to explain this mass extinction is the fall of a large meteorite, probably on the Gulf of Mexico. The collision would have caused atmospheric changes incompatible with life, such as the accumulation of atmospheric dust that prevented the entrance of sunlight, lack of oxygen due to the inability of plants to photosynthesize; and intense volcanic activity. These changes affected mainly large-sized species.

In the next Era, the Cenozoic, there was an enormous diversification of the groups that survived the great mass extinction of the Mesozoic, including the one that contains humans: the mammals.



Among the invertebrates that diversified broadly in the Mesozoic, the most important are Ammonites, marine mollusks closely related to octopuses and squids, with a spiral shell similar to that of ***Nautilus,*** a living fossil that inhabits the deep waters of the Southwestern Pacific.

Ammonites are very important for biostratigraphic studies.

Various species of Ammonites and other Mesozoic invertebrates are exhibited in the hall, among which a replica of the giant species ***Parapuzosia seppenradensis*** (Landois) stands out.

CENOZOIC
South American Megafauna

The Cenozoic began about 65 million years ago and is known as the "Age of Mammals", a dominant group among terrestrial vertebrates since the extinction of Mesozoic reptiles. During most of the Cenozoic, South America was isolated from other continental masses by marine barriers, a fact that allowed the evolution of several endemic groups of mammals found nowhere else on Earth.

The characteristic mammalian fauna that evolved in South America during the Cenozoic is known as "Megafauna", due to the large body size of the species included in this group.

The species of the **Megafauna** inhabited Pampean and Patagonian environments until 8-10 thousand years ago, and thus, they coexisted with the oldest humans of the American continent. Fossils of these animals have been excavated along with human remains and artifacts, and they are frequently found when river and stream levels descend during droughts. It is presumed that humans used to hunt them and this contributed to their extinction.

The species shown in this room are ***Megaterium***, ***Macrauchenia***, toxodons, and glyptodonts.

Megaterium means "large mammal". This giant sloth, related to the current three-toed- sloths, is the largest among the members of the Megafauna. It was up to 5 meters tall, weighed about 4,000 kilos, and had strong claws and a robust tail. Its diet was mainly composed of a mixture of leaves and fruits from trees.

Macrauchenia was an herbivorous mammal that resembled current South American camelids (guanacos and vicugnas), but it does not belong to the same phylogenetic group. The frontal position of its nostrils suggests that it had a small downward-oriented proboscis, similar to that of a tapir. The exhibition has

a pictorial reconstruction of ***Macrauchenia*** accompanying the original skeleton.

Toxodon means "curved or slanted teeth". These animals had teeth that grew continuously and their size was similar to that of a rhinoceros or a hippopotamus. They probably fed on grasses and leaves, and coexisted with prehistoric humans.

Glyptodon means "sculpted and carved teeth". These species are similar to the current armadillos, such as the giant armadillo (tatú carreta), the three-banded armadillo (quirquincho bola), and the pink armadillo (pichichiego).

They were herbivores with a large carapace formed by numerous bony plates called osteoderms, whose designs allow different species to be identified. The tails was encased in rings of spiked bony plates that were probably used in fights between males. The glyptodont collection of the Museum of La Plata is one of the most important in the world.

GREAT AMERICAN
Biotic Interchange

During most of the Cenozoic, South America was isolated from North-Central America by a marine barrier. When the Isthmus of Panama rose, about 3 million years ago, an important interchange of flora and fauna began between the two continental masses.

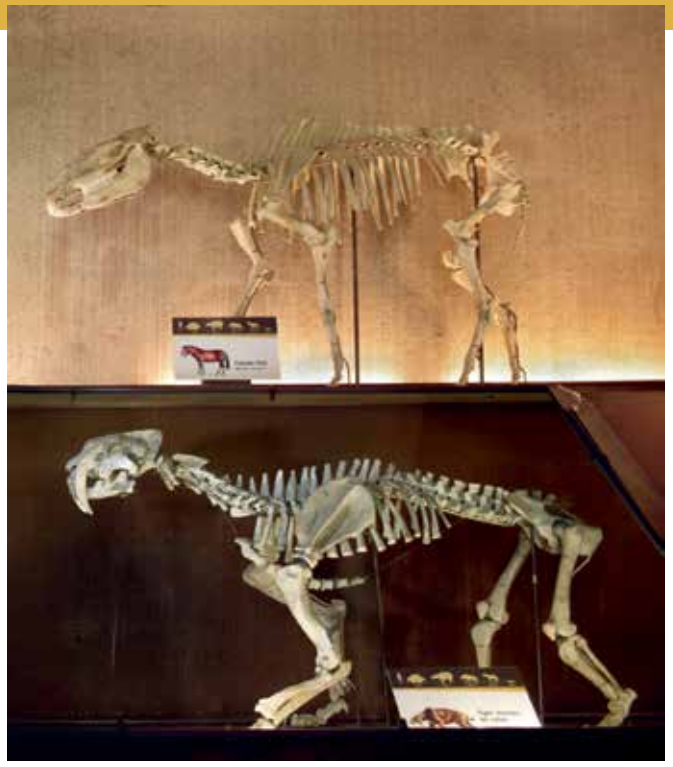
This biotic interchange in both directions, North to South America and South to North America, is called "**Great American Biotic Interchange**" (GABI), and involved several species, some of which are exhibited in this room.

As an example of South American native species is observed a ***Glyptodon*** and a sloth known as ***Glossotherium***, and as an example of species that entered from North America to South America, a "saber-toothed tiger" or *Smilodon*, and a horse (full skeletons).

Glossotherium was a giant sloth native to South America and related to modern two-toed sloths. They were about 3.5 meters long, weighted near 1,000 kilos, and their body was covered with thick fur with numerous ossicles of varying shapes and sizes, called osteoderms. The internal carapace formed by the osteoderms gave these mammals an extra protection against the attacks of carnivores. It is assumed that they used to dig large burrows to hibernate.

Smilodons were felines with huge canines (tusks) and big claws, which entered South America during the GABI. The largest males weighed about 300 kilos. The extinction of these large carnivores occurred along with that of the herbivorous mammals of the Pampean Megafauna that were their main food source. This happened towards the end of the Pleistocene.

The primitive **horses of the genus *Hippidion*** and some species of *Equus* became extinct after their entry and diversification in South America.



It is supposed that this important group of ungulate mammals, highly diverse in the Pleistocene, entered South America through the Isthmus of Panama and became extinct about 8,500 years ago. During the conquest of America, the Spaniards introduced domesticated forms of horses that belonged to the present-day species.

EXTINCTION OF THE MEGAFAUNA
The Ice Age

The Megafauna became extinct towards the end of the Cenozoic, mainly in the Pleistocene or "Ice Age", which began about 2.5 million years ago and ended about 10,000 years ago.

The **Pleistocene** was characterized by alternating glacial and interglacial cycles that influenced the flora and fauna of the entire planet.

The low temperatures determined the advance of glaciers (glacial cycles), while the increase in temperatures caused their withdrawal (interglacial cycles). In temperate and tropical areas there were no glaciers, but the cycles changed sea levels and caused the expansion and retraction of forests and woods.

The center of the exhibition room shows the recreation of a Pleistocene environment with some representative Megafauna species: *Megatherium*, *Toxodon* and two glyptodonts.

One of the glyptodonts belong to the genus ***Panochthus,*** native to South America. It was 3 meters tall and the upper part of its skull and body was covered by a carapace made up of hundreds of rounded bony scutes (osteoderms). The short, wedge-shaped tail had bony bands with tubercles used for defense.

Two remarkable pieces of the lateral showcases are the fur of ***Mylodon***, with hairs and osteoderms, and the fossilized excrements or coprolites of this animal. Mylodons were giant mammals related to the modern two-toed sloths, which inhabited southern Argentina and Chile in the Pleistocene, and became extinct towards the end of this geological time.

The fur and coprolites of *Mylodon* come from the "Mylodon Cave Natural Monument", located in southern Chile near Puerto Natales. Skeleton, fur and coprolites of the giant sloths were found in the three caves of this site, in excellent

state of preservation, along with 8,000 years old human remains.

This exhibit also includes some fossil remains of **mastodons**, extinct camelids, and monkeys and rodents that probably arrived in South America from Africa.

Mastodons are extinct proboscideans, more robust than modern elephants, which probably entered South America during the GABI. They fed on tree leaves and shoots, and were broadly distributed in the past, except in Antarctica and some Pacific Islands. The most famous representatives are the Siberian woolly mammoths, depicted in cave paintings by the primitive inhabitants of Eurasia.

A skull of ***Stegomastodon platensis*** shows its characteristic tusks lacking enamel and curved only at the tip. This species is the one most commonly found in our country.

Another highlight is the replica of a **large running bird**, called *Gastornis* that inhabited North America about 50 million years ago. ***Gastornis*** was probably herbivorous but redatory running birds similar in size occurred in the Cenozoic of South America. They belong to the group of Phororacids.

PRE-COLUMBIAN FLAVORS
Temporary exhibition

This temporary exhibition is devoted to plant species of American origin, many of which were domesticated and used by Native American peoples.

Native Americans domesticated numerous plants that later became essential as food resources for humanity. They generated new knowledge about different cultivation techniques, selection of plant varieties and modes of use, showing their practices in numerous cultural expressions such as paintings, pottery pieces, and ceramics. Some fragments of Peruvian ceramics with Lima bean- shaped warriors are shown in one of the showcases of this room.

Corn, with its several varieties, was one of the main contributions of Native Americans to human food. It was probably domesticated from a wild Mesoamerican species called teocintle. The American native peoples used it as food and to produce a traditional alcoholic beverage called chicha. Due to its symbolic value, corn was frequently represented on vessels and other objects.

Other fruits and vegetables present in cultural expressions of Native Americans are pineapple, soursop, avocado, papaya, tomatoes, red and green chili peppers, and pumpkin, among others. In addition, they used to represent plant-derived products such as seeds, nuts, condiments, and spices.

Cocoa (cacao) is consumed as food and for preparing a cocoa-based traditional beverage. It was also used in religious rituals to celebrate different moments in the development of the crop.

"**Yerba mate**" is obtained from the leaves of a native tree that grows in the subtropical forests of South America. It is consumed as infusion, being very popular in Argentina, Brazil, Paraguay and Uruguay, both in past

times and in the present. The steps in the processing of yerba mate, represented in the showcase, include harvesting, drying, grinding, classification and packaging.

Different substances such as **dry tobacco and coca leaves** have been used for inhalation in rituals, by means of pipes, tablets, or tubes made of wood, bone, or metal. The ritual known as rapé complex is common among Andean peoples from Argentina, Bolivia, and Chile.

The domestication of plants and also animals native to America, such as the **llama (from guanaco) and alpaca (from vicugna)**, favored the development of agricultural and livestock economies, among the Andean peoples of Peru, Chile, and northwestern Argentina. More information on these topics may be found in the Ethnography and Archaeology exhibition rooms.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DIVERSITY AND HABITS OF INVERTEBRATES

Invertebrates are uni or multi-cellular organisms that do not have a spine or notochord or an articulated internal skeleton.

This exhibition shows a great morphological variety and habits of invertebrates, including species of importance for human industries (clams, mussels, crabs, oysters, corals, octopuses) or they cause diseases, are parasitic or poisonous (plasmodium, trypanosome, tapeworm, spiders, scorpions).

Protozoa are generally unicellular, free-living in aquatic environments, or parasites within cells or body fluids of other organisms; for example, ***Trypanosoma cruzi*** that causes Chagas disease and ***Plasmodium*** species that cause Malaria. Their vectors are usually blood-sucking insects.

Porifera or sponges are mostly marine sessile invertebrates. They lack true tissues and organs and obtain oxygen and food through a system of pores, channels, and chambers through which water circulates. The exhibition shows a model of the internal organization of a sponge.

Cnidarians are another primitive group of invertebrates, which comprise sessile-living polyps, such as sea anemones or freshwater hydras, and free-living forms with gelatinous body such as jellyfish (95% water). Corals and false corals are colonial cnidarians, greatly appreciated by their beauty and economic value. Coral colonies are made up of polyps that secrete calcium carbonate exoskeletons that remain after polyps die. They form reefs, which are very common in warm waters. In the central showcases there is a sample of corals of different shapes, colors, and dimensions, along with other marine invertebrates.

Platyhelminthes include free living flatworms such as planarians, or parasites such as the dog tapeworm or hydatid

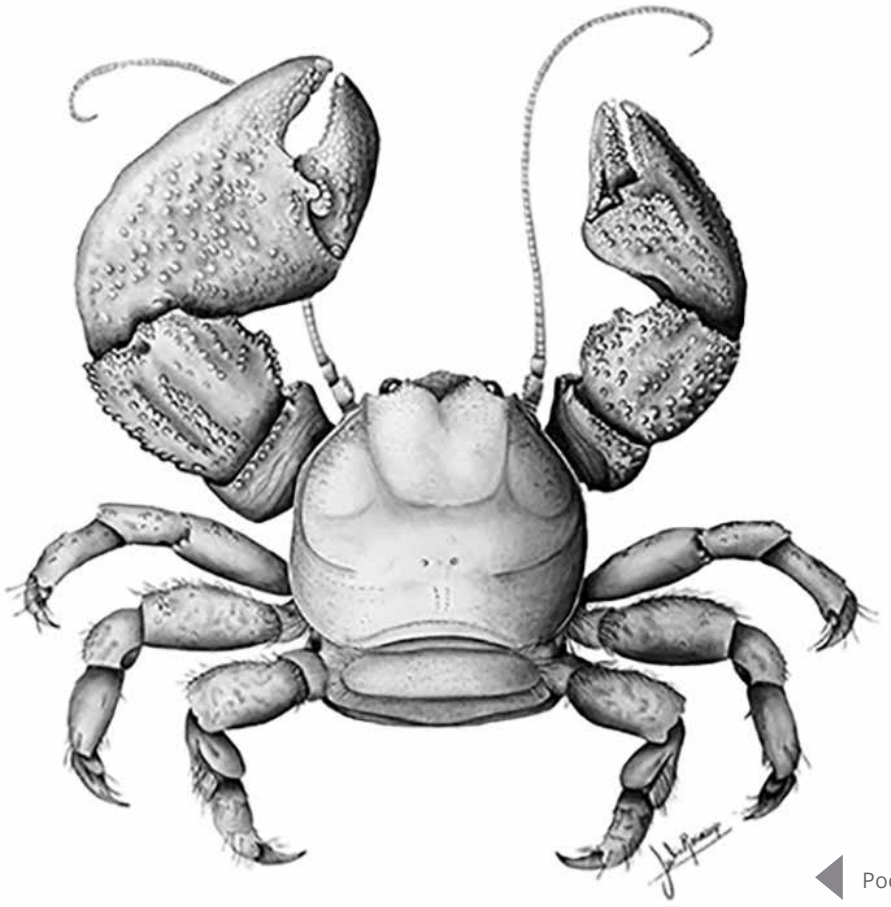
worm (***Echinococcus granulosus***). The beef tapeworm, ***Taenia saginata***, lives in the human intestine, and ***Schistosoma mansoni*** is a blood parasite that causes human schistosomiasis.

Annelids are cylindrical worms, such as earthworms, leeches, and marine worms. Some species secrete calcareous tubes and may form reefs, such as ***Ficopomatus enigmaticus***, from the Mar Chiquita lagoon, in Buenos Aires province.

Mollusks are a very diverse group of invertebrates, characterized by having a calcareous shell that protects the soft body, although the shell may be absent, as in slugs, or reduced in squids. They include forms with adults that are sedentary filter feeders, such as clams, mussels, and oysters; aquatic and terrestrial snails, which may be herbivorous or carnivorous; and fast swimming predators, such as squids, octopuses, and cuttlefish. **Echinoderms** are less diverse than mollusks, with radial symmetry and a calcareous endoskeleton formed by plates and spines. They include the sea stars, sea urchins and brittle stars, among others.

Arthropods are invertebrates with a chitinous exoskeleton, segmented body, and articulated appendages. They include Crustaceans, Arachnids, Myriapods, and Insects. Crustaceans are generally aquatic, with a calcified exoskeleton, and include several species of economic importance, such as crabs, shrimps, and lobsters. The so-called woodlice or pill bugs are terrestrial crustaceans.

Arachnids have a pair of appendages associated to venom glands, called chelicerae, and include spiders, scorpions, mites, and harvestmen. The exhibition shows some of the most common spiders in Argentina, such as tarantulas, wolf spiders and recluse spiders. The body of **Myriapods** is multi-segmented, with numerous legs. This group of arthropods includes the centipedes (predators and usually poisonous) and the millipedes (detritivores). Insects are treated in the next exhibition room dedicated to Entomology.



Pocerlain crab *(Pachycheles haigae).* 2008

The most conspicuous piece of this exhibition room is the replica of an octopus, made with papier-mâché, approximately 5 meters in diameter. It has been in the Museum since 1920 and was built in England with astonishing fidelity and precision. Octopus species such as the one represented in the center of the room, hanging from the ceiling, inhabit the Pacific Ocean and reach up to 9 meters in diameter. In the Argentine seas the octopus species are smaller.

ENTOMOLOGY
Life of Insects

Insects are the most diverse group of living organisms, reaching an estimated 5 to 10 million species. They encompass more than half of all known species and have inhabited all the environments of our planet since the Paleozoic, although their greatest diversification occurred during the Cenozoic, along with the radiation of flowering plants. This exhibition room shows a small fraction of insect diversity and some adaptations of these animals.

The evolution of **metamorphosis** allowed insects to exploit different environments and food resources throughout their life. For example, mosquito larvae and pupae live in freshwater environments and feed on organic detritus and microscopic organisms, while adults are terrestrial and feed on plant sap (males) or blood (females).

Typical insects have two pairs of wings and three pairs of legs, but they show **variations in their body size, morphology and colors**, as in the butterfly species exhibited in the showcases. There are small wasps less than a millimeter long and stick bugs about 20 centimeters long; flightless species adapted to parasitic life (fleas and lice); specimens with modified legs for jumping (grasshoppers and crickets), swimming (water bugs), or digging (mole crickets); and with mouthparts adapted for chewing (grasshoppers, cockroaches, beetles) or sucking blood or plant sap (true bugs, mosquitoes).

Other modifications of insects are related to **sexual dimorphism, camouflage, or mimicry.** Cryptic grasshoppers, praying mantises and stick-bugs resemble leaves or branches, some beetles mimick ants, and there are flies that imitate wasps, as protection against predators.

Social insects (ants, wasps, bees, and termites) are highly polymorphic and organized in castes with different roles

within the colonies. They build anthills, nests, hives or termite mounds, where the reproductive castes guarantee the survival of the species and the sterile workers participate in food gathering, cleaning, caring for the larvae, or defending the colony. The exhibition shows the interior of a paper wasp nest and an anthill.

There are two showcases with information on insect species harmful for human health, the **kissing bug or 'vinchuca'** ***Triatoma infestans***, vector of Chagas disease, and **African bees**, which are poisonous and may cause death because of their aggressive behavior. The former species is native; the latter was accidentally introduced in South America from Africa and is now widespread in the entire continent.

Other **insects cause** damage to crops and plantations, destroy stored grains, furniture, books, art works, and natural history collections, including entomological collections. However, **there are several beneficial species** that produce honey, silk, waxes, and tinctures, pollinate plants, represent food sources for countless animal species and act as natural enemies for insect pests. Without the ecological benefits of insects, terrestrial and continental aquatic ecosystems could not survive.

DIVERSITY OF BIRDS AND MAMMALS

Vertebrates are recognized by the presence of an internal skeleton formed by a skull and a vertebral column. They include about 70,000 species, among them cyclostomes, bony and cartilaginous fishes, amphibians, the groups classically known collectively as reptiles, birds (avian reptiles), and mammals. This exhibition room is a sample of this animal diversity.

Birds are the only living representatives of the dinosaur lineage, and their closest current relatives are the crocodiles. They have feathers and exclusive adaptations for flying, such as forelimbs transformed into wings and a light skeleton. Their elongate rostrum is protected by a beak that lacks teeth in modern species. The diversity of beak shapes is linked to the different types of feeding and environmental adaptations. Sight and hearing are the most important senses for the communication of birds, which have great visual acuity, related to their great diversity of plumage colors, calls and songs.

Numerous species of **living birds** are exhibited in this room. Most of them are native to Argentina, for example, some Passeriform or singing birds, diurnal and nocturnal raptors, and a great variety of aquatic birds, including ducks, gulls, flamingos, cormorants, herons, and penguins. There are also **specialized running birds**, most of them flightless, and distributed exclusively in the continents of the southern hemisphere, except Antarctica. All of them are close relatives: the rheas (ñandúes) and tinamous from South America; the cassowaries, emus and kiwis from Oceania; and the African ostrich.

The dioramas along the central axis of this exhibition present examples of **diverse nesting or feeding habits**, for example a great diversity of singing bird nests and a ñandú nest, where different females lay their eggs to be incubated by a male who

will also take care of the chicks. The diorama of an Andean condor, emblematic of South America, stands out; this species is basically a scavenger and inhabits mountainous areas.

The rest of the hall is dedicated to mammals, which differ from other vertebrates by having hairs and mammary glands. Their teeth are specialized to process different types of food. In general, their most developed senses are smell and hearing. However, in some groups such as Primates, including humans, smell is poorly developed, and sight is the predominant sense.

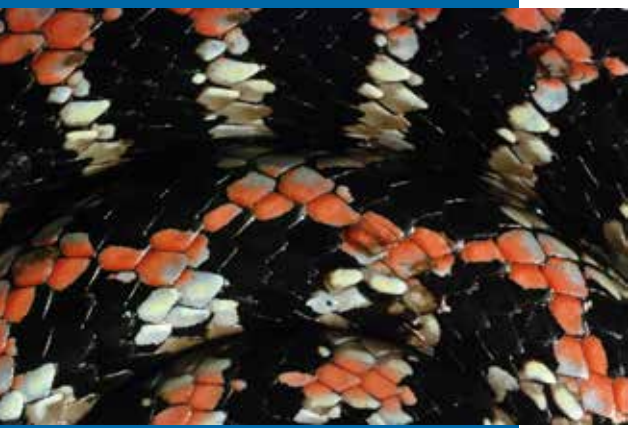
The exhibition shows representative **species of different mammal families**, for example carnivores such as the native jaguar called 'yaguareté' and the maned wolf or 'aguará guazú', plus the exotic gray wolf, ancestor of the domestic dog. The yaguareté and the aguará guazú, as well as the tapir, are vulnerable or endangered species.

Among **Primates**, there are native species such as the capuchin monkeys, and exotic ones, such as mandrill and orangutan. **Chiroptera** (flying foxes and bats) are the only mammals with capacity for active flight. The flying foxes from tropical Africa, Asia, and Oceania, feed on fruits and they are the largest bats, some attaining a wingspan of 1.5 meters. Our native bats are smaller; among them, the common vampire that feeds on mammalian blood.

The three groups of **xenarthrans native to South America** are present in the sample: anteaters, sloths, and armadillos. Sloths are related to the megatheres and extinct mylodons; and armadillos include the hairy armadillos, mulitas, and quirquinchos (Andean hairy armadillos). The largest living armadillo is the 'tatú carreta' (giant armadillo) that lives in the Chaco region and is an endangered species due to the advance of the agricultural frontier and illegal hunting.

Some **Ancient lineages of mammals** exhibited in the room are the Australian and New Guinea echidna, one of the few oviparous mammals; and a pangolin from Southeastern Asia, a very peculiar mammal whose body is covered in horny scales.

Other native mammals shown in the dioramas are **the native marsupials** called zarigüeyas (= opossums); Pampean rodents, such as the vizcacha and cavies (wild relatives of guinea pigs); deer, such as the Marsh deer, which is the largest in South America; and a **family group of South American sea lions** with an adult male, females, and their young. This species periodically forms large reproductive colonies or "loberías" in Argentine coasts.



DIVERSITY OF AMPHIBIANS AND REPTILES
Gaining ground

This room is dedicated to amphibians, the first group of vertebrates that conquered the terrestrial environments, and also to living reptiles, a group of vertebrates less diverse than in the Mesozoic. The exhibition includes taxidermized individuals as well as skeletons and whole specimens preserved in fluid.

Amphibians are not completely independent from the aquatic environment because they develop in water during the larval stage (tadpoles) which breathe through gills, and adults need humid environments to survive. The stages of the metamorphosis of an amphibian are shown in this exhibition room.

The three main groups of living amphibians are the Anura (frogs, toads, and Argentine horned frogs), the Caudata (salamanders and newts), and the Gymnophiona (caecilians). **Anurans are the most diverse amphibians** in Argentina, although some species face severe conservation problems. One of them is the "Valcheta frog" endemic to the Valcheta stream in Río Negro Province. This species is studied by researchers from the Museum of La Plata, who have raised specimens in captivity for reintroduction into their natural environment.

The rest of the exhibition is devoted to the **non-avian reptiles**. These vertebrates, together with birds and mammals, are amniotes, which means that they do not depend on the external aquatic environment for reproduction, because their embryo develops in an aqueous medium of its own (within the egg or in a uterus).

The sample includes land and water **turtles, crocodiles, lizards, and snakes**. The visitors can see taxidermized specimens of the Argentine tortoise, an endangered species endemic to South America; and among the lizards, the red tegu, one of the largest species of Squamata (lizards,

chameleons, iguanas) in Argentina together with its relative the black and white tegu.

Crocodiles are semi-aquatic reptiles distributed in tropical and subtropical areas around the world and include the crocodiles, the gharials (with very long and thin snout) and the alligators. The two Argentine crocodilians are the broad-snouted caiman and the yacare caiman, both protected or bred for commercial purposes.

Ophidians include vipers, snakes, boas, and pythons. They underwent the reduction and loss of their limbs during their evolutionary history, and some of them have a modified tooth in each upper series, associated with venom glands.

The **snakes of medical importance in Argentina** are yararas, which are broadly distributed in our country, and the rattlesnakes and corals, restricted to the northern provinces.

Boas, anacondas, and pythons lack venom and kill their prey by constriction, wrapping themselves around the bodies of the latter. The species ***Boa constrictor occidentalis*** or lampalagua, the rainbow boa, and the yellow anaconda or Paraguayan anaconda (curiyú) are present in Argentina.

Among the exotic reptiles, one of the highlights of this room is a **New Zealand tuatara**, a word that means "spiny back" in Maori language. Tuataras are the only survivors of an ancient lineage of reptiles,

endemic to some rocky islets near New Zealand, and thus currently considered as vulnerable species.

In addition to amphibians and reptiles, the room shows a **recreation of the San Bernardo lagoon** (Buenos Aires), with fauna typical of the Pampean wetlands, as well as two large cetaceans hanging from the ceiling as a link to the adjacent Comparative Osteology room.

COMPARATIVE OSTEOLOGY
Historical exhibition

This room is devoted to the anatomical similarities and differences of vertebrates in the context of Comparative Osteology. In terms of style and design, this is a Historical exhibition, because the skeletons are mounted on their original supports, according to the practices and exhibition modes characteristic of the foundational period of the Museum.

When **comparing skeletons of different groups of vertebrates**, it is easy to recognize that their limbs show adaptations related to different kinds of movements. The forelimbs of bats are modified for flying, those of armadillos are specialized for digging, the limbs of cetaceans, for swimming, and those of ungulates, for running.

Primates are able to climb or to walk; elephants have pillar-like limbs for supporting their huge body weights (graviportal condition). Despite their differences, all of them show homologous similarities because they evolved from a common ancestor.

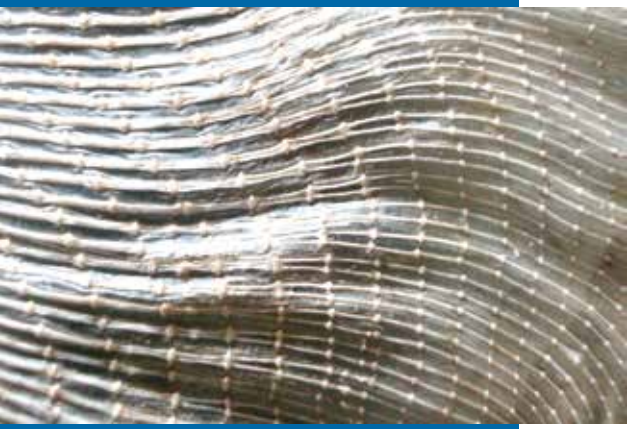
The visitor can see **skeletons of exotic mammals** such as giraffe, red deer, dromedary, Indian rhinoceros, hippopotamus, polar bear, wolf, hyena, red kangaroo, lion, and Asian and African elephants.

The exhibit also includes **native carnivores** such as the puma and yaguareté; native rodents like the coypu (false nutria), mara or “Patagonian hare” and capybara, the largest rodent in the world. The sample includes mustelids (otters and weasels) and American procyonids (raccoons and crab-eating raccoons); Marsh deer and Southern Andean deer or huemul; camelids such as guanaco and vicugna; anteaters and armadillos; a tapir and two horses mounted using a very strenous technique that allows detailed observation of each bone.

At one of the ends of the central exhibit, **a pair of bovines** stand out; **one with normal snout and another with a very short snout**. The latter belongs to a variety known as short-snouted cow ('vaca ñata'). This cattle with an abnormal development of the snout due to a genetic mutation, inhabited the pampas of Argentina and Uruguay in the 19th century and caught the attention of Charles Darwin and other naturalists. The short-snouted cows became extinct because of their difficulties for feeding, thus constituting an example of Natural selection.

Looking up, a **valuable sample of Cetaceans** hangs from the ceiling, in continuity with those of the previous room. It includes different species of whales, such as the fin whale, the boreal whale, and the humpback whale. There are also skeletons of a manatee and a dugong, aquatic mammals belonging to the order Sirenia.

In the last showcase of this exhibition, a skeleton of ***Homo sapiens*** is presented along with those of the other great apes: **orangutan, gorilla, and chimpanzee**. This sample allows the osteological comparison between the human species and its closest living relatives.



AQUATIC AND SEMI-AQUATIC VERTEBRATES

Water occupies about 71% of the Earth's surface and is fundamental for all living beings. The large group that includes us humans, the vertebrates, evolved in the marine environment, like the rest of the major groups of living beings.

This hall is devoted to the groups of vertebrates linked to the aquatic environment in different ways and degrees. Some of them, such as fishes, evolved in aquatic environments, but the remaining groups are originally terrestrial and show secondary adaptations to these environments; their association with water is related mainly to feeding activities.

The anatomical and physiological features of marine and freshwater fishes allow them to perform all functions within water: respiration, feeding, reproduction and movement. In this display the visitors can find information on the geographic distribution, ecology, and economic importance of several **fish species that inhabit the Argentine rivers lakes and seas**, such as the "dorado", "surubí", angelfish and croakers.

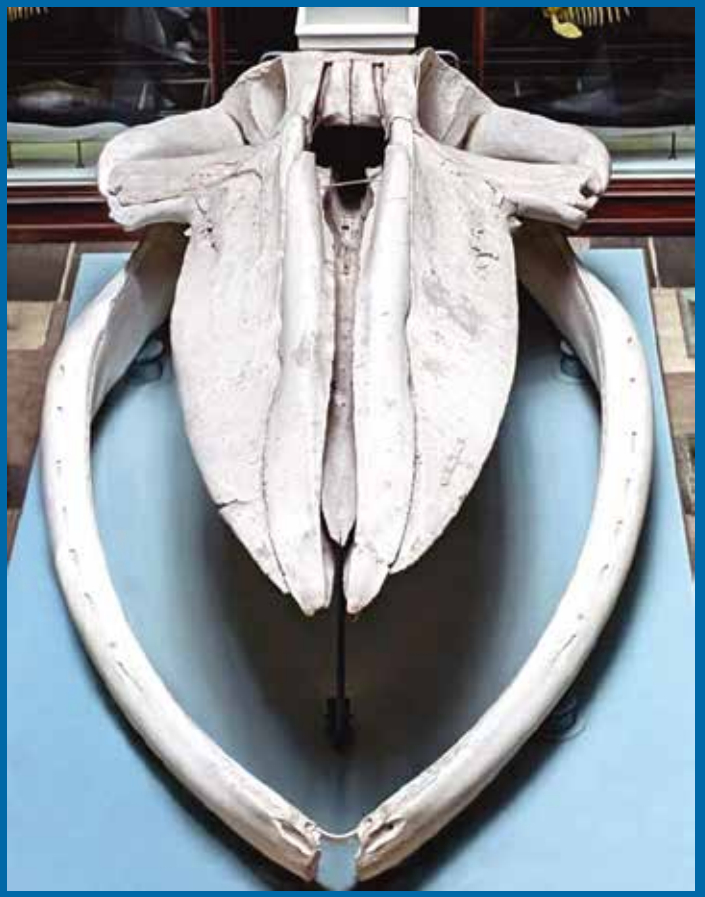
Catfish are **bottom dwellers** in freshwater environments, while rays, skates and flatfish have **flattened bodies** that are completely modified for benthic life. Other species are able to dwell in particular environments, for example, **abyssal fishes** that live at about 1,000 meters of depth and usually have bioluminescent organs, and the Patagonian naked characin that is endemic to the headwaters of the Valcheta stream, in Somuncura Plateau, Río Negro Province. The waters in this unique habitat are warm due to their thermal origin, but this fish cannot survive outside of it due to the lower or fluctuating temperatures. For this reason, it is included in the Red List of the International Union for Conservation of Nature (IUCN).

Another peculiar fish is the South American **lungfish of the genus *Lepidosiren***,

which during the rainy season uses its gills to breathe like most fishes; in contrast, during the dry season, it builds a burrow in the mud where it remains, breathing atmospheric air through its lungs, until the next rainy season.

Different species **of reptiles, birds and mammals show secondary adaptations to aquatic environments**. Some examples are found in marine and freshwater turtles, alligators, penguins and skuas, marine carnivores such as sea lions and elephant seals, and Cetaceans such as dolphins, killer whale, sperm whale, southern right whale and rorquals.

Among secondarily aquatic vertebrates, **cetaceans show the greatest number of adaptations to the aquatic environment**; they not only have hydrodynamic bodies and limbs transformed into fins, but also anatomical and physiological modifications for living and developing all their vital functions in water, such as dorsally positioned nostrils that facilitate the passage of air to the lungs while the body is submerged.



The highlight of this room is the skull of a blue whale, *Balaenoptera musculus;* this skull is 6.3 meters long and belongs to a female specimen that was stranded on the beach of Miramar, Buenos Aires Province, in 1898.

Blue whales are the largest animals to ever inhabit our planet. The largest known specimen was 33 meters long, weighed approximately 200 tons, and was seen in Antarctica. Until the beginning of the 20th century, blue whales were abundant in almost all oceans, but their intensive and indiscriminate hunt has pushed them to the limit of extinction.

JESUIT COLLECTION

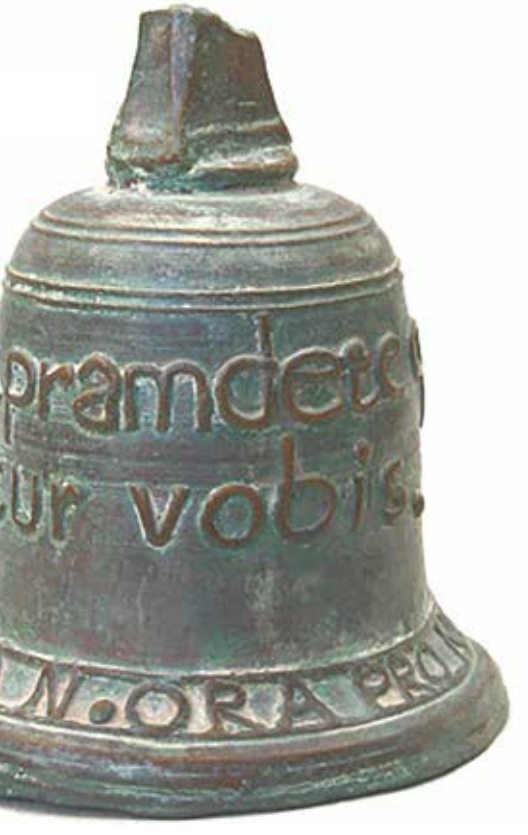
A Jesuit collection exhibited in the upper rotunda of the building includes furniture, busts, and religious ornaments from the Jesuit reduction of Trinidad, Paraguay, founded in 1712.

The **ceiling of the upper rotunda** is decorated with motifs inspired in Native American textiles and metallurgy, and it is supported by eight thin metal columns. On the walls, there are valued mural paintings similar in size to those of the first level rotunda, which illustrate landscapes from Argentina. Moreover, each mural is flanked by ethnographic busts of peoples from northwestern Argentina, made by the sculptor Ernesto Soto Avendaño (1886-1969) in the 1930s.

The **largest murals**, from right to left, are: "El Ombú," by F. Vecchioni; "Incendio de campo y caza del ñandú," by R. Giudici; "Selva Misionera," by A. Ballerini; "Alrededores del Volcán Tronador," by P. Jorgensen; "La Quebrada de Lules," by P. Jorgensen; "La alta Cordillera de los Andes en Mendoza," by R. Guidici; "La vuelta de Torres, en el Delta del Paraná," by E. Coutaret; and "Indios canoeros en el Delta, frente a las barrancas del Paraná," by J. Bouchet. The small murals are decorative. Some of them were done by the Argentine painter José Speroni (1875-1951), who is recognized by his landscapes and gaucho motifs.

The Jesuit collection was incorporated into the heritage of the Museum of La Plata by Francisco P. Moreno, in 1887. The pieces exhibited consist mainly of **wood carvings, furniture, and ornaments** from the Jesuit missions of Misiones and Paraguay, in the 17th and 18th centuries. All pieces are by anonymous authors.

The Jesuits carried out an evangelizing task in America by founding indigenous villages or mission settlements governed by monks of the Society of Jesus (Compañía de Jesús). Architecture, sculpture, painting, and



music played a fundamental role in the life of these settlements. The Guarani learned the artistic techniques from the Jesuits of European origin and created beautiful paintings, sculptures, and decorations of great historical value and syncretic style, called "**Jesuitic- Guarani Baroque.**"

The collection includes two busts of the pontiffs St. Gregory the Great and St. Leon the Great, both sculpted out of polychrome wood and striking in the realism of their embedded glass eyes; a representation of the Holy Trinity, Saint Michael the Archangel with a candlestick, a small Altar, the sculpture of Saint Ana made of stone, the Saint Preacher, and the frame of an armchair. The set is completed by a writing desk, decorative sculptures, heads of winged angels, and a metal bell.


Los
homínidos

HUMAN EVOLUTION
Being and Belonging

The evolutionary process that gave rise to the human species included not only numerous morphological, physiological and genetic changes, but also the capacity to imagine and plan the future, and to use language to communicate ideas and feelings, among other important cognitive abilities. Although many biological species have social behavior and great capacity for learning, humans are the only living beings that developed a true culture.

The diversification that led to the emergence of modern humans began approximately 65 million years ago, with the evolution of **Primates**. This order of mammals comprises humans and their extinct ancestors included in the family Hominidae together with the great apes (orangutan, gorilla and chimpanzees), as well as the Old and New World monkeys.

Primates are recognizable by their opposable thumbs with flattened nails instead of claws; the frontally-positioned eyes with stereoscopic (three-dimensional) vision, and their social behavior. Stereoscopic vision is essential for moving among trees and for fine hand movements, while opposable thumbs allow manipulating objects with great precision.

In the **evolution of hominids**, the family that includes *Homo sapiens*, there was a progressive increase in brain volume, combined with a reduction of the maxillo-mandibular bone complex and the teeth, especially the size of the canines. Paleo-anthropological evidence based on the study of fossil remains of human ancestors and molecular analyses of DNA, have enabled reconstructing the relationships between humans and chimpanzees, who share a common ancestor that lived about 6.5 million years ago.

Humans and chimpanzees share 98% of their genome, possess social behavior, and a great capacity to learn and to use tools. A **fundamental morphological innovation in the lineage toward modern humans** was the upright posture and bipedal gait. The spine became vertical, the orifice at the base of the skull, called foramen magnum, acquired a central position, the upper limbs became shorter in proportion to the lower ones, the pelvic girdle became aligned with the vertebral axis, the joints became less flexible and the foot thumbs were no longer opposable but rather parallel to the other digits.

About 4 to 2 million years ago, several species of hominids with bipedal gait coexisted in Africa. The oldest remains belong to **the genus *Australopithecus***, of which ***Australopithecus afarensis*** is the best known species. Remains of this species were discovered in Ethiopia in 1974 and described based on a female nicknamed

'Lucy'. Later, footprints found in Laetoli, Tanzania, served as evidence to support the hypothesis about the bipedal gait of *Australopithecus*.

Between 2.5 and 1.8 million years ago, several species of **the genus *Homo*** such as *Homo habilis* and *Homo ergaster* evolved in Africa, and some of them migrated and diversified in other continents, for example *Homo erectus* in Asia, and *Homo heidelbergensis* and *Homo neanderthalensis* in Europe. The remains of these species indicate greater neurocranial capacity than their ancestors and were associated with stone utensils, possibly used to slaughter large animals.

Neanderthals lived in the "Ice Age" between 500,000 and 230,000 years ago. They were more robust than modern humans and would have been better adapted to the harsh climates of the European Pleistocene. They used fire, and research suggests that they gave offerings to their dead and celebrated funeral rituals.

The evolution of humans is the result of a **complex interplay between biological inheritance, the environment and cultural domains**. For this reason, this exhibition includes information about cultural practices that affect the body, such as the use of ornaments, paintings, tattoos, and intentional cranial deformations, and also addresses the relationship between nutrition and body development.

There is also a reflection on the diversity of practices and **representations regarding the experience of death** among different peoples and cultures.

Mummified remains of Native American peoples have not been exhibited since 2006, as a result of an institutional policy of respect for the funerary customs of communities.


Carnaval de Oruro

ETHNOGRAPHY
Cultural mirrors

This exhibition gives an **ethnographic approach to the native peoples and cultures from Argentina**. Their main characteristics, productions, geographic distributions, and current situation are described.

> The objects reveal a multiplicity of meanings, technological developments and social constructions. The sample helps to appreciate the cultural diversity of our native peoples and to know and respect their expectations, political thinking and religious beliefs.

The tour is organized according to a latitudinal, south-to-north geographic distribution. At the beginning, a mannequin is exhibited wearing an armor suit made of seven superimposed pieces of leather; this suit belonged to the Patagonian cacique Chocorí.

Further along, there is a set of objects belonging to the inhabitants of Tierra del Fuego, the **Yahgans**, who were canoe-using nomads, and the **Selk'nam**, who were guanaco hunters. The Kina ceremony mask is a unique piece that, together with body paintings, was part of the initiation rituals of the Fuegian peoples.

The Patagonian peoples, **Tehuelches and Mapuches**, incorporated horses along with other traditions introduced by Europeans, and this resulted in the "equestrian complex". This consists of a set of pieces; noteworthy among which are saddles, stirrups, colt boots, and other pieces made of leather. Silver breastplates, earrings, and necklaces, completed the apparel.

The game of **Tehuelche cards**, made of leather, was one of the main entertainments of these peoples, in addition to horse racing, dice, marbles, and ball games. One of the most outstanding Tehuelche pieces is a **painted cloak made of guanaco leather**, with a beautiful design.

Some pieces representative of the peoples from the Chaco region, such as **Tobas and Matacos**, are shirts, bags and belts made from vegetable fibers. The exhibit corresponding to Mesopotamian or Northeastern peoples includes elements for hunting wild animals. Most of these peoples were nomads, hunter-gatherers, and horticulturists.

In the area dedicated to masks, there is a **sample of Chané masks**, commonly used for carnival rituals, when the boundaries between natural and supernatural worlds disappear.

A showcase presents a sample of **music instruments**, some of them with European influence, especially the guitar. Music has special relevance for several peoples who play it during family meetings, social or religious events, in lullabies, war expeditions and ceremonies in honor of the dead. Dances, songs, and music are the preferred expression of the Andean peoples, united under the protective embrace of **Pachamama, Mother Earth, giver of life**, fertility, and good harvests.

Different kinds of **canoes** are displayed along the central axis of the room, for

This exhibition promotes reflection on the concept of identity and the need to respect all the cultures and traditions that coexist in our country and in our continent.

example a Guaraní canoe made from the trunk of a Timbo tree, and a Canadian canoe, small and light for navigating in less torrential rivers.

America has centuries of Pre-Columbian history, during which native peoples domesticated and cultivated numerous plants that later spread throughout the world by European conquerors. Among these are potatoes, cocoa, cassava, sweet potatoes, peanuts, beans, chili peppers, quinoa, tomato, pumpkin, zucchini, and squash. Other products were used to prepare infusions or for smoking or as hallucinogens in ceremonies and rituals.

LATIN AMERICAN
Archaeology

Archaeology is the discipline that studies the characteristics and changes of human societies through their material remains (objects or works). Pottery is a valuable resource for studying the pre-Columbian societies of the Andean peoples because it provides evidence of their daily activities and allows reconstruction of several aspects of their social lives.

The Latin American Archaeology room shows several objects belonging to Pre-Columbian American societies of South America. The best represented cultures are Nazca, Moche, Chimú, Chancay, and Inca.

The **Nazca culture** developed in the valleys of the southern coast of Peru between the 1st and 7th centuries of our Era. Its pottery, painted in a great variety of colors (polychromatic) shows representations of nature and religious ceremonies. They used a characteristic type of handle, called "bridge handle," with a double pouring spout; it is interpreted as having been used for containing liquids.

The **Moche culture** evolved in northern Peru between the 2nd and 5th centuries of our Era. In their modeled ceramics they represented their vision of ceremonial life, their daily life, and their natural environments. They used the so-called "stirrup handle." One of the most outstanding productions of the Moche culture are "erotic ceramics,"; these are not part of the permanent exhibition of the Museum of La Plata, but are periodically made available as temporary exhibits.

The **Chimú culture** developed between the years 1000 and 1200 of our Era, on the northern coast of Peru, and the Chancay culture, between the years 1200 to 1400 of our Era, on the central coast of this country. Chimú pottery is generally black with a polished finish, and Chancay pottery includes characteristic human-shaped figures called "cuchimilco," which are

made with a novel technique: using casts. In this manner, they were able to achieve serial production of ceramic pieces.

The **Inca culture** established its empire in Cuzco and began a great expansion and military conquest from the year 1440 of our calendar until the Hispanic conquest of Peru between 1532 and 1533. Inca pottery includes characteristic objects, such as "aríbalos", which are long-necked vases for water and grains, and "duck dishes" for offerings. They also made body ornaments, such as circular and quadrangular metal plate necklaces, tweezers, punches, chisels and whorls, rattles, "tumis" knives, ceremonial axes, and tributary silver vessels in the Chimú-Inca style.

A full scale replica of the Gate of the Sun of Tiahuanaco is exhibited in this room, preceded by two life-sized sculptures that represent the pre-Hispanic method for potato cultivation, by using a digging stick. These sculptures were made by the sculptor Ricardo Dalla Lasta and the replica of the gate, by two technicians of the Archeology Division, Antonio Castro and Bernardo Eugui.

The original Gate of the Sun is part of an important ceremonial center located in Tiahuanaco, Bolivia, and was carved from a single block of stone.

It is decorated by an image of the so-called “Lord of the Scepters”, a figure of remarkable power and authority, surrounded by winged beings with human or anthropomorphic forms. The ornaments of these anthropomorphic forms consisted of scepters and headdresses, with designs that reference the heads of Andean condors.

ARCHAEOLOGY
of Northwestern Argentina

This exhibition room is devoted to the peoples that settled and developed their societies in Northwestern Argentina (NOA).

Peoples from the NOA are part of a large Andean region that also includes Bolivia and northern Chile. They adopted agriculture and bred camelids (llamas and alpacas) and established a pattern of sedentary settlements, which allowed them to achieve great social and political complexity. Moreover, they developed new technologies in ceramics, polished stone, and metallurgy, based on a political organization characterized by deep socio-economic inequalities.

Polychromic and monochromic ceramics of the **Condorhuasi-Alamito culture**, from the Hualfín Valley and Campo del Pucará, Catamarca, are exhibited at the beginning of the tour. This culture developed between 500 years before our Era and 600 of our Era. Among the stone objects exhibited are funerary masks, axes, and mortars, some with animal or human appearance.

The most outstanding objects of this culture are the **"supplicants"** (years 0 - 350 of our Era), sculptures made of stone that present a combination of anthropomorphic and zoomorphic features. Due to their level of abstraction and the use of empty spaces within the volume of the body, they are considered pieces of excellence within indigenous sculptural art. They represent unreal beings, with a symbolic or ritual character, as intercessor idols to protect the family or the people.

In addition to the showcases, the highlights of this room include replicas of stone structures or megalithic monuments called **menhirs**. They belong to the Tafí culture of Tucumán and are more than two-millennia old.

La **Candelaria culture** developed in central and southern Salta and northern Tucumán. Their pottery is generally gray with simple lines and geometric figures, such as rectangles and triangles representing human and animal figures.

The **Ciénaga culture** spread from southern Salta to northern San Juan, with its center in Hualfín valley. Ceramics are mainly gray-black with incised decoration, and representations of camelids. Other objects exhibited are stone vases, galena stone mirrors, copper ornaments, and items belonging to grave goods: baskets, pots, bowls, spindles, and various utensils.

The **Aguada culture** developed on the basis of pre-existing cultures and the interactions with other societies of the Argentine-Chilean-Bolivian plateau, and expanded from central Salta to San Juan. Ceramics reached the highest degree of technical and artistic development in the region. Feline images were frequent motifs. An outstanding element assigned to this culture is the disc or "**Caylle" of Lafone Quevedo**.

A sample of textiles from the Puna is exhibited along with other utensils made from organic matter such as wood, wool, leather, bone, animal and plant tissues. In addition, there are ceramics from the Quebrada de Humahuaca in Jujuy, and the Quebrada del Toro in Salta. These peoples had intense exchanges with those from the Peruvian and Bolivian plateau from year 1000 to 1470 of our calendar. In 1470, the Inca Empire conquered the peoples that inhabited the Calchaquí valleys of the NOA.

The ceramics and objects of bronze metallurgy from **Santa María and Belén** cultures were used for rituals and for making axes, bells, bow tensioners, disks and knives. The representation of a burial of the Belén culture shows how they buried their dead under rock fragments, together

with ceramic offerings and other artifacts that belonged to the person in life.

The **Yocavil and Famabalasto cultures**, from Calchaquí valleys and Santiago del Estero, dated from the 12th century. Their burial and ceramic styles lasted until the conquest of the Inca Empire, from years 1471 to1535 of our Era. After that time, the occupation of the NOA extended from Bolivia to the Uspallata Valley in Mendoza.

The **last pre-Hispanic period** witnessed the greatest cultural development of the local NOA peoples, with production of fabrics and pieces of bronze metallurgy, such as axes, pins or topus, star maces, knives or tumis, and spatulas. The pottery that included duck plates and "aríbalos", as seen in the room of Latin American archaeology room, was characteristic of this period.

Finally, some representative objects shown in this room illustrate the **cultural fusion between Incas and Spaniards**, such as pottery decorated with the image of the Christian cross. The European intrusion into indigenous societies took place about 1536.

The disk or caylle of Lafone Quevedo is one of the most famous pieces of Argentine archeology and one of the main symbols of the Museum of La Plata. It has been assigned to La Aguada culture (500 to 800 years of the current Era) and was described by Samuel A. Lafone Quevedo, the second director our Museum, in 1890, in the first volume of the Annals of the Museum of La Plata.

The famous piece consists of a bronze plate that is 16 cm high, 10.7 cm in diameter, and 3 mm thick, made by using the “lost wax” technique. It shows a central anthropomorphic figure and two pairs of secondary zoomorphic figures. The secondary figures in the upper half are felines that stand on the shoulders of the central figure, and those of the lower half are serpents.


RAMSES
DIOS DE NUBI

EGYPTIAN ROOM
Fragments of History on the banks of the Nile

This exhibition is devoted to the Egyptian culture and shows more than 40 original sandstone fragments from the Aksha Complex, plus two mummies from the late period of ancient Egypt.

> The Aksha Complex was a political and administrative center in the times of Pharaoh Ramses II, who ruled the empire between years 1279 and 1213 before our Era. The construction of several building and monuments demonstrates his power and the greatness of his empire.

The government of Sudan donated these pieces to the Museum of La Plata in recognition for the **French-Argentine archeological expeditions carried out during the 1960s** with the goal of rescuing the historical monuments that would be lost under water (submerged) after the construction of the Aswan dam on the Nile river.

A digital book located at the entrance of the room tells the history of the discovery and rescue of this site and provides information on the different expeditions carried out during the last century.

A scale model allows identification of the main buildings and spaces of the **Aksha Complex**: the temple, the grain stores, the neighborhood of civil servants, and the governor's house. The huge blocks of sandstone exhibited in the room belong to these constructions.

The **Temple of Aksha** reproduces the scheme of most Egyptian temples, which consisted of two monumental portals or pillars flanking the entrance, a courtyard with columns or pillars, and a shrine. The shrine included a vestibule, the chapels, and the treasure room. The courtyard received sunlight while the shrine was in the shadows, showing a transition from light to dark.

The **hieroglyphic inscriptions** on the wall fragments relate the battles and triumphs of the pharaoh. The term hieroglyph comes from the Greek and means sacred carving, because the pictorial inscriptions were carved in stone or wood. This writing system used in Ancient Egypt, include religious texts for gods and kings, and funeral inscriptions used in tombs and monuments, jewelry, and amulets. They had aesthetic and ritual value, as well as symbolic and magical character.

The striking **stela of Wepwawet** illustrates the worship of Ramses as the god of the army; another noteworthy element is the jamb of the governor's house, whose hieroglyphic inscriptions talk about his power. Jambs are the internal sidewalls of the door and window openings.

Next to the jamb is the **stela of Kuban**, which narrates the construction of water wells ordered by Ramses II for the people who worked in the gold mines of Wadi Allaqi, near Kuban. It transcribes the gifts that the gods bestowed on Ramses II. The stelae were monolithic monuments with inscriptions, of commemorative, funerary, religious, magical-healing, or historical functions.

Lintels and friezes complete this set and give information on the social organization, the ways of working, the daily life, and the wisdom of these peoples, with their complex worldview. Finally, the visitor can see figurines (small human clay figures) and funerary offerings with ceramics from different cultures obtained from the burials during the expeditions.

In addition to the objects from the Aksha Complex, the room exhibits two sarcophagi with funerary inscriptions from the late epoch of the Ancient Egypt, donated to the Museum by Dardo Rocha, the founder of the city of La Plata, at the end of the 19th century.

The mummies preserved in these sarcophagi were studied using non-invasive tomography methods that increased the knowledge about the mummification techniques used and the particular characteristics of each body. Their geographical origin could not be accurately established. Still, it was inferred that they were recovered from a necropolis near the city of Memphis, the capital of Egypt at that time.

Mummification was part of a sacred ritual and included several steps. The brain was extracted through the nose, and the viscera, through a cut on the left side of the body. Then the viscera were placed in containers called Canopic vessels, and the body was chemically dried in a mixture of sodium bicarbonate and salt for 40 days.

After that period, the body was filled with spices and slime from the Nile River, the incision was stitched, and glass eyes were placed instead of the original ones. Finally, the body was bandaged with strips of linen, over which resin was poured. A video projected in this room documents the studies done on these mummies.

Decorative details of the sarcophagi.

MORENO ROOM
Foundational times

The Moreno room preserves some artwork, furniture, part of the library, instruments, and other objects that belonged to Francisco P. Moreno (1852-1919). It was organized between 1924 and 1930 by the third director of this institution, the archeologist Luis María Torres, and was completely remodeled and separated from the Museum Director's office in 1998. Some objects from the foundation time of the institution are also exhibited here.

In the center of this room there is a **desk that belonged to Francisco P. Moreno** and on the back, a beautiful fireplace decorated with fleur-de-lis motifs.

Two bookshelves with bibliography donated by Francisco Moreno to the Museum in 1888 are located on both sides of the entrance door. They preserve books by renowned naturalists from the 18th and 19th centuries, such as Charles Darwin, Georges Cuvier, Paul Broca, Alcide d'Orbigny, Florentino Ameghino, Hermann Burmeister, and Alexander von Humboldt, among other authors.

Some of the outstanding objects are a **photographic camera with a tripod**, used by Moreno when he participated as Expert in the Boundary Commission, that dealt with the boundary dispute with Chile (1896-1902); a stereoscope used in his first years working at the Museum; an Argentine flag carried by Moreno in his expedition to the foot of the Andes (1879); and a collection of weapons from 1920.

Two works published by Moreno are displayed, the "Catalog of the fossil birds of the Argentine Republic," and "Viaje a la Patagonia Austral" (1876-1877). There is also a first copy of the Annals of the Museo de La Plata from 1890 and numerous photographs. An outstanding photo shows the partial inauguration of the Museum in 1886, with the presence of the governor of the province of Buenos Aires, Carlos D'Amico, his ministers,

and Florentino Ameghino, among other personalities from that time.

There are also several **newspaper clippings**, referred to the boundary issues with Chile, and numerous diplomas and distinctions received by Francisco Moreno during his lifetime, including a Doctor Honoris Causa award given by the University of Cordoba in 1878.

The artistic legacy of the Moreno room includes the following **paintings**: "La muerte del gaucho matrero" (oil, 1886), by the French painter Marie-Gabriel Biessy (1854-1935); "Selva Virgen" (oil on canvas, 1858), by the French painter Auguste Francois Biard (1799-1882); and a portrait of Francisco Moreno (oil, 1913), by the Italian painter Luis de Servi (1863-1945). There are also some replicas of watercolor paintings of landscapes, by the Swiss painter Adolf Methfessel (1836-1909); and an anonymous oil-painting from 1853 that depicts Moreno allegedly accompanied by his sister in their childhood.

A “poncho” that Francisco Moreno received as a present from the Tehuelche cacique Modesto Inacayal was exhibited in this room until 2014. This cacique was born in Tecka, Chubut Province, in 1833 and died in the Museum of La Plata in September 1888, before the building was inaugurated. The poncho was given to the Mapuche-Tehuelche communities of Chubut in 2014, along with the supplementary remains of the cacique and his wife, to be taken to their resting place where they were born. The Museum has photographs and precise details of this historical piece.

THE UNSEEN MUSEUM

Collections

The materials that are shown in the rooms of the Museum of La Plata represent only a small fraction of those preserved in the deposits. At the times of its foundation, the number of objects was about 15,000; nowadays it is near 3 million.

> The scientific collections are priceless, because their value is not economic but related to their importance for the development of scientific knowledge, education, and societies, and as part of the heritage of nations and native communities.

Their **scientific value** is increased when the objects are accompanied by meaningful information about the date and conditions of discovery, the associations with other elements, good photographs, field work notes, and any other useful data. Natural history objects represent corner stones for scientists that attempt to understand the geological changes that occurred in our planet, to reconstruct the history of life on Earth through the fossil evidence, and to explain the diversification of living organisms and the evolution of ecosystems through time.

On the other hand, the Anthropological and Archeological collections are very valuable for shedding light on the American peopling, to analyze the dispersal and diversification of the native peoples, and to study their cultural development. Currently, the work of Anthropologists and Archeologists is complemented with the ancestral knowledge that is alive in the communities of native peoples and their relatives.

Geological collections preserve a great variety of rocks (igneous, sedimentary and metamorphic), metallic and non-metallic minerals, and all kind of geological elements useful for the mining and oil industry. It also preserves a valuable collection of meteorites, rocks that bear traces of the activity of extinct organisms (ichnites), as well as maps and geological charts.

Botanical collections include an herbarium of vascular plants (ferns, gymnosperms and angiosperms), with specimens that are preserved dried, in cardboard folders, within special herbarium holding furniture, in a room under controlled temperature and humidity conditions. In addition, there are herbaria of fungi and algae, and specimens preserved in alcohol, mounted in slides, or maintained as strain collections of living organisms, for DNA analysis and industrial uses.

Zoological collections gather a great diversity of groups of modern vertebrates and invertebrates. Some of them are preserved dry (for example, shells of mollusks, insects, corals, skins of birds and mammals, skeletons); others in jars with 70% alcohol (for example, spiders, worms, fish, and amphibians), or mounted in slides (millimetric specimens or parts of specimens). Most of the taxidermized (life-like mounts) vertebrates are in the exhibition rooms.

Paleontological collections preserve fossil material of vertebrate and invertebrate animals, such as skeletons, bones, shells, teeth, casts, footprints, and remains of organisms or of their activity. There are also microscopic algae, petrified wood, and several rocks with different kinds of paleobotanical remains. The preparation of fossil materials requires especial technical work to extract the fossils from the rocks and prepare them for study.

Anthropological collections preserve different kinds of objects made of ceramics, metal, bone, stone, wood, leather, shells, feathers, wool, and plant fibers, among other materials, which help reconstructing the cultural inheritance of peoples. Some of them are original objects, either complete of incomplete, while others are replicas. There are also some osteological remains for forensic analyses or for archeological studies on the origin and diversification of peoples through time.

Research

The Museum of La Plata is organized into **15 scientific divisions** that serve as repositories of the respective collections and as working places for scientific researchers, technicians, graduate students, and PhD students. Currently, the scientific staff includes about 300 people hired by the National University of La Plata (UNLP) and/or to the National Council for Scientific and Technical Research (CONICET), or the Scientific Research Commission of Buenos Aires Province (CIC- PBA).

Professional researchers and technicians work on various **research projects**, for which they use specific equipment that facilitates the detailed study of the objects and specimens. Besides several kinds of microscopes, scanners and computers, the Museum offers services for Scanning Electron Microscopy (SEM), X-ray Diffraction, and three labs completely equipped for DNA analyses.

The new knowledge generated by the staff is published in **scientific journals**, such as the "Revista del Museo de La Plata", edited since 1890. Moreover, the "Fundación Museo de La Plata, Francisco Pascasio Moreno," disseminates the most important scientific and cultural news referred to the Museum through their own magazine, "Museo", since 1993. These publications are freely available in the digital repositories of the Library of the Faculty of Natural Sciences (Naturalis), and the National University of La Plata (Sedici).

Naturalis:
http://naturalis.fcnym.unlp.edu.ar

Museum of La Plata magazine:
http://publicaciones.fcnym.unlp.edu.ar/rmlp

Library:
www.bfa.fcnym.unlp.edu.ar

Working areas

In addition to the researchers and technicians that preserve and study the collections, there are staff working in the Library, the Historical Archive, the Photography Lab, the Department of Printing and Publications, the Department of Drawing and Scientific Illustration, the Audiovisual Media Unit, and in several workshops.

The Conservation and Exhibition Unit gathers a specialized interdisciplinary team, in charge of remodeling the exhibition rooms and advising the staff on various subjects concerning the security and conservation of the collections.

The rest of the personnel work on communication and attention to visitors, education, as tour guides, as well as in administrative activities, security, maintenance of the building and general services. The complete staff of the Museum is about 450 people.

VISITOR SERVICES AND SPECIAL ACTIVITIES

The **Communication Area** is focused on strengthening institutional identity, keeping the Museum staff informed and coordinating different activities. Along with the visitor attention service, this area is in charge of answering questions and bringing information on the Museum to other institutions and general public, through e-mail, website and social networks.

Contact: comunicacion@fcnym.unlp.edu.ar

The **Educational Area** and Guide Service has specialized personnel who organize various situated and learning activities, applying the most adequate educational strategies, in accessible ways and with an inclusive perspective. It produces learning material for schools and other visitors and responds to requests for advice on different subjects.

Contact: educativa@fcnym.unlp.edu.ar

The **Guide Service** includes 25 graduates and advanced students of the college careers in Biology, Anthropology and Geology taught at the Faculty of Natural Sciences and Museum of the National University of La Plata. Their mission is to guide school and tour groups who visit the Museum. In addition, they participate in educational activities.

Contact: servguia@fcnym.unlp.edu.ar

Special activities that usually take place in the Museum include conferences, workshops and scientific meetings, which take place mainly in the Auditorium; educational activities for groups of children and adults, in the Interactive Classroom or the exhibition rooms; and art samples, usually organized by the "Fundación Museo de La Plata" in the Víctor de Pol lobby. The Auditorium, with a capacity for 100 people, and its lobby, as well as the Interactive classroom, the gift shop and the cafeteria, are located in the first level of the building.

“Museums in the moonlight” is a special recreational activity that is carried out once a year, usually in November. During this event organized by the Network of Museums of the National University of La Plata, children and adults tour the exhibition rooms of the Museum in the dark, lighting their way with flashlights, enjoying lighting effects and projections, while listening to recorded sounds of nature.

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