COULISSES

Journey
into a museum
collections

This book is dedicated to Jean Guyader,
geologist and ardent support of the Museum.

Sous la direction de : Cédric Crémière

Textes : Gabrielle Baglione, Nicolas Bansaye, Vivien Chouquet, Marie Fisler, Juliette Galpin, Claire Gohard, Céline Nadal, Miguel Santiago, Nadège Sébille

Direction éditoriale : Mikaël Ferloni
Conception graphique : Romain Guillet
Maquette : Nils Brière
Corrections et relecture : Jérôme Sich
Traduction : Judith Bentley

Photographies : Guillaume Boutigny

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avec le concours de la Ville du Havre

COULISSES

Journey
into a museum
collections

Éditions du
MUSÉUM
d'histoire naturelle du Havre

FOREWORD

A museum in its city

The city of Le Havre nearly lost its museum during the 1944 bombings. The collections that were almost completely destroyed were destined to go to the Museum of Rouen.
But with the determination of a handful of people, the museum partially reopened in 1972.
The 2007 renovations were a clear sign of its transformation into a Museum that is more open: to all audiences, to its city and to the World.
This exhibition is an exploration of the museum's core. Its collections shine a light on the priceless relationship between Man and patrimonies, with a wish to draw other temporalities.
In museums civilizations can be reborn, surrounded by the reassuring presence of their preserved artefacts.
Collections that once were considered as a burden suddenly become enthralling. One can seize their inherent strength, their true value.

The museum becomes place of magic where what was considered as lead suddenly transforms into gold, if you to know how to look.

Édouard Philippe
Deputy - Mayor of Le Havre

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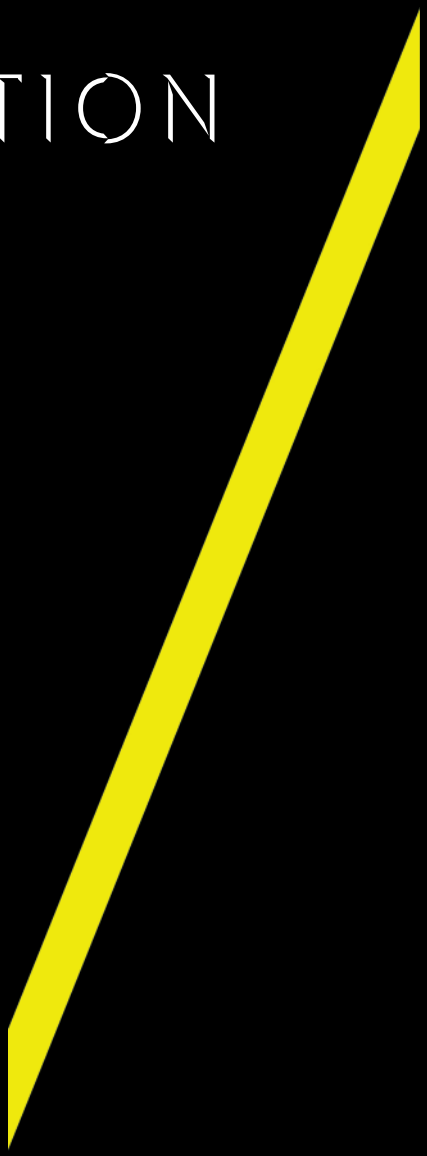


Louis-Marie Daubenton (1716-1799) was a collaborator of the well-known Buffon and the first official curator of the Jardin du Roi, the current National Museum of Natural History. He admirably described how a Museum of Natural History was seen during the middle of the 17th century:

> “Nothing is more likely to contribute to the advancement of science then permanently seeing the objects it produces; they strike us with more strength and truth than the most accurate descriptions and the most perfect figures. The collections of this kind that are gathered not only in Paris but also in all the kingdom's provinces are proofs of the positive inclination for Natural History that has spread all over France, and is a presage of favourable progresses in this science for the future.”
>
> « Description du Cabinet du Roy », *Histoire naturelle*, tome III, 1749.

Museums are filled with symbolic value.
It's a travel through stories, through History
It's an experience of various feelings: loathing, joy, fear, delight...
It's a place of life and laughter (when permitted...)
It's a place of familiarity: museums help form identities
It's a place to be: the equivalent of the French population goes to the museum every year.

What are the main challenges for museums?
They have to follow tendencies, evolve, innovate and change with their time while one of their main goals is conservation. Hence an inherent tension.

Into a museum coulisses

During the 19th century, the Havre Museum of Natural History was just one room. The Library-Museum then opened its natural history galleries in 1855. In 1881, the buildings of the city's old courthouse became part of the Museum.
It stayed this way until the September 1944 bombings that destroyed most of the building and collections. It was only in 1972, after the first renovations where finished, that the museum reopened its doors. The proximity of the cliff of la Hève, rich in fossils, and the absence of a university in Le Havre were two of the main reasons that pushed the museum to focus its research on natural history. In 2007, it was rearranged to receive the treasures of the Lesueur collection and host temporary exhibitions.

After eight years of only showing temporary exhibitions, it was the right moment to show off the full extend of the museum's collections and their formidable potential. In 2006 the museum started a massive renovation of its stored objects, then in a pitiful state for most.

Coulisses could not have been imagined without this vast collective and discrete weekly work of rearranging, dust removing, conditioning, restoring, inventorying and documenting.

1

2

3

4

5

Clarifying of the ownership of the objects, making sure that the city was keeping collections of which it had ownership - which wasn't always the case - and regularizing the status of some series going through the paperwork and finding arrangements with donors, was also part of the enterprise.
Once this was done, a work of determination and identification of these collections could start. Naming is classifying; the collections were ordered according to their scientific and patrimonial value.
Coulisses is the first visible part of this work, demonstrating the will to make the collections of the Museum accessible to all.
Coulisses is also a reminder. It reminds us of what has, since 2007, got back the public's interest and stabilized attendance to 6 000 visitors per month: programs around the exhibitions, adapted rhetorics and a balance between emotion and intellect.

In a nutshell: a museum for everyone.

A MUSEUM FOR EVERYONE

Coulisses is a beginning.
The museum's aim is to strengthen community involvement through lectures and conferences, in a time when culture and science are declining while many social issues root from scientific topic: climate, health and environment.

The objects are all part of the collections and their display in a permanent exhibition is being planned, hence building continuity.
They are arranged according to themes such as Visible/Invisible or Here/Elsewhere, and not by their fields of reference – zoology, archaeology for instance – which allows the visitor to see them from a different angle.

Our wish was to highlight the link between them. Visitors can get the measure of every detail and see what its encounter creates (or what it doesn't) especially to understand how the artificial layout is a limitation as well as an opportunity, thus nourishing discussions around it.

These pictures offer a fresh perspective on the work in museum storage.
1. In the taxidermy workshop, a lycaon is being prepared. **-2.** Zooligical specimens are moved to be lined up in the storage. **-3.** The taxidermist is assembling the fur of a lycaon. **-4.** Gulls and seagulls will be soon dust free, for a better preservation. **-5.** Ornythologic specimens have been surveyed to be packaged and stored.
(photographer Christophe Livonnen)


SMALL
BIG

Nature's creations, as those of Men, offer a great diversity of scales, from microscopic to macroscopic.

Museums attest of this fact: shrews and tigers are both ends of a same class of vertebrates; the collections show this array.
With their efforts to assess the World, Men discovered the infinitesimal and the infinitely big: by proving the existence of Higgs boson thus uncovering the secrets of the matter; by exploring comets, planets and galaxies throughout the Universe thus going through its history, and constantly pushing back the limits.

Gauging our World helps us to understand it better and, sometimes, enables us to reach other dimensions.

Common name
common firecrest
Family
Regulidae
Genus
Regulus
Species
Regulus ignicapilla
Provenance
Dubois or Chabot collection
Date
unknown
Material
fiber stuffing
Dimensions
L 8 x l 4 x H 12 cm
Inventory number
o/181.014
Acquisition
Collection purchase for the reopening of the Museum after WWII
IUCN conservation status
Least Concern

FIRECREST

This firecrest is one of Europe's smallest nesting birds. Usually living in a wooded housing environment, it can also be seen within cities, in parks and gardens, up to 1500 m of altitude. It feeds on small insects hiding under leaves.

Firecrests are recognizable by their long white supercilium, black eye stripe and white cheeks. Their beak is tiny and they have a stocky silhouette. Males have a bright orange head crest lined with black, while the females' is yellow.
While goldcrest, with whom it shares its habitat, favours spruces, the firecrest nests in any kind of conifers or deciduous tree. They mainly live in South-western Europe, in the Mediterranean area and in Central and Western Europe.
They build their nests high up, suspended and intertwined with conifer, ivy or juniper twigs. It has the shape of a closed cup covered in moss, lichen and cobwebs. It shelters two annual layings, each of 7 to 9 13-millimetre whitish red spotted eggs.

Common name
long-finned pilot whale
Family
Delphinidae
Genus
Globicephala
Species
Globicephala melas
Provenance
AVISOTE rendering facility, Arques-La-Bataille, Normandy, France
Dat
precise date unknown, probably between 1986 and 1990
Technique and material
skeleton assemblage
Dimensions
L 4,50 m, 150 kg
Inventory number
2011.15.124
Sex
female
Age
adult
CITES classification
Appendix II

LONG-FINNED PILOT WHALE

Pilot whales live in pods of about thirty individuals in the high seas of the temperate North Atlantic waters. Although these cetaceans have teeth like orca and sperm whales, they are dolphins They are between 4 and 6 meters long and can weigh up to 3 tons!
The young look like any other dolphin but the globose shape of the adults' head makes them easily distinguishable. Pilot whales are mammals that have lungs and cannot breathe underwater. Females usually bear for more than a year; right after its birth, the group brings the newborn to the surface for it's first breath. It will first be breastfed for two years and after that and will feed on an average of 35 kg of fish and shellfish per day.

Common names
Indian Python, black-tailed python, Indian rock python, Asian rock python
Family
Pythonidae
Genus
Python
Species
Python molurus
Provenance
CERZA zoological parc
Date
September 2011
Material
animal filled with polyurethane foam
Dimensions
L 120 x l 55 x H 15 cm
Inventory number
2014.10.45
Acquisition
gift from the CERZA zoological park, Lisieux, Normandy, France
IUCN conservation status
Near Threatened
CITES Classification
Appendix II

PYTHON MOLURUS

Python molurus are imposing animals that can be over 7 meters long and weigh up to 180 kg. They mainly live in India, Myanmar and Vietnam. They hunt for mammals, birds and reptiles that they first constrict and choke before swallowing them whole.
These pythons are no venomous; they suffocate their prey to kill it. They are even able dislocate their jaw to swallow large-sized preys! But they don't need to eat very often: twice a month is enough! While their sight and hearing is bad, their sense of smell is excellent: they can even perceive very small temperature variations. It allows them to locate a prey in complete darkness simply by the heat it produces! The python starts reproducing when the female's size reaches four meters. Two months after mating, she lays about hundred eggs in a warm place. The hatchlings are born after incubating for two months and can be 40 to 50 centimetres long. These snakes shed skins approximately every forty days, which allows them to grow. Indeed, when they increase in size, a new skin forms and the old one falls.
Taken as pets, pythons illegally imported in Florida were released because of their massive size and their dangerousness. Exclusively endemic to Asia, they are now colonizing the Everglades and compete with local species.

Common name
Bengal Tiger
Family
Felidae
Genus
Panthera
Species
Panthera tigris tigris
Provenance
a circus based in the Yvelines, Paris Region, France
Date
May 1996
Technique and materials
animal filled with polyurethane foam, mounted with wood and metal
Dimensions
L 2,40 x l 0,90 x H 1,20 m
Inventory number
2012.4.26
Acquisition
gift from the circus
IUCN conservation status
Endangered
CITES Classification
Appendix I

HUNTING SCENE OF THE BENGAL TIGER

The Bengal tiger is one of the 6 remaining subspecies of tigers on the planet. They mainly live in the savannahs and mangroves of India, Nepal and Bangladesh. In spite of a major conservation campaign, there are less than 2 500 tigers remaining today.

These imperturbable hunters from the hide have breath-taking abilities. With their strong and agile body, they can jump up to 10 meters and run very fast on short distances. They also are excellent swimmers. Their favourite preys are Sambar deer. They are essentially solitary animals but couple during the reproduction period that lasts 3 to 7 days. Gestation lasts 15 weeks and females give birth to a litter of 2 to 4 cubs that each weigh less than 2 pounds.
The International Union for Conservation of Nature considers this specie as endangered. Because of cultural beliefs that they have therapeutic and aphrodisiac powers, Bengal Tigers are being poached. In addition to that, intense de-forestation is destroying their natural habitat.

Common name
Comet butterfly
Family
Saturniidae
Genus
Argema
Species
Argema mittrei
Provenance
Madagascar
Date
1995-2000
Technique and materials
dessiccation
Dimensions
papillon : L 24 x l 10 cm ;
cocon : L 8 x l 3 cm
Inventory number
Pent3
Sexe
mâle
Âge
Adulte
Acquisition
don de particulier

COMET MOTH FROM MADAGASCAR AND HIS COCOON

Here is one of the most curious and rare butterflies around the globe. The comet butterfly is a night butterflies which live in the rainforests of madagascar. it is an endemic specie, which mean it present exclusively on this island.

Common name
common shrew
Family
Soricidae
Genus
Sorex
Species
Sorex araneus
Provenance
unknown
Material
animal filled with polyurethane foam
Dimensions
L 10 x l 6 x H 4 cm
Inventory number
PZ 37
Acquisition
donation by an unknown individual
IUCN conservation status
Least Concern

SHREW

In spite of their looks, shrews are not related rodents or to mice. They are much closer to hedgehogs, moles or even cats! There are over 300 species of shrews. The Eurasian shrew is the most known for all and can be seen in gardens or hidden in old walls and stone piles.

Shrews are very active and voracious animals that constantly forage and dig up larvae and insects. Its body is very lean, the head is elongated and its snout, long and flexible, is covered with vibrissae. There are several differences between shrews and rodents, one of them being that their teeth that don't grow throughout their life. Their diet also differs: while rodents mainly feed on plants, shrews feast on insects, larvae and earthworms.

They occasionally eat mice and other small animal, therefore helping humans get rid of many pests. Their utmost fears are food shortage and harsh winters. In order to resist both, their bodies enter a state close to hibernation: torpor. Shrews are born at the end of the spring in a nest made of moss and leaves. Females usually have litters of five to ten young. They are solitary creatures that communicate with high-pitched squeaks to avoid the bad encounters or defend their territory.

Common name
European Mole
Family
Talpidae
Genus
Talpa
Species
Talpa europaea
Provenance
donation of CHENE
Material
animal mounted with polyurethane foam
Dimensions
L 18 x l 8 x H 7 cm
Inventory number
PZ 36
Acquisition
donation
IUCN conservation status
Least Concern

EUROPEAN MOLE

Related to shrews, moles are hard to observe, though their presence is easily detected through the small mounds of loose soil they leave behind when digging out their tunnels: molehills. They can be found everywhere from seaside to high mountain, except for swamp and dry and sandy soil areas.

Moles, hedgehogs and shrews have a lot in common. For instance, all three feast on earthworms, slugs or snails. Moles also eat insect larvae and, occasionally, small mammals. Hedgehogs' and moles' snouts are long and pointed. Their paws usually count five fingers, but moles have an extra "thumb" that they cannot fold on their forepaws, formed by a small bone growth.

Day and night, moles live underground in the large tunnels they dig. To live their subterranean life, they have strong limbs with long claws that they used as shovels to dig into the ground. They have large and very effective lungs that enable them to live on the little oxygen they find underground. Their tiny eyes, covered with closed eyelids, only allow them to perceive light changes, especially when seasons change. Their sense of hearing, smell and touch on the other hand are very developed and allow them to hunt and move around in their tunnels.

Era
Maastrichtian (70 million years BC)
Provenance
Rennes-le-Château, Languedoc-Roussillon, France
Material
red marl
Dimensions
L 100 x l 50 x th 25 cm
Inventory number
2012.18.1
Acquisition
Excavation from the Natural history museums of Aix-en-Provence and Havre in 1984

DINOSAUR EGG LAY FROM RENNES-LE-CHÂTEAU

This set displays four eggs in their clay gangue. They are lined up and seem to be part of a larger yet single egg laying. Because they were found in a half-moon alignment it was deduce that these dinosaurs laid in circles. Unfortunately, it is impossible to know to which species of dinosaur they belong.

France is not well known for its dinosaurs. However, in the South of the country, bones and eggs are found in many archaeological sites. Clays around Rennes-le-Château are known to contain dinosaur eggs; that is why in 1984, the Museums of Le Havre and Aix-en-Provence conducted excavations in this vicinity. What was discovered there is stored at the Havre Museum. These eggs are about twenty centimetres in diameter and are categorized as Megaloolithus - of *Mega*: big; *oo*; egg and *lith*: stone. They date from the Maastrichtian age, one of the last geologic stages before the Cretaceous–Palaeogene extinction event 65 million years ago.

PROVENANCE
Fresne d'Argence, Calvados, France
ERA
Callovian (165 millions years BC)
MATERIAL
limestone
DIMENSIONS
d 45 x th 20 cm
INVENTORY NUMBER
MHBR 0075
ACQUISITION
Brun collection

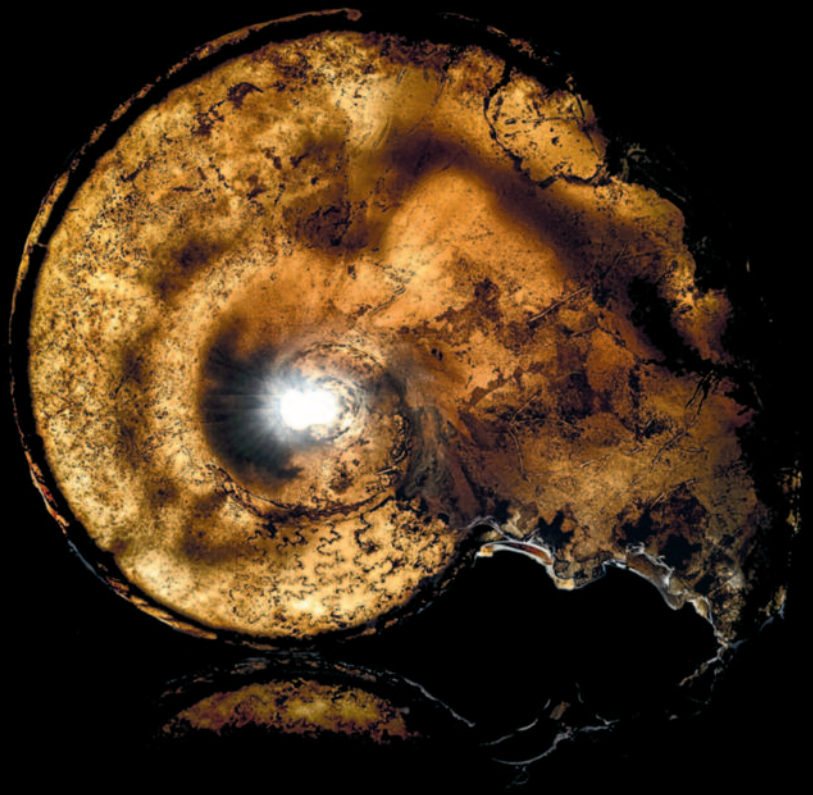
NAUTILUS
PARACENOCERAS SP.

Nautiluses are cephalopod - of *cephal*, head and *pod*, foot - molluscs. The oldest fossils are over 500 million years old. Witnesses of very old times, there still are 6 species living today!

The general anatomy of nautiluses hasn't evolved much over time. Their shell (straight and/or wound up) is divided into single partitions. The animal lives in the last partition called the body chamber. Current nautiluses live in the sea and float in the 0 to 600 m water column thanks to their shell that is used for buoyancy.

They are fairly common fossils that can be found it in all geological layers since the Cambrian (541 to 489 million years BC) up to today. In Normandy, various species can be harvested, specimens measuring an average 30 centimetres in diameter. But the biggest nautiluses, *Paracenoceras*, can measure up to 1 meter! They come from the same class as ammonites but survived while the latter went extinct 65 million years ago. It is mostly because of their similarity to nautiluses that one can imagine the general appearance of ammonites.

Provenance
Fresville stone quarry, Manche, and Pointe de Caux, Normandy, France
Era
Sinémurian (195 million years BC) and Albian (110 million years BC)
Material
limestone and silica
Dimensions
bigger: L 90 x l 70 x3 th 30 cm and smaller: d 8 cm, 78g
Inventory number
bigger: 2015.10.10 and smaller: 2015.10.9
Acquisition
Brun collection and Juignet collection



AMMONITES
ARIETITES SP. AND *ANAHOPLITES PLANUS*

During the millions years they evolved, ammonites have shown a surprising diversity of species, some measuring less than a centimetre when others exceed a meter. However, their anatomy remains roughly the same: the shell is divided in chambers and rolled up in a spiral.

Ammonites are very common fossils that can be abundantly harvested on some sites. Most are only a few centimetres in diameter. However, much bigger specimen where found in some geological layers. *Arietites* are part of these species that exceed fifty centimetres. The biggest ammonite in the world was found in Germany and is two meters wide!

Ammonites lived in all the seas of the globe, from 390 to 65 million years BC. They would swim quickly to feed and escape their predators, such as large marine reptiles. The decline of ammonites started about 90 million years ago. They became extinct at the same time as other species such as Dinosaurians and *Ichthyosaurians* during the Cretaceous-Tertiary extinction 66 million years ago. Aside from external causes like climate change or marine regression, it is assumed that the high density of population caused an increase in competition for resources. This set of internal and external factors was able to cause their disappearance.
In the cliffs close to Le Havre, one can, with a little luck, harvest ammonites of various sizes. Unfortunately, it is impossible to determine the age of theses specimen based on their size: their rate of growth is unknown. However, the species can be determined thanks to the differences in shell ornamentation.

PROVENANCE
extension of the Port Autonome du Havre, Normandy, France
ERA
Kimmeridgian (155 million years BC) and Albian (between 100 and 113 million years BC)
MATERIAL
microfossils
DIMENSIONS
7 tubes, L 6.5 x d 2 cm, total weight: 214 g
INVENTORY NUMBER
2015.9.1
ACQUISITION
Jean Guyader collection

OSTRACODS AND FORAMINIFERA

Ostracods and foraminifera are microfossils that are almost invisible to the naked eye. However, they are a massive source of information for palaeontologists: not only do they enable a precise dating of the geologic strata, but they also contain information on the ecosystems such as temperature or water salinity.

Microfossils are more abundant than other kinds of fossils; because of their size, one can harvest a lot in only a few kilograms of sediments. After dissolving, the sediment is washed and sifted through fine meshed sieves. The remainder is sorted out with a binocular magnifier to fish out the very small fossils. Ostracods and foraminifers are the most studied of all small-sized fossils. Ostracods are depending on the species. The geologist Jean Guyader, from whose collection these fossils come from, chose micropaleontology to study the Upper Jurassic Era (from 163 to 145 million years BC) in the Bay of the Seine.

PROVENANCE
Landes, France, and unknown
ERA
Middle Lutetian (45 million years BC) and Tertiary (from 65,5 million year ago to today)
MATERIAL
fossil
DIMENSIONS
L 4 x d 1 cm, 2 g
d 4 cm (2 specimens, 16g)
INVENTORY NUMBER
2014.11
ACQUISITION
Cuvillier collection

BIG AND SMALL NUMMULITES

Smaller: *Nummulites globulus guettardi*,Tertiairy
Bigger: *Nummulites millecaput*, Landes, Middle Lutetian

Nummulites are benthic organisms that lived at the bottom of seas. These animals built a protective spiral-shaped shell, divided into chambers inside. The Latin root of the name, *numisma* means coin and refers to their shape.

Micropaleontology is the science of small-sized fossils. Nummulites size range from microscopic to a few centimetres in diameter. They lived between 65 and 23 million years ago. Specimens found open show the divided structure of the spiralled shell. During its growth, the animal builds bigger chambers a concentric way, which gives it its shape. Nummulites are of high interest for scientists because they are good biostratigraphical indicators: they evolved and diversified fast enough to define the geological strata in a very accurate way, according to the harvested species.


HERE
ELSEWHERE

Museums make our world accessible: all the continents are symbolized through natural or artificial objects.
Some of the natural objects are witnesses of another time and geography: that of the unique continent that was Earth several billion years ago.
Artificial objects are displayed in museums that had rich ethnographical collections supplemented, as for Le Havre, by travellers and merchants that were strongly tied to the life of the harbour.
The museum sways with local and global and these objects are open windows that make us realize distances and proximity.

Title
Portrait d'un indien de la tribus Choctaws, dans le Petit Golphe, Mississippi
Author
Charles-Alexandre Lesueur
Date
16 April 1830
Technique
pencil on paper
Dimensions
22,9 x 14,9 cm
Inventory number
44123-1
Acquisition
gift

PORTRAIT OF A NATIVE AMERICAN

During the 18th century, with more European settlers arriving, some Native tribes were moved off their lands while others were decimated. Lesueur meets with Native Americans during his journeys on the Mississippi river between 1828 and 1837. There, he draws a few lovely portraits and writes his outrage.

"Little by little, the various Indian tribes were chased away or had to leave their land. They had to mingle with the other tribes they sought hospitality from, no longer finding it by those who invaded their land and relentlessly push them away to extend their territory. Our civilization should have befriended them, but we are still bearing the cloak of cruelty and our Nations still use it for their own interest and their own greed. The endless wars that the Indians have had to bear, the perpetual promises of those who engaged them on their side and then sacrificed them, have weakened them so much, without mentioning the wars they were pushed to wage against each other by these Nations. The Indians have started disappearing and will soon completely disappear (...) the very few that are left [will be] hunted like wild animals"

Charles-Alexandre Lesueur, manuscript inv. 41 292, Le Havre Museum of Natural History.

Title
Poisson *Pylodictis olivaris* (Rafinesque, 1818)
Author
Charles-Alexandre Lesueur
Date
between 1816 and 1837
Material
gouache and pencil on paper
Dimensions
30,1 x 46,6 cm
Inventory number
76 061
Acquisition
gift

FISH

When he arrives in the United States in 1816, Lesueur has one main goal: to publish an encyclopaedia on North American freshwater fish. This painting of a fish he observed in the New Orleans rivers is part this work, mixing drawings and written descriptions.

Twenty articles of Lesueur dedicated to these fish are published in the Journal of the Academy of Natural Sciences of Philadelphia. He describes several species for the first time; that is why his name is associated with them. Between 1815 and 1825 he is considered one of the three major savants on this subject.

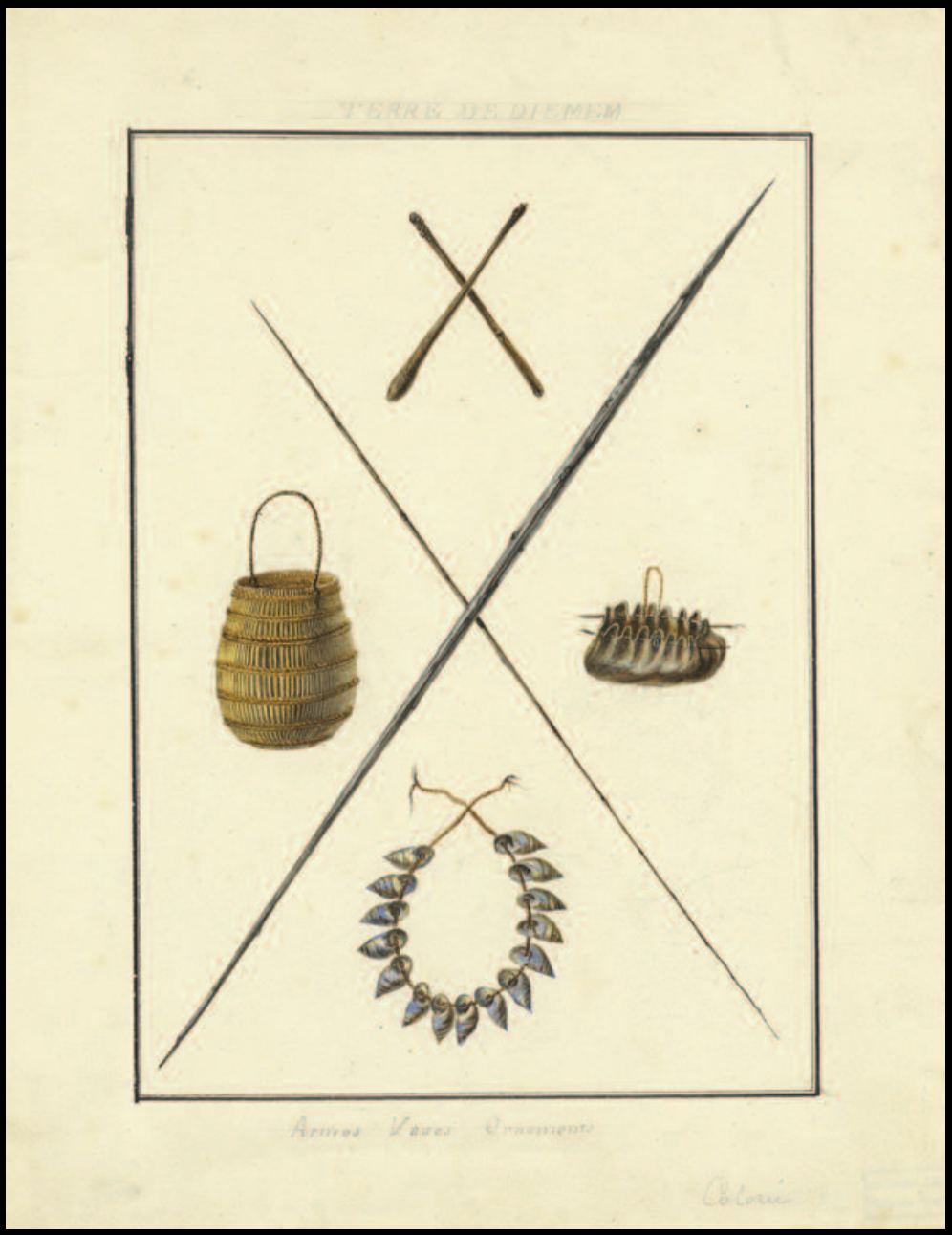
Lesueur gets fish specimens by asking fishermen or by browsing through markets. His training with Péron was very complete: Lesueur knows how to describe, classify and prepare specimens for conservation. As the correspondent of the Paris Museum of Natural History, he regularly sends back specimens and publications. Several articles are illustrated with engravings he made himself.
In their Hisoire Naturelle des Poissons published in 1828, the famous savants Cuvier and Valenciennes pay tribute to the quality and the accuracy of Lesueur's drawings, with which they maintain a close scientific relationship.

Title
Pilote sur le port du Havre
Author
Charles-Alexandre Lesueur
Date
1808 or 1814
Material
watercolour and pencil on paper
Dimensions
17,6 x 12 cm
Inventory Number
36 050
Acquisition
gift

A NAVIGATOR FROM LE HAVRE

Lesueur illustrates life on the coast in his small-format pads. Among the typical characters of this surrounding: boat pilots, essential figures of the port life.

Boat pilots know the port and it's nooks and crannies. They meet big ships to help them enter and exit safely from the port. Lesueur draws the harbour, giving a glimpse of this moving landscape at special moments. In Le Havre, he also depicts the landscape and the activities of the coast, in particular those of the fishermen and pebbles collectors. After he returns from America in 1837, the cliff of La Hève, that nowadays still reveals unique specimen of marine dinosaurs, becomes his main subject of interest because of the fossils it holds.

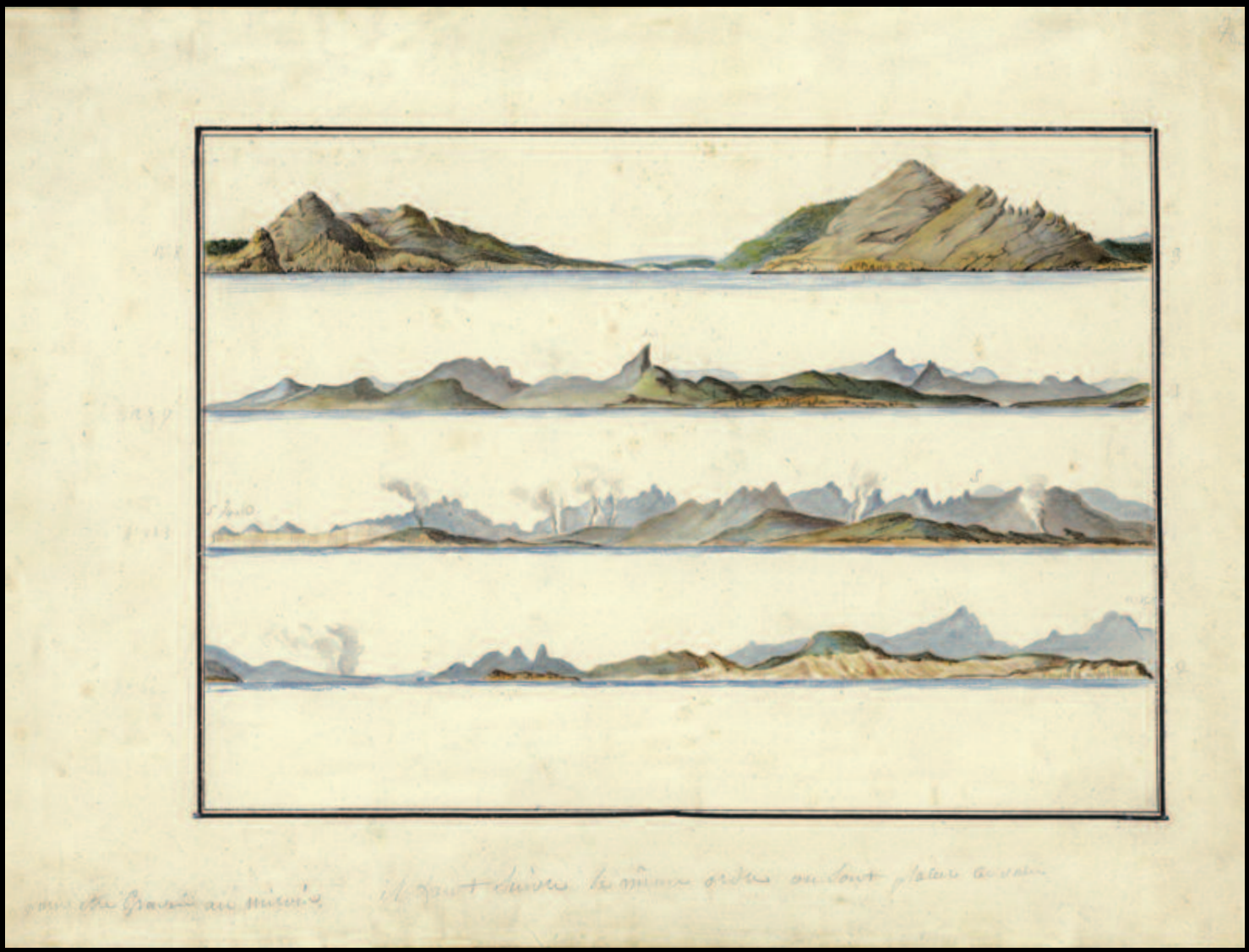


Title
Nouvelle-Hollande — Armes, vases, ornements
Author
Charles-Alexandre Lesueur
Date
1800-1804 – Journey to the Southern Lands
Material
watercolour and pencil on paper
Dimensions
27 x 21,5 cm
Inventory Number
18011-1
Acquisition
gift

OBJECTS FROM AUSTRALIA

The members of the expedition to the Southern Lands (1800-1804) collected more than two hundred artefacts from Southern Australia, Tasmania and Timor. These objects have disappeared today. Drawings on a sheet like this one are the only record of their existence.

Two bludgeons, two assegais, a woven rush basket, a vase and an ornament made of seashells are depicted on this sheet. The very symmetrical composition is typical of the beginning of the 19th century. These objects are also seen on drawings describing Aboriginal people and their living place. The bag-shaped vase is made of skin and is used to transport water. The rush basket is used for food gathering. The seashell ornament is also represented worn by a Tasmanian on another drawing. As for the assegais and bludgeons, because weapons question and fascinate people, they are a part of these objects that were often brought back by explorers to the western world.
The aim of these drawings is to give the as much information as possible on the local population. That is why these very different objects are drawn on the same sheet. The drawing has been prepared for engraving and will be published in 1807, in the Relation officielle du Voyage, and republished in 1824.



Title
Profil de côtes de Tasmanie
Author
Charles-Alexandre Lesueur
Date
1800-1804 –
Expedition to the Southern Lands
Material
watercolour, ink and pencil on paper
Dimensions
21,5 x 28,5 cm
Inventory Number
18030-1
Acquisition
gift

TASMANIAN COASTLINES

During the expedition to the Southern Lands (1800-1804), the geographical description of the coast is made in two distinct ways: geographers draw maps and illustrators draw the coastlines that are been followed.

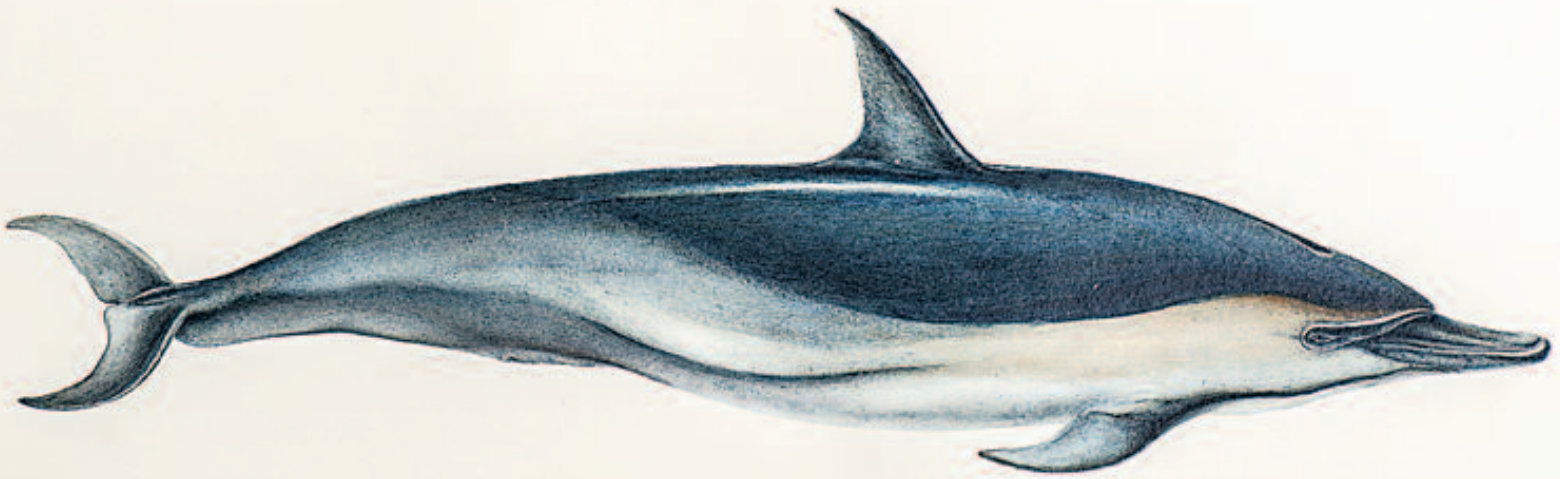
The geographers of the expedition, Charles-Pierre Boullanger and Pierre-Ange Faure, draw precise maps that are published in 1811. These maps have a series of geographical indications showing boat routes and geographic coordinates. At the same time Charles-Alexandre Lesueur and Nicolas-Martin Petit depict the Australian and Tasmanian coastlines they approach by boat.
This picture is a drawing of the Tasmanian coast, an island located in the southeast of Australia that they explored from January to March 1802. The landscape and the flora are very accurately drawn - a precision that distinguishes these drawings from those of previous expeditions. Fumaroles indicate the presence of human groups. At the bottom of the page is written in pencil: “to be engraved on glass - it is crucial to follow the order in which these views are placed”; this footnote indicates that this drawing was to be engraved and published.

Title
Voiliers
Author
Charles-Alexandre Lesueur
Date
August 1808
Material
ink wash and pencil on paper
Dimensions
18,8 x 12 cm
Inventory Number
36 027
Acquisition
gift

SAILING BOATS IN LE HAVRE

When he is in Le Havre in 1808, Lesueur draws a series of illustrations of the city, the harbour and the coast. This picture describes "fishing boats leaving Honfleur". The year after, he will take the same care drawing fishing boats in Nice and Villefranche-sur-Mer.

Lesueur spent most of his life in Le Havre, especially his young years and his last years. Back from the expedition to the Southern Lands (1800-1804) he settles down in Paris but, in 1808, he stays for several months in Le Havre. Though he only left a few of his drawings of the city behind, many sketches of the coastal landscape and life (fishing, collecting pebbles) have been preserved.
Three fishing techniques were used in those days: fishing at sea, oyster farming and coastal fisheries. Fisheries would have nets along the coastline, perpendicularly to the sea; during high tide, fish, like herrings for instance, swam along the coastlines and got trapped in those nets.



Title
Dauphin de Nice, Delphinus delphis – Linné, 1758
Author
Charles-Alexandre Lesueur
Date
1809 or 1810
Material
watercolour and pencil on velum
Dimensions
27,9 x 43 cm
Inventory Number
80 010
Acquisition
gift

DOLPHIN FROM NICE

In January 1809, Lesueur goes to the French Riviera with his zoologist friend François Péron. The latter was then suffering from a lung affection he was hoping to cure with fresh air. There, they decide to carry on the study of jellyfish they had begun together a few years before. In the Mediterranean Sea, they also see dolphins they choose to describe.

Lesueur and Péron meet during the Journey to the Southern Lands (1800-1804). Péron is hired as a zoologist and anthropologist He introduces Lesueur to naturalistic observation. By his side, Lesueur turns out to be an excellent observer and perfects his drawing skills.

Both men go on working together and combine their personal talents until 1810 and Péron's death. They work on several major publications. They write and publish the Relation du Voyage aux Terres Australes (published in several pieces starting from 1807). In the same time, they start a study on the jellyfish that appears to be fundamental for the understanding of this species. Lesueur used vellum to draw animals. Vellum is a parchment made of calfskin, and its whiteness and smoothness are very appreciated by artists. In those days, the Museum of Paris had a full-time painter on vellum who's task was to continue the work started by Gaston d'Orléans who wanted to inventory the entire living world on vellum.

Title
Kangourous *Thylogale thetis* (Lesson, 1827)
Author
Charles-Alexandre Lesueur
Date
between 1804 and 1810
Material
watercolour on velum
Dimensions
25,4 x 40,1 cm
Inventory Number
80 061
Acquisition
gift

KANGAROOS

Kangaroos are marsupials; the young finishes its maturation in his mother's marsupial pouch. There are several species of kangaroos, from small wallabies to large grey or red kangaroos.

The members of the expedition to the Southern lands (1800-1804) meet various species of marsupials, especially on the current island of kangaroos in Australia of the South. The zoologist François Péron initiates Lesueur to the specificities of naturalistic drawing. The explorers brought back an impressive collection of drawn and written descriptions, stuffed specimens, skeleton parts and also live specimens. Living kangaroos as well as swans were brought to France by boat, and lived for a few years in Joséphine de Beauharnais' Château de Malmaison (Hauts-de-Seine). She was an amateur of exotic plant and animal as well as natural sciences.
Back from this expedition, Lesueur draws animal patterns on vellum, a noble painting material, and publishes substantial series on zoology.

Title
Commerce Town (Tyawapatia Bottom), Missouri, États-Unis
Author
Charles-Alexandre Lesueur
Date
13th of April 1826
Material
watercolour and pencil on paper
Dimensions
15,5 x 23 cm
Inventory Number
42 084
Acquisition
gift

AMERICAN LANDSCAPE

This farm is located in Commerce Town (or Tyawapatia Bottom), in southern Missouri, not far from Illinois and Kentucky. Lesueur passed by in 1826 during a geological expedition in Missouri with the mineralogist Gerard Troost.

During his stay in the United States, Lesueur lived for the first ten years in the Philadelphia area. In this first half of the 19th century, it was a place of importance for sciences. At the end of the year 1825, he settles down in the utopian community of New Harmony (Indiana) that was founded by the philanthropists Robert Owen (1771-1858) and William Maclure (1763-1840).
On February 1826, Lesueur goes on a geologic expedition in the Missourian mines with the mineralogist Gerard Troost (1776-1850). Troost had been living in the United States since 1810 and is a renown savant. He is one of the founders of the Academy of Natural Sciences of Drexel University in Philadelphia.
Dozens of similar drawings remain from this expedition. They were drawn on pads that were set apart and represented the landscapes and the vicinities they passed by, and the steamers they took or met during their journeys on rivers.

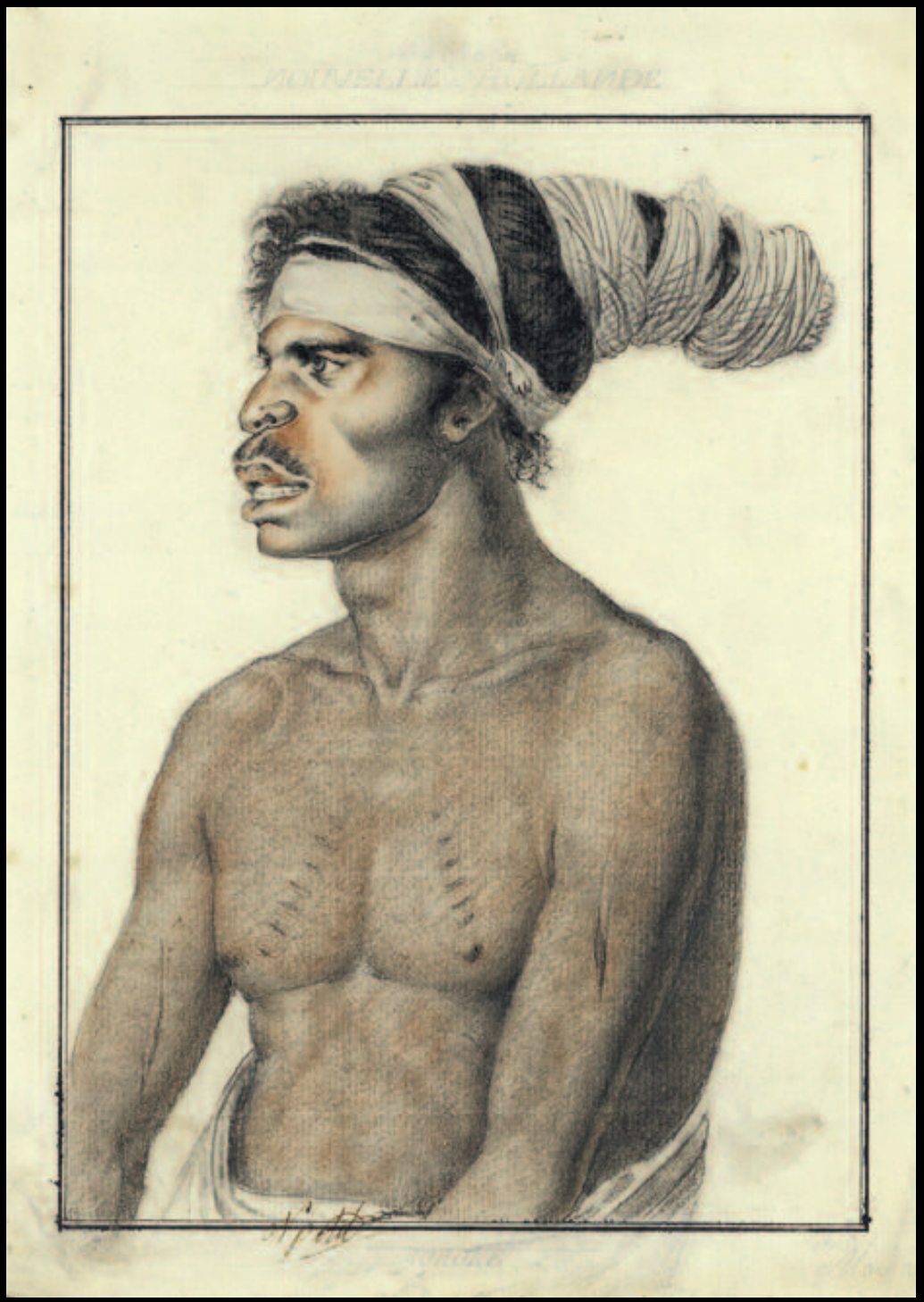
Title
Le vallon de Sainte-Adresse
Author
Charles-Alexandre Lesueur
Date
1841
Material
pencil on paper
Dimensions
21,6 x 22,7 cm
Inventory Number
36 002
Acquisition
gift

THE SAINTE-ADRESSE VALLEY

Lesueur drew the beginning of the Saint-Addresse valley from the current position of the statue of Albert Ier. In the middle of the cluster of houses was a restaurant where special seafood was served. This restaurant used to belong to Lesueur's family.

Born in Le Havre, Lesueur spends his young years there and returns from time to time. In 1808 and 1814, he stays for a long time in this harbour city in which he draws jellyfish, life on the seaside, and cliffs. In 1837, after 21 years in America, he settles down at his nephew's in Saint-address; he will live there until his death in 1846.

Lesueur did not draw much of the city itself. His interests turn to the Cap de la Hève, where many fossils can be found, and marine animals he observes in the valley and along the coasts. In a letter he hand sent to his friend Desmarest while he was still living in America, Lesueur mentions, with a certain nostalgia, the Saint-address restaurant. In 1945, when the establishment closed down, it was described in the Revue du Havre as so: "*gastronomic Hermitage and beautiful point of view, this cabaret that used to be so joyful and was lively celebrated by poets and famous people of the time*".

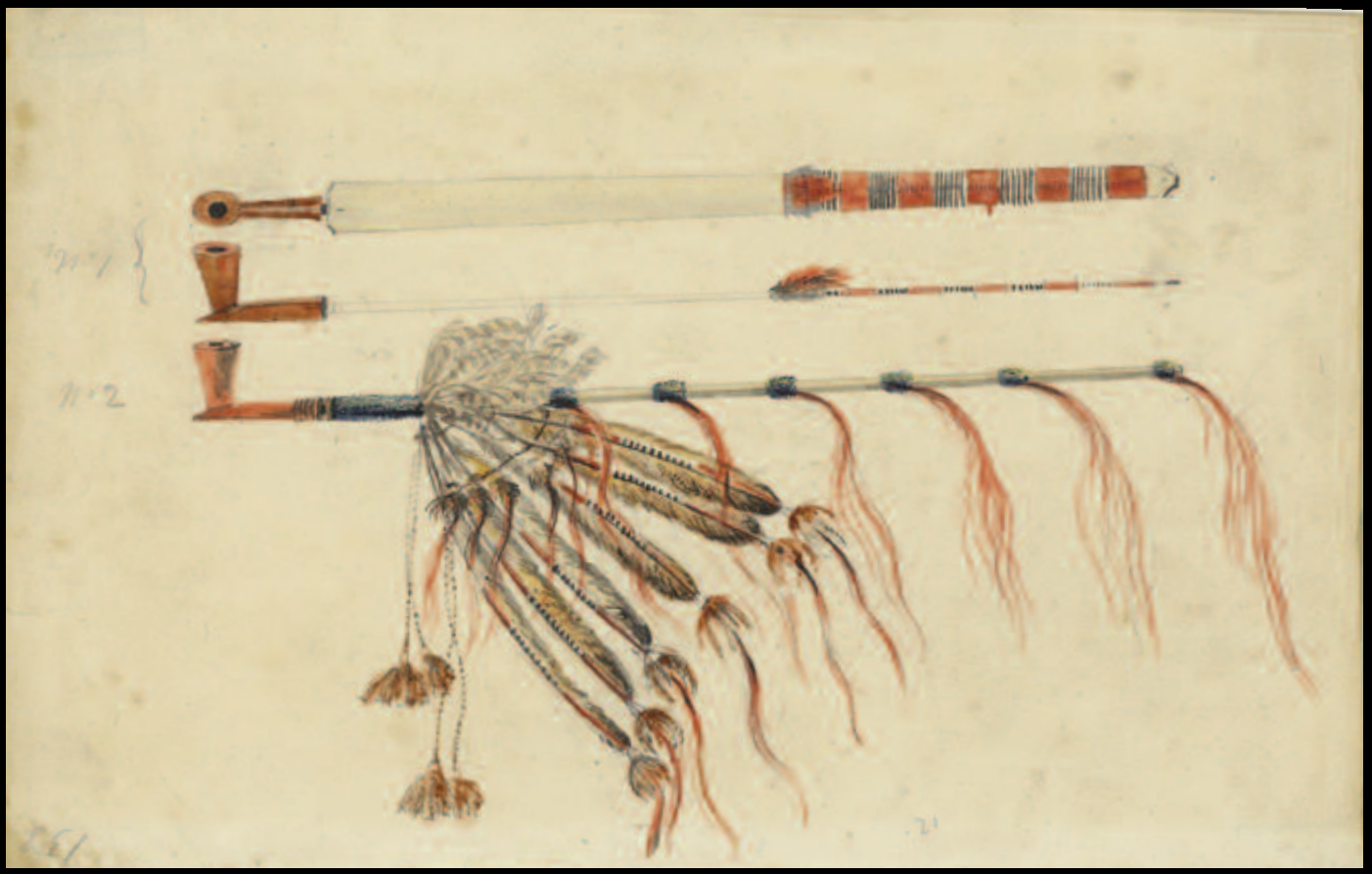


Title
Portrait d'un homme d'Australie, appelé Mororé
Author
Nicolas-Martin Petit (1777-1804)
Date
1800-1804 -
Voyage de découvertes aux Terres Australes
Material
black stone or charcoal and sanguine on paper
Dimensions
29,5 x 23,6 cm
Inventory Number
20038-3
Acquisition
gift

PORTRAIT OF A AUSTRALIAN MAN NAMED MORORE

During their Journey to the Southern Lands, the members of the expedition met groups of Aboriginal people. Some exchanges were complex; others were simpler. Nicolas-Martin Petit portrayed a large number of them. The meaning of the scarification on this man's skin is unknown.

Besides geographical recognition and samples collection, the aim of the expedition to southern Lands was to observe the native people. They were called Naturals, their lifestyle being close to nature. The savants were instructed to describe by writing and drawing the physical appearance of these men and women, and also to observe their lifestyle. These instructions were given by the Societé des Observateurs de l'Homme, a savant society that only existed for a short time, from 1799 to 1805. Many natives were drawn. With one portrait, they would make sure to show the distinctive features of the group. The preserved portraits are sometimes the combination of different features seen on several individuals to create types to refer to, just like they would do for natural history. This becomes obvious when looking at several portraits of the same man - as this one: drawn scarified on one, he will be represented without but with darker skin on another.



Title
Pipes indiennes du Missouri et de l'Illinois
Author
Charles-Alexandre Lesueur
Date
between 1832 and 1837
Material
watercolour, gouache and pencil on paper
Dimensions
23 x 15,2 cm
Inventory Number
41 216
Acquisition
gift

INDIAN PIPES

While living in America between 1816 and 1837, Lesueur meets with Indians. He is interested in their lives and traditions and spends time around them drawing their everyday life objects and trying to understand their way of life. According to his description, these pipes are calumets.

"Only the chiefs seem to have the right to own these pipes, or maybe it is the peace pipe which we smoke on special occasions. The first pipe (...) was found on the Mississippi battlefield (...) in 1832. This pipe is made from some kind of hardened clay of a beautiful red brown colour, which can only be found in the State of Missouri. The Indians consider his stone as sacred (...) Both have a small hole for tobacco. The stem of this one was cylinder of the thickness of an average stick with 7 rings of wild duck collar skin, the same species that populate our farmyards. Off every ring hang a cluster of deer hair dyed in red. In addition to these ornaments there are 6 hawk feathers. The lower part of their calamus is covered with a small wooden blade that is covered from the outside in porcupine quills. The extremities of this decoration are red and 22 small sections painted in black and blue. The anterior and posterior extremities end with a small cluster of brown feathers partially dyed red, out of which comes a few of hairs coming from the tail of a Virginia deer, dyed in red (the base of every acorn is white). These 6 feathers are tied together by 2 small leather cords, from which hang two small feather acorns. The small acorns are tied up to their base by a small piece of the skin of a white haired animal".

Charles-Alexandre Lesueur, manuscript inv. 41 290, Le Havre Museum of Natural History.

Provenance
Brévands (France) and Charleston (United States)
Era
Oligocene (from 33 to 23 million years BC)
to Pliocene (from 5,3 to 2,5 million years BC)
Material
fossilized teeth
Dimensions
Brévands : L 13 x l 9 x th 3 cm, 186g
Charleston: L 11 x l 8 x th 3 cm, 245g
Inventory Number
2012.15.2
and 2011.17.1046
Acquisition
Brun and Kuenegel collections

CARCHAROCLES MEGALODON TEETH

Carcharocles megalodon, which literally means big shark and big tooth, was a giant shark that lived around 1,5 to 28 million years ago in all the seas of the globe; it was approximately 15 meters long. Because the skeleton of a shark is mostly cartilaginous, only the teeth, and on rare occasions vertebrae were fossilized.

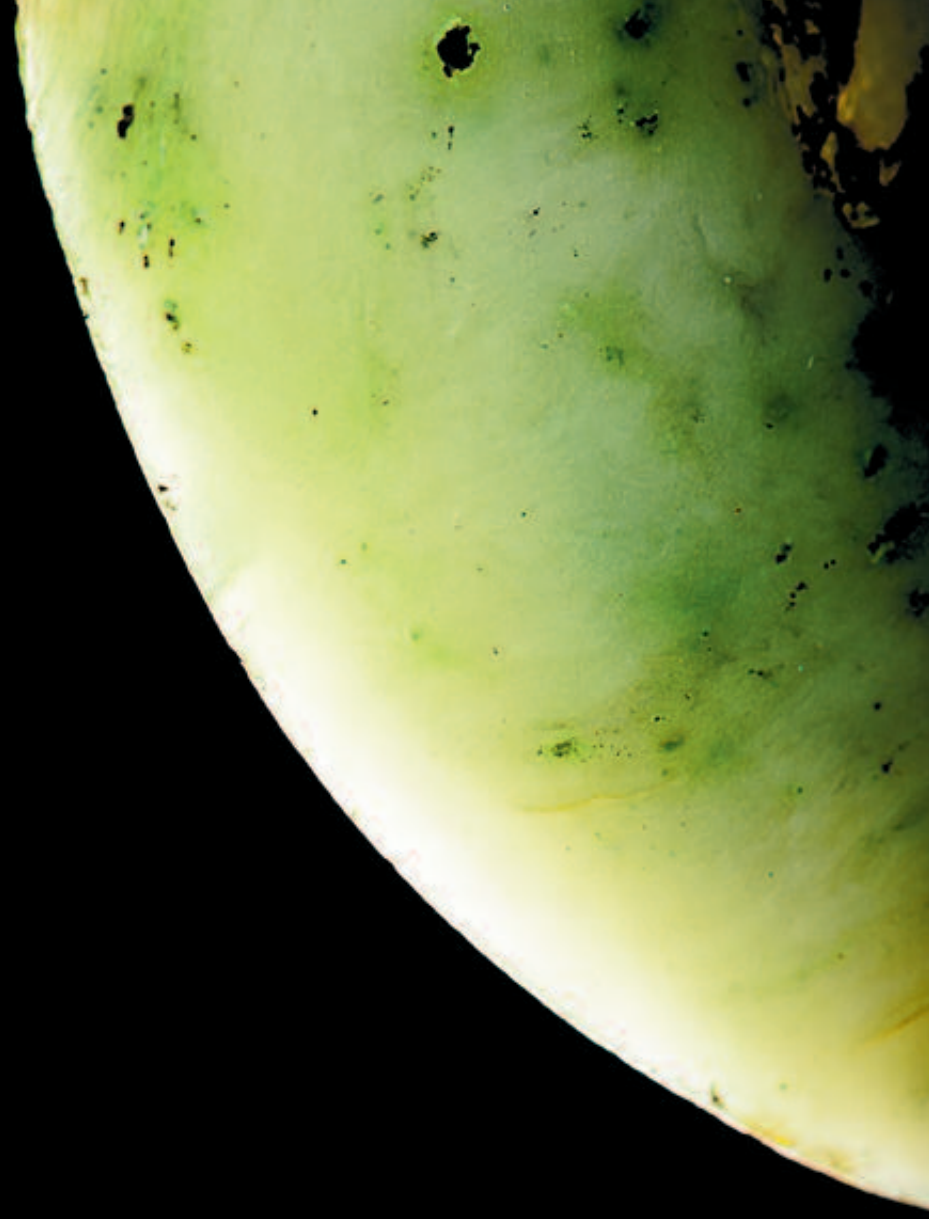
Of an impressive size - up to 20 centimetres, the teeth of the megalodon are sturdy and their edges are serrated. The approximate size of the prehistoric animal was calculated based on the tooth/body ratio of the great white shark; it could have been 15 metres long. This large predator left indications on its diet: fossilized whale and manatee bones have been found with marks of similar to the megalodon's teeth. They can be found on most continents, which is a sign that this predator had colonized all the oceans.
The Museum of Le Havre keeps several copies of these big teeth. Most of them were found in France, mainly in Touraine and Normandy; a few come from the United States. Shark teeth are found abundantly, due to the fact that sharks continuously lose and renew they teeth throughout their life. Moreover, some species have over 20 000 teeth!

Provenance
New Caledonia (Melanesia, Pacific Ocean)
Date
19th century
Material
stone (serpentine), wood, coconut shell, flying fox hair, vegetal fibre, shell, beaten barkcloth (tapa)
Dimensions
H 49 cm – l (stone) 18 cm – l (foot) 12 cm
Inventory Number
2012.2.1
Acquisition
collected by Louis Le Mescam; given to the city of Le Havre in 1895

CEREMONIAL AXE

Called "green bludgeon", "stone bludgeon", "monstrance axe" or "ceremonial axe", this object is a symbol of power and prestige. Reserved for the leader or Great elder of a village in New Caledonia, it was only shown during certain ceremonies.

The disk of serpentine, a stone found in large amounts in Southern New Caledonia, is carefully polished, and its edges are very finely cut. This way, when directed towards the sun, the disk becomes very bright.
The wooden handle is covered with plaited flying fox hair. This braiding is made without knots. Knots are and a symbol of death: they are associated to the fishing nets and to the underwater world, which is symbolically the world of the deaths.
The knob is made from a half-coconut shell covered with bark and cords from which hang down shells.
Exhibited during certain ceremonies, these "axes" also participated in rainmaking rituals: they were used to symbolically "strike" the sun.
This axe is unique in itself by the precision of the sculptured figure, the quality of the plaiting and the quality of the stone. It was shown in 2013 at the Quai Branly Museum for the Kanak exhibition that presented over 300 objects of the Kanak heritage kept in western museums.



Provenance
unknown
Era
Neolithic
Material
jadeite
Dimensions
16 x 7 cm (with base)
Inventory Number
2012.3.23
Collection
Le Havre Museum of Natural History

AXE MADE FROM POLISHED JADEITE

Polished axes symbolise the Neolithic era: they were commonly used to clear up forests and harvest timber. Some axes were made from semiprecious rock, such as jadeite, and most likely had a social and/or cultural, or even religious function. They were ceremonial axes.

The jadeite is a very resistant translucent green rock with a magnificent shine when polished. By studying the origin of rocks used in the manufacturing of axes, it is possible to determine the location of the deposits. With that kind of information, it has been made possible to retrace trading network on long distances. One of the most famous ones is the jadeite axes network which starts in the Italian Alps and goes to Ireland, Scotland, Denmark, Sicily and Spain, which is over 1 600 km away from the deposit. During the Neolithic Era (from 6 000 to 2 200 years BC), thousands of polished jadeite axes were moved throughout Western Europe. Given the rarity of the material, the fact that many of these axes don't have traces of damage and that they are found in graves, it is very likely that they had symbolic value and that their holder had a special status.

Provenance
Indiana, United States
Date
collected on site by Charles-Alexandre Lesueur between 1827 and 1837
Material
stone
Dimensions
2013.6.1: l 8 x H 12,5 cm; 2013.6.2: l 12 x H 14,5 cm; 2013.6.3: l 7,5 x H 13 cm
Inventory Number
2013.6.1; 2013.6.2; 2013.6.3
Acquisition
collected by Charles-Alexandre Lesueur (1778-1846) between 1826 and 1837; gift to the City of Le Havre

THREE INDIAN THROAT AXES

Only few objects remain from the collections of the Museum in 1944. These Indian axes are a part of the few artefacts that were salvaged. Charles-Alexandre Lesueur acquired them in the American state of Indiana between 1837 and 1847.

These axes are a part of the most ancient historical objects that were collected in the United States. There are not rare: one of the museums in New Harmony (Indiana), where two of them come from, has a few.
These axes probably come from the North-American Archaic stage, 5 000 years BC. Lesueur excavated several Indian sites, among which a necropolis and a living area. He found human remains, potteries and shards, tools and weapons such as these axes - which he sometimes calls tomahawks. These objects were quickly taken, yet Lesueur emits hypotheses on the way they were fitted, determines the type of stone they are made with ("syenite or diabase") and its place of origin. He describes them with drawing and text and he tries to understand their use. ("It is most likely a weapon of war than an tool used for mechanical arts"). His approach lays the foundations of a rigorous archaeological approach.

Since the introduction of iron by the Europeans during their invasion, there is not a doubt that those made of iron (...) did not replace the stone ones made by the natives, which cost them a lot of effort to shape"
Charles-Alexandre Lesueur, manuscript inv. 41 214, Le Havre Musem of Natural History.

"Places lived by these same peoples leave us, when we search their monuments, weapons, works of art, graves, with indications of who they were, and the objects they used the most in their everyday lives show us their degree of civilization.
I had the opportunity to see and to find myself many of these objects. Several of them, found in places far away from each other are made from the same material and are of the same shape. My goal is to describe them, their use and place where they were found"

Charles-Alexandre Lesueur, manuscript inv. 41 292, Le Havre Musem of Natural History.

Provenance
Oman Desert (Sayh Al Uhaymir)
Date
found in 2000; dated from 4 583 billion years BC
Material
stony matter, chondrites
Dimensions
L 10 x l 7 x H 7 cm, 821 g
Inventory Number
2015.10.1
Acquisition
collection of the Havre Museum

CHONDRITE METEOR

With meteorites we travel though space and through time. 4.5 billion years old, they are a precious source of information for scientists on the creation of the solar system and therefore on the origin of our planet. Each year, several thousands of tons of meteorites land on its surface.

Meteorites constantly fall all-over the surface of the globe. They are easier to find in a desert or an ice surface than in a forest. That is why most discoveries are made in the dry or ice zones. Large-sized meteorites are rare; still, the biggest found on Earth weighs about 50 tons!
Most of meteorites certainly come from the asteroids belt located between Mars and Jupiter. There are many different types of meteorites. This one is a chondrite, which means that it is mostly made of stone and formed by the accumulation of small spheres called chondrules. This meteorite has a beautiful fusion crust in which regmaglyptes, small hollows due to the heating during the entry into the atmosphere, are visible. Also known as white iron pyrite, marcasite is composed of natural iron sulphide that crystallizes in the shape of a "ball", has a rusty colour and generally found in calcareous rocks. In Normandy, it is often taken for what it is not: a meteorite, because of the similarities in aspect and weight. In prehistoric times, marcasite was used to start fires by striking it against flint.

SHEETS OF MARCEL DEBRAY'S HERBARIUM

Marcel Debray (1893-1985), native of Havre, was an engineer for the French Nation Railway company (SNCF) and an amateur botanist. He was a very active member of the Linnaean Society of Seine-Maritime. He collected plants for most of his life, especially in his native region, and created a valuable herbarium that he gave to the city of Havre in 1978. The National Museum of Natural History in Paris, who named him "correspondent" in 1972, kept most of his manuscripts. Mr. Debray published in naturalistic journals. With his friend Pierre Senay, he worked at creating "ecological index cards" of the French flora, describing the morphological characteristics and the geographical distribution of each plant.

DATE
20th century
MATERIAL
cardboard (sheets), dried plants, glassine paper clips (glued), paper (labels)
ACQUISITION
gift from Marcel Debray (1978)
COLLECTION NUMBER
2013.11

SPECIES
Crocus nudiflorus Vernacular
NAME
autumn crocus
COLLECTION DATE
September 21st, 1927
COLLECTION SITE
Lower-Pyrenees: Larrau, on the slopes of the Etchelu forest, in the lower part of the Gave valley. Altitude: around 400 m.
NAME OF COLLECTOR
J. Jallu
DIMENSIONS
l 24,5 x H 31 cm
DEBRAY INVENTORY NUMBER
31-199/882; 2013.11

IRIDACEAE FAMILY

rocuses are herbaceous plants with a bulb. The most popular is the *Crocus sativus* from which saffron is extracted. These crocuses were collected by Mr Debray thanks to exchanges with other botanists, a common practice to supplement herbaria. The label indicates the name of the species, the date and the place of collection, and the name of the collector.

As its name suggests, the autumn crocus flowers in autumn. Its flowers are purple or mauve. Leaves appear in the spring only. This specimen was collected in autumn; that is why one can see its flowers so well. The collector also made sure to preserve a bulb. Most of the crocuses are native of mountains of the Mediterranean regions but this specimen comes from the Pyrenees. On the label the name "Smith" is written next to the name of the species. It is the name of the person who described the species for the first time and gave it his name.

SHEETS OF MARCEL DEBRAY'S HERBARIUM

Species
Drosera rotundifolia
Vernacular name
round-leaved sundew
Collection date
July 12th, 1954
Collection site
peatland in Pointe d'Ailly, Normandy, France
Name of collector
P. Senay
Dimensions
l 24,5 x H 31 cm
Debray Inventory number
78-447/1941; 2013.11

DROSERACEAE FAMILY

Sundews are carnivorous plants. Their leaves are covered with hairs that secrete a viscous liquid in which insects get stuck. The plant's digestive enzymes then digest the tender parts of the trapped insects. All the species of sundew are protected in France today.

Sundews grow in peatlands (wet zones where peat, a soil rich in organic matter, accumulates) in the temperate regions of the Northern Hemisphere. Sundews are rather rare in France and are protected all over the country. Their botanical name is derived from the Greek *Drosera*, "covered with dew": this dew is in fact mucilage – a viscous liquid secreted to trap insects. Sundews grow in colonies in the middle of sphagnums (mosses typical of wet zones). This specimen of sundew was collected in a sphagnum heath in Seine-Maritime. Marcel Debray and his friend Pierre Senay -who collected this specimen, both members of the Linnaean Society of Seine-Maritime, collected many plants in the estuary of the Seine. Therefore including many local specimens, the Debray herbarium has is of special regional interest.

Species
Narcissus pseudonarcissus (sub species silvestris)
Vernacular name
Wild daffodil or Lent lily
Collection date
20 mars 1938
Collection site
western part of the Montgeon forest, Normandy, France
Name of collector
Marcel Debray
Dimensions
l 24,5 x H 31 cm
Debray inventory number
30-196/870; 2013.11

AMARYLLIDAE FAMILY

This yellow narcissus grows from a bulb. Its yellow flower resembles the daffodils', another species of the same genus (jonquilla Narcissus). The flowers, the stalk and especially the bulb of this plant are very toxic.
This specimen comes from the Montgeon forest, near Le Havre. It was most likely harvested by Marcel Debray. The plant is complete: the bulb, the leaves and the flower are very well preserved. This species of narcissus (Narcissus pseudonarcissus) is the most common in Europe. It grows in colonies in meadows or forests. In France, it has different names according to the region: yellow narcissus, trumpet narcissus, yellow Jeannette.

SHEETS OF THE MONTIVILLIERS HERBARIUM

Montivilliers' herbarium comes from the library of the city. The mayor, Mr Lechevrel, to make education accessible to a wider population, founded this library in 1850. It is a collection of common plants with nutritional or medicinal properties. The interest of this antique herbarium is mainly historic and aesthetic: there is not much information on the book itself and the dates and places of harvest of plants are not indicated. A number of dried plants are fixed with playing cards, a system that similar to the one used for the 18th century Adanson herbarium of kept in the National natural history museum.
The purpose of this coloured antique box from the 19th century is to organize the herbarium sheets. It is a reproduction of a book cover. In those days, herbaria were often considered as books and kept in libraries.

The resemblance between herbaria and books would be made in different ways: the herbarium would be bound like a book, or it would made of separate boards kept in a box that made it look like a book - as is the herbarium shown here. One should notice that pieces of older parchment (on which handwriting can be seen) were used to strengthen the corners of the box.

DATE
most likely beginning of the 19th century
MATERIAL
rag paper, paper, dried plants, playing cards, cardboard
ACQUISITION
gift from the city of Montivilliers (1981)
COLLECTIONS NUMBER
2013.9 et 2013.10

Species
Ranunculus ficaria
(now: Ficaria verna)
Vernacular name
Lesser celandine or Pilewort
Collection date
unknown
Collection site
unknown
Name of collector
unknown
Dimensions
H 32 x l 39 cm (in bloom)
Inventory number
2013.9.1.47

RANUNCULUS FICARIA

Pilewort is a very common plant. Its roots have the shape of small figs –the botanical name comes from the Latin *ficaria* - and contain a powerful painkiller. The name of the species is written at the back of the playing card but no information is given on the date, the place of collection or on the name of the collector.

At the back of the playing card (6 of tiles) used to fix the specimen, the name of species is noted according to the binomial nomenclature invented in the 18th century by Linneaus: "Ranunculus ficaria". "Ranunculus" is the genus, "ficaria" the species. And because classifications evolve with scientific theories and techniques, the current name of the species is different: "Ficaria verna".

Species
Gentiana centaurium
(nowadays: Centaurium erythrae)
Vernacular name
common centaury and European centaury
Collection date
unknown
Collection site
unknown
Name of collector
unknown
Dimensions
H 32 cm x l 39 cm (in bloom)
Inventory number
2013.9.2

GENTIANA CENTAURIUM

The common centaury is an herbaceous plant with pink flowers that grows in wet pastures. It is also known as "feverwort" and it is used against stomach pains.

Montivilliers' herbarium includes many medicinal plants. The common centaury contains a bitter principle that stimulates liver and stomach secretions. It was one of ingredients of theriac, a famous antidote that originates back in Roman antiquity.

Species
Apium graveolens
Vernacular name
Wild celery
Collection date
unknown
Collection site
unknown
Name of collector
unknown
Dimensions
H 32 cm x l 39 cm (when open)
Inventory number
2013.9.2

APIUM GRAVEOLENS

Celery, also named smallage, is cultivated for its leaves; its root is consumed as vegetable.

In France, celery is also called nice-smelling ache, stinking ache, swap parsley or nice-smelling parsley. During Antiquity, it was called the "plant of the moon". Celery is used for cooking as a vegetable or a condiment and has a low-calorie intake. It also has diuretic and tonic virtues and is considered as an aphrodisiac.

Vernacular names
Great bittern, Eurasian bittern
Family
Ardeidae
Genus
Botaurus
Species
Botaurus stellaris
Provenance
gift of the Office National de la Chasse et de la Faune Sauvage (ONCFS)
Date
2013
Material
polyurethane foam
Dimensions
L 55 x l 25 x H 36 cm
Inventory Number
2014.10.20
Acquisition
gift
IUCN conservation status
Least Concern

GREAT BITTERN

This tall heron is hard to see but it easily heard. Its call resembles the bellowing of a bull and is where its name comes from. The scientific name Botaurus stellaris comes from the Latin *butio*: shout and *taurus*: bull: *stellaris* means "star" and refers to the black speckles on its golden brown plumage - male and female. Its nickname is "swamp ox". Living in reed beds, in particular in Normandy, it feeds on fish, amphibians and insects.

This wading bird lives and breeds in large reed beds. Its colours provide good camouflage: the bird can easily hide in its environment. The nest is a platform made with dry reeds and other plants. The great bittern is protected in France and can be seen in the estuary of the Seine during the nesting season. Its main threat is the destruction of wet zones and especially reed beds, its housing environment of predilection.

Vernacular name
Hyacinth macaw
Family
Psittacidae
Genus
Anodorhynchus
Species
Anodorhynchus hyacinthinus
Provenance
CERZA zoological park
Date
august 2011
Material
fibre stuffing
Dimensions
L 1 x l 0,70 x H 1 m
Inventory Number
2014.10.21
Acquisition
gift from the CERZA zoological park
IUCN conservation status
Vulnerable
CITES classification
Appendix I

HYACINTH MACAW

Hyacinth macaws are the biggest of all parrots: they wingspan can go up to 1.50 m. They live in the Bolivian and Brazilian palm groves and tree swamps. They always stay in pairs, even during flight, and essentially feed on fruits and seeds. Although they are protected, this species is strongly endangered by illegal trade.

These macaws live in the South American canopy. They use their powerful beak to crack nuts and grip on branches. Couples last for a lifetime; the female lays 1 or 2 eggs in the nest and incubates for about a month; during that period, she is fed by the male.

Although it is protected, this brightly coloured parrot is under great threat. During the last decades, especially because of the destruction of its natural habitat, its population decline dramatically. Very valuable pets, these macaws are illegally captured and sold on the international market. Today, it's world population does not exceed 3 000 individuals.


UNIQUE
MULTIPLE

The Museum has, in its collections, one object or several series and often their number is their strength.
Natural history collections are often made of series: series of fossils, of zoological specimens or of archaeological samples. Having large numbers of specimen allows identifying what is in a set: its characteristics and specificities.
At the same time, museums also keep unique treasures, unica, whose rarity makes masterpiece of them. Holotypes are part of them: they are THE international reference that is used when a species is described for the first time.

SERIES OF BLADES

Are considered as blades all flakes of hard stone with a length at least twice their width. Their mass production started around 40 000 years ago, during the Upper Palaeolithic era, and went on to the end of the Neolithic era about 4000 years ago. Prehistoric men used these blades to make all kinds of tools.

Various methods, some very elaborate, were used to produce these blades. The techniques evolved over time, from direct percussion with a soft hammer throughout the Upper Palaeolithic era, to indirect percussion and pressure flaking during the Mesolithic era. Fabricating series of regular blades is a difficult task that requires a thorough knowledge of stone cutting. These blades could be used raw, or transformed into various tools: scrapers, chisels, points, projectile points, knives, "daggers", "saws"... Some of these tools were hafted with animal and plant-derived glues and bonds (tar, resin, leather, ligament...).

1. SERIES OF BLADES

BLADE 2012.3.175.3

Era
end of Ancient Neolithic (around 4 700 BC)
Material
flint
Dimensions
L 8 x l 2 cm
Collection
Regional Archaeology Department

BLADE 2012.3.175.4

Era
end of Ancient Neolithic (around 4 700 BC)
Material
flint
Dimensions
L 6 x l 1,5 cm
Collection
Regional Archaeology Department

BLADE 2012.3.175.5

Era
end of Ancient Neolithic (around 4 700 BC)
Material
flint
Dimensions
L 6 x l 2 cm
Collection
Regional Archaeology Department

BLADE 2012.3.175.8

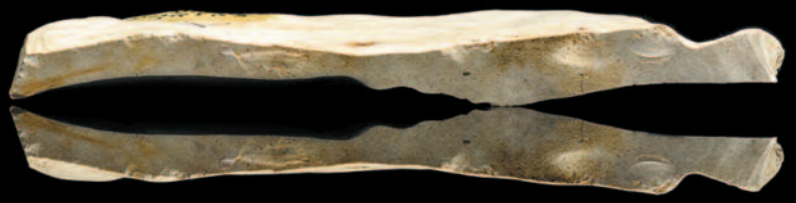
Era
end of Ancient Neolithic (around 4 700 BC)
Material
flint
Dimensions
L 5 x l 2,5 cm
Collection
Regional Archaeology Department

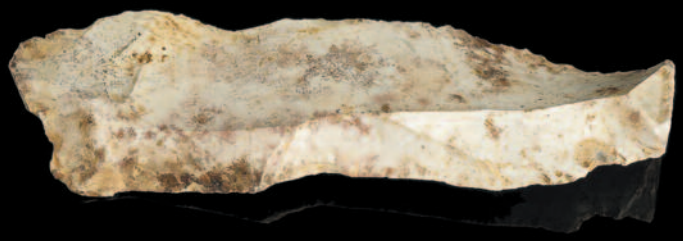
BLADE 2012.3.175.9

Era
end of Ancient Neolithic (around 4 700 BC)
Material
flint
Dimensions
L 7 x l 3 cm
Collection
Regional Archaeology Department

BLADE 2012.3.175.10

Era
end of Ancient Neolithic (around 4 700 BC)
Material
flint
Dimensions
L 10 x l 3 cm
Collection
Regional Archaeology Department





BLADE 2012.3.175.11

Era
end of Ancient Neolithic (around 4 700 BC)
Material
flint
Dimensions
L 8 x l 2,5 cm
Collection
Regional Archaeology Department

BLADE 2012.3.175.13

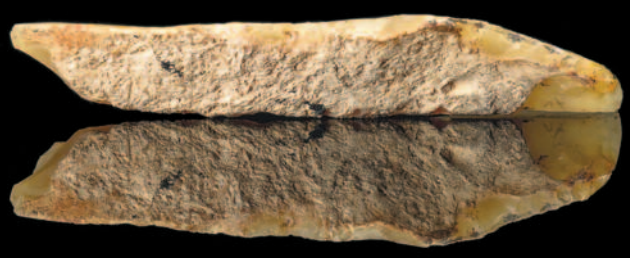
Era
end of Ancient Neolithic (around 4 700 BC)
Material
flint
Dimensions
L 8 x l 2,5 cm
Collection
Regional Archaeology Department

BLADE 2012.3.87.10

Era
Middle Neolithic (from 4 700 to 3 500 years BC)
Material
flint
Dimensions
L 5 x l 2 cm
Collection
Regional Archaeology Department

BLADE 2012.3.87.11

Era
Middle Neolithic (from 4 700 to 3 500 years BC)
Material
flint
Dimensions
L 6 x l 2,5 cm
Collection
Regional Archaeology Department



1. SERIES OF BLADES

BLADE 2012.3.87.8

Era
Middle Neolithic (from 4 700 to 3 500 years BC)
Material
flint
Dimensions
L 7 x l 3 cm
Collection
Regional Archaeology Department

BLADE 2012.3.188

Provenance
Le Havre (Seine-Maritime)
Era
Middle Neolithic (-300 000 à -40 000 ans)
Material
flint
Dimensions
L 12,5 x l 4,5 cm
Collection
collection Duteurtre

BLADE 2012.3.87.5

Era
Middle Neolithic (from 4 700 to 3 500 years)
Material
flint
Dimensions
L 7 x l 3,5 cm
Collection
Regional Archaeology Department

BLADE 2012.3.87.9

Era
Middle Neolithic (from 4 700 to 3 500 years BC)
Material
flint
Dimensions
L 7,5 x l 2 cm
Collection
Regional Archaeology Department

BLADE 2012.3.231

Provenance
Le Havre (Seine-Maritime)
Era
Middle Neolithic (-300 000 à -40 000 ans)
Material
flint
Dimensions
L 21 x l 8 cm
Collection
collection Cayeux

Origin
Perchois-Ouest, Aube, Champagne-Ardennes, France
Era
Albian (110 millions years BC)
Material
fossil
Dimensions of the 2 boxes
L 60 x l 40 x H 10 cm
Inventory number
2011.2.1 to 2011.2.90 (box 1 and 2)
Acquisition
gift from Pierre Destombes (beginning of the 80's)

SERIES OF DOUVILLEICERAS AMMONITES

Douvilleiceras are common ammonites of the Albian era (from Alba: the River Aube in France) and date back from 110 million years ago. They have a complex ornamentation made of ridges and tubercles. By studying a series of several hundred specimens, scientists are able to observe the differences between each of them and to find transitions between two species.

The transition from one species to another is considered in itself as a step. Yet classifying specimens has shown that there are many types of transition from one species to another.

Therefore, the scientists who study the evolution have to work from a large number of specimens to get to reliable conclusions. Ammonites are commonly found in large quantities and evolved very quickly over time into a multitude of species, which makes them reliable study material.

Pierre Destombes (1912-2002) was a palaeontologist and an anatomopathologist who contributed to various palaeonthological and biostratigraphical studies. He specifically worked on ammonites of the Albian era, especially on Douvilleiceras. There are 1 900 of these ammonites in his collection of over 6 000 specimens. Each fossil was meticulously measured and observed in order to be accurately classified. Pierre Destombes gave his collection away to the Museum of Le Havre at the beginning of the 80's.

ANCYLOCERAS SP. OU *REINECKIA ANCEPS* DÉROULÉE 1

Origin
Unknown
Era
Aptian (from 125 to 113 million years BC)
Material
fossil
Dimensions
L 24 x l 15 x th 0.8 cm, 9.17 kg
Inventory number
2015.10.6
Acquisition
collection of the Havre Museum

PROCERITES MIRABILIS 2

Origin
Caen (Calvados, France)
Era
Bathonian (167 million years BC), collected in 1960
Material
fossil
Dimensions
d 35 x th 13 cm, approx. 9.5 kg
Inventory number
MHBR 0076
Acquisition
collection of the Havre Museum – Brun collection

CADOCERAS SUBLOSE 3

Origin
Calvados, France
Era
Callovian (165 million years BC)
Material
fossil
Dimensions
d 19 x th 12 cm, 3.5 kg
Inventory number
2015.10.5
Acquisition
collection of the Havre Museum

CADOCERAS SUBLOSE 4

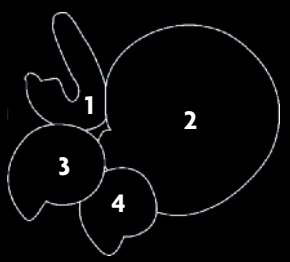
Origin
Argences, Calvados
Matérial
fossil
Dimensions
d 16 x e 10 cm ; 1,802 kg
Inventory number
2015.10.11
Mode d'acquisition
collection of the Havre Museum

AMMONITES DIVERSITY

Ammonites are extinct cephalopod molluscs of the Secondary Period (from 252.2 to 66 million years BC) that are only known through their fossils. The soft parts of the body of ammonites were not preserved by the fossilization; only their spiral-shaped shell remains.

Ammonites prospered during several hundred million years in all the waters of the globe. That is why their fossils are commonly found. The spiralled shell, that can sometimes be found unwound, is made of various chambers connected to one another by a siphuncle that provides buoyancy. The last and larger chamber, where the animal lived is called the body chamber. Partitions between chambers draw a very complex pattern. When visible, these are used to determine the species. The surface of the shell also varies from one species to another. It can have different types of ornamentations such as ridges, coasts, etc. We can only deduce their anatomy and environment from their current relatives: nautiluses. Ammonites disappeared at the same time as most dinosaurs, 65 million years ago.

The ammonite Pictonia baylei was named after the palaeontologist Émile Bayle. It is the holotype on which description of ammonites is based. It was found in the Cap de la Hève. Pictonia baylei is a species with strong biostratigraphical interest, because it serves to determine the geological strata.



Vernacular name
goliath beetle
Family
Scarabaeidae
Genus
Goliathus
Species
Goliathus goliatus
Provenance
Central Africa
Technique
desiccation
Dimensions
L 12 x l 10 x H 4 cm
Inventory number
PEnt1
Sex
male
Age
adult
IUCN conservation status
Least Concern

GOLIATH BEETLE

Goliath beetles are not a beetles but close cousins. Just like the small golden beetles that live in our gardens, they belong to the Cetonii subfamily. They can weigh up to hundred grams for a maximum length of thirteen centimetres; it is the biggest and the heaviest of all known insects!

Goliath beetles live in the rain forests of southwest Africa. At the beginning of the rainy season, adults come out of their hiding place to breed. During the parades, males fight with the Y-shaped horn they have on the head. Larvae live in humus where it feeds on decaying plant material. Four months after their birth, at the end of the wet season, larvae burrow underground and undergo metamorphosis. Transformation to the adult state lasts for long months. Goliath beetles can live as long as one year after their metamorphosis.
These beetles are close to the maximal size for an insect. Insects are usually small because they don't have an internal skeleton: if their body were too big, it would collapse on itself. Furthermore, they don't breathe through their mouths like we do, but through small holes located on their exoskeleton. If they are big, less oxygen can actually reach to the centre of the body.

Vernacular name
None
Family
Papilionidae
Genus
Teinopalpus
Species
Teinopalpus imperialis
Provenance
Assam
Technique
desiccation
Dimensions
L 9 x l 8 x H 3 cm
Inventory number
PEnt2
Age
adult
IUCN conservation status
Near Threatened
CITES classification
Appendix II

TEINOPALPUS IMPERIALIS

Teinopalpus imperialis lives all over South-eastern Asia, from the north of India to Burma and from Laos to China. It lives in the canopy of the mountain forests.

This species has a sexual dimorphism: male have livelier colours and more yellow spots than female, who are even more rare. They are larger than males and their wings are more cut out. The hindwings prolong in three tail-like extensions that resemble deer antler ramifications.

BAUER'S EXSICCATA

An exsiccata - from the Latin exsiccatus meaning dried - is a printed book illustrated with dried plants. Its achievement requires to collect, for every species, as many specimens as copies of the book.

It is a reference herbarium that helps the botanist identify collected specimens. Exsiccatae started to be created at the end of the 18th century; they are a common tool for cryptogamia - the study of lichens, mosses, seaweed, mushrooms - where specimens are usually small and easy to put into a book. The Museum of Havre owns a copy of the exsiccata of European mosses made by the Czech bryologist – a specialist of mosses - Ernst Bauer (1860-1942). Its publication started in 1903 and ended in 1936.

DATE
1908
MATERIAL
cardboard, printed-paper, dried mosses
DIMENSIONS OF A SHEET
L 26,5 x l 41,3 cm
ACQUISITION
inconnu
COLLECTION INVENTORY NUMBER
2014.2

Musci europaei exsiccati.

Die Laubmoose Europas

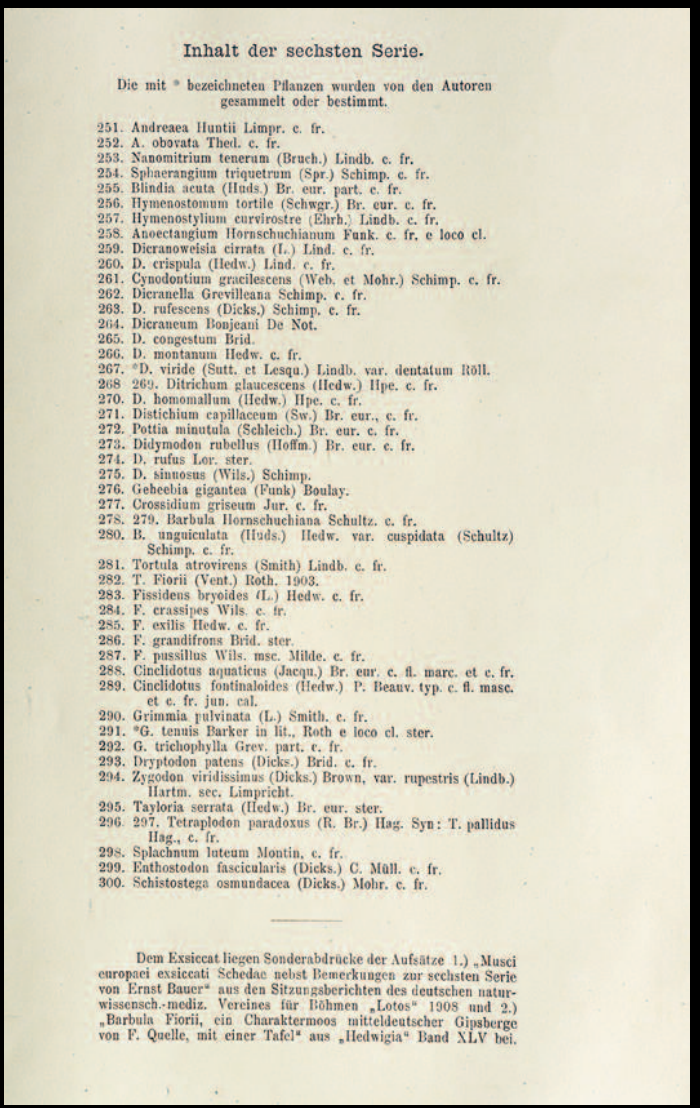
unter Mitwirkung namhafter Bryologen und Floristen

herausgegeben von

ERNST BAUER.

Serie 6. Nr. 251—300.
(Nachträge zu Nr. 51—200.)

Prag, am 15. Februar 1908.
Selbstverlag des Herausgebers. — Druck von Carl Bellmann in Prag.



Inhalt der sechsten Serie.

Die mit * bezeichneten Pflanzen wurden von den Autoren gesammelt oder bestimmt.

251. Andreaea Huntii Limpr. c. fr.
252. A. obovata Thed. c. fr.
253. Nanomitrium tenerum (Bruch.) Lindb. c. fr.
254. Sphaerangium triquetrum (Spr.) Schimp. c. fr.
255. Blindia acuta (Huds.) Br. eur. part. c. fr.
256. Hymenostomum tortile (Schwgr.) Br. eur. c. fr.
257. Hymenostylium curvirostre (Ehrh.) Lindb. c. fr.
258. Anoectangium Hornschuchianum Funk. c. fr. e loco cl.
259. Dicranoweisia cirrata (L.) Lind. c. fr.
260. D. crispula (Hedw.) Lind. c. fr.
261. Cynodontium gracilescens (Web. et Mohr.) Schimp. c. fr.
262. Dicranella Grevilleana Schimp. c. fr.
263. D. rufescens (Dicks.) Schimp. c. fr.
264. Dicraneum Bonjeani De Not.
265. D. congestum Brid.
266. D. montanum Hedw. c. fr.
267. *D. viride (Sutt. et Lesqu.) Lindb. var. dentatum Röll.
268 269. Ditrichum glaucescens (Hedw.) Hpe. c. fr.
270. D. homomallum (Hedw.) Hpe. c. fr.
271. Distichium capillaceum (Sw.) Br. eur., c. fr.
272. Pottia minutula (Schleich.) Br. eur. c. fr.
273. Didymodon rubellus (Hoffm.) Br. eur. c. fr.
274. D. rufus Lor. ster.
275. D. sinuosus (Wils.) Schimp.
276. Geheebia gigantea (Funk) Boulay.
277. Crossidium griseum Jur. c. fr.
278. 279. Barbula Hornschuchiana Schultz. c. fr.
280. B. unguiculata (Huds.) Hedw. var. cuspidata (Schultz) Schimp. c. fr.
281. Tortula atrovirens (Smith) Lindb. c. fr.
282. T. Fiorii (Vent.) Roth. 1903.
283. Fissidens bryoides (L.) Hedw. c. fr.
284. F. crassipes Wils. c. fr.
285. F. exilis Hedw. c. fr.
286. F. grandifrons Brid. ster.
287. F. pussillus Wils. msc. Milde. c. fr.
288. Cinclidotus aquaticus (Jacqu.) Br. eur. c. fl. marc. et c. fr.
289. Cinclidotus fontinaloides (Hedw.) P. Beauv. typ. c. fl. masc. et c. fr. jun. cal.
290. Grimmia pulvinata (L.) Smith. c. fr.
291. *G. tenuis Barker in lit., Roth e loco cl. ster.
292. G. trichophylla Grev. part. c. fr.
293. Dryptodon patens (Dicks.) Brid. c. fr.
294. Zygodon viridissimus (Dicks.) Brown, var. rupestris (Lindb.) Hartm. sec. Limpricht.
295. Tayloria serrata (Hedw.) Br. eur. ster.
296. 297. Tetraplodon paradoxus (R. Br.) Hag. Syn: T. pallidus Hag., c. fr.
298. Splachnum luteum Montin. c. fr.
299. Enthostodon fascicularis (Dicks.) C. Müll. c. fr.
300. Schistostega osmundacea (Dicks.) Mohr. c. fr.

Dem Exsiccat liegen Sonderabdrücke der Aufsätze 1.) „Musci europaei exsiccati Schedae nebst Bemerkungen zur sechsten Serie von Ernst Bauer“ aus den Sitzungsberichten des deutschen naturwissensch.-mediz. Vereines für Böhmen „Lotos“ 1908 und 2.) „Barbula Fiorii, ein Charaktermoos mitteldeutscher Gipsberge von F. Quelle, mit einer Tafel“ aus „Hedwigia“ Band XLV bei.

Date
1908s
Material
printed cardboard.
Dimensions
L 26,5 x l 41,3 cm

COVER-SHEET OF THE 6TH SET

Bauer's exsiccata of is made of 24 sets. The sheets of every set (or every "volume") are not bound as a book, but put together in a cardboard sleeve, the first sheet being the cover page.

The Czech bryologist E. Bauer published the 6th set of his "Musci europaei exsiccati" in Prague in 1908. It contains items 251 to 300. The cover sheet indicates that the exsiccata was made in cooperation with other renowned botanists.

FISSIDENS PUSILLUS

Date de collecte
septembre 1907
Lieu de collecte
Niederösterreich (Basse-Autriche)
Nom du collecteur
J. Baumgartner

CINCLIDOTUS AQUATICUS

Collection date
August 1905
Collection site
Ariège (France)
Name of collector
J. Douin

CINCLIDOTUS FONTINALOIDES

Collection date
March 1906
Collection site
Osterr. Küstenland (Austro-Hungarian coast)
Name of collector
K. Loitlesberger

Date
1908
Matériaux
carton, papier imprimé, mousses (et cailloux)
Dimensions
L 26,5 x l 41,3 cm

PLANCHE DE MOUSSES DE LA SÉRIE 6

Moss herbaria have a special aspect: the specimens, often small and crisp, are placed in small paper sleeves. A sheet of a moss herbarium generally displays several specimens of different species. Mosses don't have roots and stalks and grow on the ground, on tree bark or on stones in wet zones. It should be noted that item 287, Fissidens pusillus, the collector picked up pebbles along with the moss.
Cinclidotus aquaticus can be found on stones at the bottom of rivers and is rather rare. Cinclidotus fontinaloides is a common species in Europe that is found in frequently immersed areas. Item 289 comes from the "Austrian coast" which was, before 1918, a part of the Austro-Hungarian Empire and whose capital was Trieste.

DICRANUM MONTANUM

Collection date
August 1903
Collection site
forêt Sokolniki, Russia
Name of collector
K. L. Heyden

DICRANUM VIRIDE

Vernacular name
green dicrane
Collection date
February 1906
Collection site
Hessen, Germany
Name of collector
J. Röll

DICRANUM BONJEANI

Collection date
October 1906
Collection site
Osterr. Küstenland (Austro-Hunagrian coast)
Name of collector
K. Loitlesberger

DICRANUM CONGESTUM

Collection date
August 1904
Collection site
Finland
Name of collector
V. F. Brotherus

Vernacular name
Hummingbird
Family
Trochilidae
Provenance
Dubois and Chabot collection
Material
cotton filling and wire
Dimensions
L 100 x l 0,15 x H 10 cm
Inventory number
O/ 007.001.
Acquisition date
1970
IUCN conservation status
Endangered /Critically Endangered
CITES classification
Appendix II

HUMMINGBIRD

There are birds of forms and sizes: some are big, some are small ... the smallest of all are the hummingbirds. Amongst them is the notorious violetear and also other quite small birds that are less well known: lancebills or sicklebills, for instance. There are 319 different species of hummingbirds!

Hummingbirds are the smallest of all known birds over the world and only live on the American continent. They feed on flower nectar. For that purpose, they manage to remain still during flight, as if they were motionlessly floating in the air. Some of them also eat small insects. Their sense of smell is not very developed, but their sight is excellent. They even are able to see shades of colour the human eye can't! They also have the fastest wing beat of all birds: the slowest beat their wings "only" eight to ten times per second, while the smallest are closer to seventy times. And when they dive in the air, they can go up to hundred and fifty beatings per minute! This is only possible because of the special skeleton-structure of their wings. It is also what allows them to change direction very fast, and even fly backwards – which other birds are unable to do. Solitary and quarrelsome bird, they have a fast and agile flight. They don't walk nor climb. Their feathers are in the same tones as the flowers on which they feed, a useful protection against predators. The female lays two tiny eggs in a cup shaped nest built with plant material held together by cobwebs.

Title
Map of New-Holland (Australia)
Author
unknown
Date
1799
Material
ink on oil impregnated paper
Dimensions
L 42 x l 55 cm
Inventory number
07001
Acquisition
gift

MAP OF AUSTRALIA

This map was prepared for the Journey to the Southern Lands, a scientific expedition that left Havre on October 19th, 1800. Its first aim was the geographical recognition of the South-eastern coast of Australia - the part of the continent that is not drawn on this map.

Bonaparte, then First Consul, approved the Journey to the Southern Lands. Nicolas Baudin, who instigated this expedition, was at the head of about 40 scientists: zoologists, botanists, geographers, mineralogists and astronomers.
In New-Holland (Australia), the English had recently established a colony: Port-Jackson (Sydney, in 1788). Not knowing much about the south-eastern part of Australia, explorers then believed it could be a second island. And some saw an opportunity of installing trading posts.
At the same time, the savants aim to collect the largest number of specimens possible, hence participating in the vast inventory of the living world.
This map was drawn on paper that was had been soaked in oil to make it transparent and to make copies. With time, the oil oxidized and made the paper brown and very fragile. The paper has lost its transparency and its darkened colour makes it difficult to read.

THE 7 WÉ AND BÉTÉ MASKS FROM IVORY COAST

"The masks of the Wé", an ethnic group from western Ivory Coast, were used in some ceremonies
The masks of their Bété neighbors, ichnographically very close, represented spirits of the forest or of the ancestors.
The Museum keeps seven of these masks. Six of them were collected between 1929 and 1930.

IVORIAN MASK

This mask is typical of the more recent masks production made for western tourists visiting Ivory Coast. Although the forehead is convex and the elements are repeated, this mask cannot be worn.

Provenance
Ivory Coast
Date
2nd half of the 20th century
Material
wood, nails
Dimensions
L 47,5 x l 15,5 cm
Inventory number
2008.4.92
Acquisition
gift from Darbour, unknown date

WÉ AND BÉTÉ MASKS

Adorned with diverse pigments, a fur beard, teeth or nails to show their ferocity, these two masks are magnificent examples of Wé and Bété art. Masks on which all these items were left are rare: at the end of the 19th and during the 20th century, collectors would remove everything except for the wooden sculptures that would be thoroughly washed with large amounts of water. Their collector, the young lieutenant Henri Amiel preserved these two masks in their original state. He also took two pictures of the masks with their costume and attributes, which is extremely rare.

PROVENANCE
Ivory Coast
ETHNIC GROUP
Wé
DATE
19th century or first third of the 20th century
MATERIAL
wood, animal skin and fur, feathers, metal plates, upholstery nails, cloth, natural pigments, Prussian blue
DIMENSIONS
L 31,5 x l 23 cm
INVENTORY NUMBER
2008.4.350
ACQUISITION
gift from Mrs Amiel, widow of General Henri Amiel, 1976. Found in 1929 or 1930.

Provenance
Ivory Coast
Ethnic group
Bété
Date
19th century or first third of the 20th century
Material
wood, animal skin, metal plates, upholstery nails, cloth, natural pigments
Dimensions
L 33 x l 25 cm
Inventory number
2008.4.280
Acquisition
gift from Mrs Amiel, widow of General Henri Amiel, 1976. Found in 1930 in Dimbokro

BÉTÉ MASKS

This two Bété mask have also been used for traditional ceremonies. They have holes for the eyes of the dancer and smaller holes, on the side, to hang on a costume, along with a beautiful patina on the inside of the mask. The first one still has its beard on and the second one the holes in where it used would fit.

PROVENANCE
Ivory Coast
ETHNIC GROUP
Bété
DATE
19th century or first third of the 20th century
MATERIAL
wood, animal skin
DIMENSIONS
L 32 x l 19 cm
INVENTORY NUMBER
2008.4.353
ACQUISITION
gift from Mrs Amiel, widow of General Henri Amiel, 1976. Found in 1929 or 1930.

Provenance
Daloa, Ivory Coast
Ethnic group
Bété
Date
19th century or first third of the 20th century
Material
wood
Dimensions
L 33,5 x l 21,3 cm
Inventory number
2008.4.352
Acquisition
gift from Mrs Amiel, widow of General Henri Amiel, 1976. Found in Daloa in 1929.

WÉ OR BÉTÉ MASK

These two masks seem unfinished: although both have or had a beard, it is impossible to fit a costume on, thought it is a crucial element in traditional dances. No hole has been made on the sides, unlike the previous masks. These two masks could have been given to or bought by Henri Amiel before their first use in front of an audience.

PROVENANCE
Ivory Coast
ETHNIC GROUP
Wé or Bété
DATE
first third of the 20th century
MATERIAL
wood, animal skin
DIMENSIONS
L 44 x l 21 cm
INVENTORY NUMBER
2008.4.351
ACQUISITION
gift from Mrs Amiel, widow of General Henri Amiel, 1976. Found in 1929 or 1930.

Provenance
Ivory Coast
Ethnic group
Wé or Bété
Date
first third of the 20th century
Material
wood, animal skin
Dimensions
L 47,5 x l 15,5 cm
Inventory number
2008.4.349
Acquisition
gift from Mrs Amiel, widow of General Henri Amiel, 1976. Found in 1929 or 1930.

Provenance
Saint-Jouin-Bruneval, Normandy, France
Era
Albian (from 100 to 113 million years BC)
Material
fossilized bone, mineral gangue
Dimensions
L 120 x l 70 x H 30 cm
Inventory number
2010.4
Acquisition
gift to the Museum from Jean-Pierre Debris in 1975

ICHTHYOSAUR SKULL, PLATYPTERYGIUS HERCYNICUS

Platypterygius hercynicus is a large ichthyosaur that populated the seas of the globe at the end of the Cretaceous. The etymology of the name Ichthyosaurus comes from the Greek *ichthy*: fish and *saur*: reptile. It is a marine reptile in the shape of fish. It diet was mainly composed of fish and belemnites, that are related to cuttle-fish.

This skull was found in strata usually poor in vertebrates' remains, at a time close to that of the species' extinction. It dates from 100 million years BC, 10 million years - a rather short time in the geologic scale - before their extinction. The one found in Saint-Jouin is one of Europe's largest and most complete skull dating from the Cretaceous (from 145 to 66 million years BC)!
In June 1975, during a fossil search, the palaeontology enthusiast Jean-Pierre Debris discovered a group of bones to the surface of a rock. At first glance, it looked more like fossilized wood. The only thing that attracted the researcher's attention was a tooth coming out of the rock. Because fossilization had strongly compressed the bones, the determination was not easy. After examining it, the palaeontologist Éric Buffetaut came to the conclusion that it was the skull of an ichthyosaurian, and more accurately a *Platypterygius*. In 2011, the scientist Valentin Fischer related it to the species *Platypterygius hercynicus*.

PROVENANCE
La Caîne, Normandy, France
ERA
Toarcian (from 174 to 182 million years BC)
MATERIAL
fossilized bone
DIMENSIONS
L 15 x l 12 x th 8 cm, 950 g
INVENTORY NUMBER
Typo 2
ACQUISITION
former collection of the Sorbonne; MHNH 8744

SKULL OF YOUNG ICHTHYOSAURUS *STENOPTERYGIUS LONGIFRONS*

Ichthyosaurs were marine reptiles, whose body was similar to dolphins'. They were ovoviviparous: their eggs incubated and the young were born in the stomach of the female, who would then give birth to a perfectly formed animal. Fossils of gestating females were found, in particular in Germany and in England.

On some of ichthyosaur fossils, a ring of bone on the orbits can be seen. It would strengthen the eye, making it resistant to water pressure.
This ichthyosaur skull found in 1986 in the old collections of the Sorbonne and given by the University Paris-VI is an exceptional piece. It comes from a young, fossils of which are extremely rare. The original label is almost erased but allows guessing that this specimen could come from La Caîne, in Calvados. It is very well preserved in spite of its 180 million years. In 1993, it was related to the species Stenopterygius longifrons by the palaeontologist Jean-Michel Mazin.

Provenance
Cap de la Hève, Normandy, France
Era
Kimmeridgian (155 million years BC)
Material
fossilized bone, fossilized scales, plaster
Dimensions
L 60 x l 24 x e 6 cm
Inventory number
2011.12.2659
Acquisition
found by Gustave Lennier, given to the Museum at the end of the 19th century

LEPIDOTES LENNIERI

Lepidotes was a big armoured fish of about 70 cm long that lived 155 million years ago. This armour is the strategy adopted by Lepidotes to survive the Jurassic seas populated by large predatory reptiles. Its crushing teeth show that its diet was composed of shell invertebrates such as bivalves or gastropods.

Its skull was made of a thick bone and its body was covered in very hard bone scales with a coat of enamel that gave it this shiny aspect.
The geologist and former Museum curator Gustave Lennier found it in the Cap de la Hève at the end of the 19th century. This unique, almost complete specimen was named after its discoverer. It is a quite unique fossil and was part of the collections that were saved from the destruction of the Museum of Havre during World War II in 1944.
The fossil was X-rayed in 2012 to reveal its internal anatomy, but the scales were too thick to see anything. A CAT-scan has been foreseen to get additional information on its anatomy and on the species.

Provenance
Gabon
Ethnic group
Fang
Date
19th century, found in 1894 by Mr Millot
Material
wood
Dimensions
L 32 x l 19,5 x H 17,5 cm
Inventory number
2008.4.319
Acquisition
gift from Mr Millot, July 1902

FANG MASK FROM THE NGIL SECRET SOCIETY

Old label: "Mpangwen mask of a fetish priest in the appearing of whom Mpangwen women have to take refuge with their huts or risk being put to death; brought back from a Mpangwen village of the river Rhemboë (Gabon) by Mr. Millot, in 1894."

This mask comes from the Ngil secret society of the Fang in Gabon. The leader of this secret society's purpose was to chase away and punish sorcerers and murders. They would have all the rights to uncover the truth and restore order.

The leader of the Ngil had the right to torture and even to put to death suspects; it is why they had the reputation of being cannibals for a long time. The French colonial authorities ended up forbidding Ngil in 1910.
Ngil refer to gorillas, a fascinating animal figure. This mask was collected in 1894 and it went in the Museum's collections in 1902. It is one of the rare masks of this secret society to be found in the collections of western museums. The stretched face, with half-closed eyes and non-carved mouth is typical of the Ngil. Smaller than the other masks of this kind, it might have never been used. We still don't know today if it was unfinished or especially made for his first owner, Mr Millot.

Provenance
Democratic Republic of the Congo
Ethnic group
Lwalwa
Date
beginning of the 19th century
Material
wood
Dimensions
L 33,5 cm
Inventory number
2015.1.3
Acquisition
purchase from a private collector, 2015

LWALWA MASK

Lwalwa is a small ethnic group of approximately 20 000 people coming from the former Belgian Congo. Their masks are very rare and the Museum's is most likely unique in French public collections.

Of a remarkable abstraction, Lwalwa masks played an important role in rites linked to hunting and during initiation and circumcision of young boys. The dancers who wore them followed a precise choreography intended to calm the spirits of the ancestors. The opening placed between the mouth and the nose allowed to fit a rope to maintain the mask on the face of the dancer.
The Lwalwa sculptor, who would inherit of this function, enjoyed an immense prestige. They often were the leaders of their villages.

Provenance
Mali
Ethnic group
Bamana
Date
19th century, before 1893
Material
wood, glass paste, iron, plant fibres
Dimensions
L 41,2 x l 11 cm
Inventory number
2008.4.211
Acquisition
gift from General Archinard, first third of the 20th century

BAMANA FEMALE FIGURINE

The statuettes of Bamana from Mali represent beauty ideals, were mainly used during ceremonies of celebrating the initiation of young boys. For that occasion, the statuettes were sometimes decorated with clothes and small ornaments.
The religious and social life of Bamana is based on the initiation of adolescents and men: the Jo. Bamana are mostly known for their masks they created by and for the secret societies of the Jo who lead men to wisdom.
With dances, the new initiated asked the statuette to insure the fertility of the ground of women, and to perpetuate good relations with the Ancestors.
The rich scarifications and fineries of this statuette make it one of the most admirable Bamana statuettes in the collection of a museum. Western collectors would generally remove fineries and consider that the value of statuettes would only be in the carving work.

PROVENANCE
Zambezi area (Zimbabwe, Zambia)
ETHNIC GROUP
undetermined
DATE
19th century
MATERIAL
wood, glass pearls, plant fibres, music box: cork, metal
DIMENSIONS
L 19 x l 9,5 x H 16 cm
INVENTORY NUMBER
2008.4.96
ACQUISITION
within the collections before 1904

ZAMBEZI HEADREST

In many African regions, headrests are made to allow men to rest while protecting their hairstyles from dirt. For ceremonies, hairstyles could be very elaborate and delicate.

These objects are very personal, are not lend and are associated to dreams. Certain headrests have ornaments, as it is the case on this piece. They include many pearl necklaces and an old music box, which is extremely rare today, since European collectors usually removed these decorations.

In some African ethnic groups, men carry their headrest under their arm all day, and are buried with it.

Provenance
Easter Island (Polynesia, Pacific Ocean)
Date
collected during the 19th century
Material
wood
Dimensions
l 7 x H 29,5 cm
Inventory number
2012.8.22
Acquisition
probably from a gift to the city of Le Havre at the end of the 19th century

MOAI WOODEN FIGURE

This type of wooden figure, called moai kavakava, is typical of the Easter Island. Kavakava means ribs: the fleshless rib cage is typical of these statuettes. They are sometimes also called "corpse-men".

We don't know have much information on these figurines and their use. They could be a reference to ancestors they would represent. Another interpretation could be that they represent the corpses of dead ancestors that were traditionally manipulated during the second burial. Some of these statuettes were worn around the neck. As often seen, the head is decorated with an engraved pattern. The eyes, hollow on this statuette, are usually represented with a piece of obsidian stuck on a slice of bone.
In the Easter Island as anywhere else in the Pacific, the knowledge of specialized crafts was passed on from father to son. Of taste in those days, these kind of wooden figures were very commonly found during the 19th century.

Provenance
Kiribati, Micronesia, Pacific Ocean
Date
collected during the 19th century
Material
wood, shark teeth, fibres
Dimensions
l 2,5 x H 188 cm
Inventory number
2013.8.1
Acquisition
unknown

KIRIBATI SPEAR

This spear is almost two meters long and counts approximately 400 shark teeth distributed in five regular lines. This type of object generally comes with an armour made from coconut mattings, but the Havre Museum did not find any record of such an object in its archives.

In the North of the Pacific, Micronesia comprises almost only coral atolls. Atolls are ring-shaped coral reef with a coral rim enclosing a lagoon. In these areas, resources from the sea are almost the only available ones.
On the Kiribati Islands ritualized fights linked to territorial questions (ownership of lands or presence of populations) took place. During those fights special armours and spears like this one were used. Some of the spears had sharpened pieces of crab apron instead of shark teeth.
Armours were thick and very stiff and made from young coconut husks fibres. Their fabrication (plaiting and assembling) was specific and long. These armours had to resist the assault of shark teeth weapons (spears, daggers, swords) and teeth were to be able to break upon contact.

Provenance
Malakula Island, Vanuatu, Melanesia, Pacific Ocean
Date
19th century
Material
wood, plant fibres, plant paste, pacific cat's eye, cobweb
Dimensions
H x 130 cm
Inventory number
2012.8.66
Acquisition
probably from a gift to the city of Le Havre at the end of the 19th century

VANUATU CEREMONIAL MASK

Privilege of a high-ranking man, this type of mask appeared during certain secret ceremonies connecting the people to their ancestors. These ceremonies were forbidden for women and non-initiated.

Probably made from bamboo, the lower part of the frame of the mask is partially covered with plant paste made out of worn and crushed liana mixed with sap. Coloured paints are applied on it. On the higher part, the frame is covered in cobwebs. Cobweb is mainly use on the island of Malakula. It is the "cloth of ancestors", and only prestigious men are allowed to collect it in the bush. Two pigs teeth were put in corners of the mouth; they are a sign of the rank of the person who wore to this mask. Eyes are made of seals of turbo. The texture and the colour of these shells is close to that of human eyes.
The painter and the sculptor Alberto Giacometti wrote about the sculptures made in Vanuatu (formerly New-Hebrides): " the sculpture of the New Hebrides is the truth, and more than the truth, because it has a gaze. It is not the imitation of an eye, it is well and truly a gaze. The rest enhances gaze " (Alberto Giacometti, 1990 - Papers. Paris, Hermann, p. 246).
Made of very fragile materials, this mask was restored in 2013.
The artist Alberto Giacometti refers to objects made in Vanuatu, formerly named New Hebrides.

Provenance
Mortagne-au-Perche, Normandy, France
Era
Lower Cenomanian (100 million years BC)
Material
fossilized bone
Dimensions
L 70 x l 32 x H 40 cm
Inventory number
2011.12.2658
Acquisition
harvested and given by Patrick Rogron

OCEANOSUCHUS BOECENSIS SKULL

Fully adapted to underwater life, *Oceanosuchus* probably returned regularly to land, especially to lay its eggs. The shape of its skull and its fine teeth indicates it fed on fish. The wide osseous plates included in the skin would have been a good protection against predators.

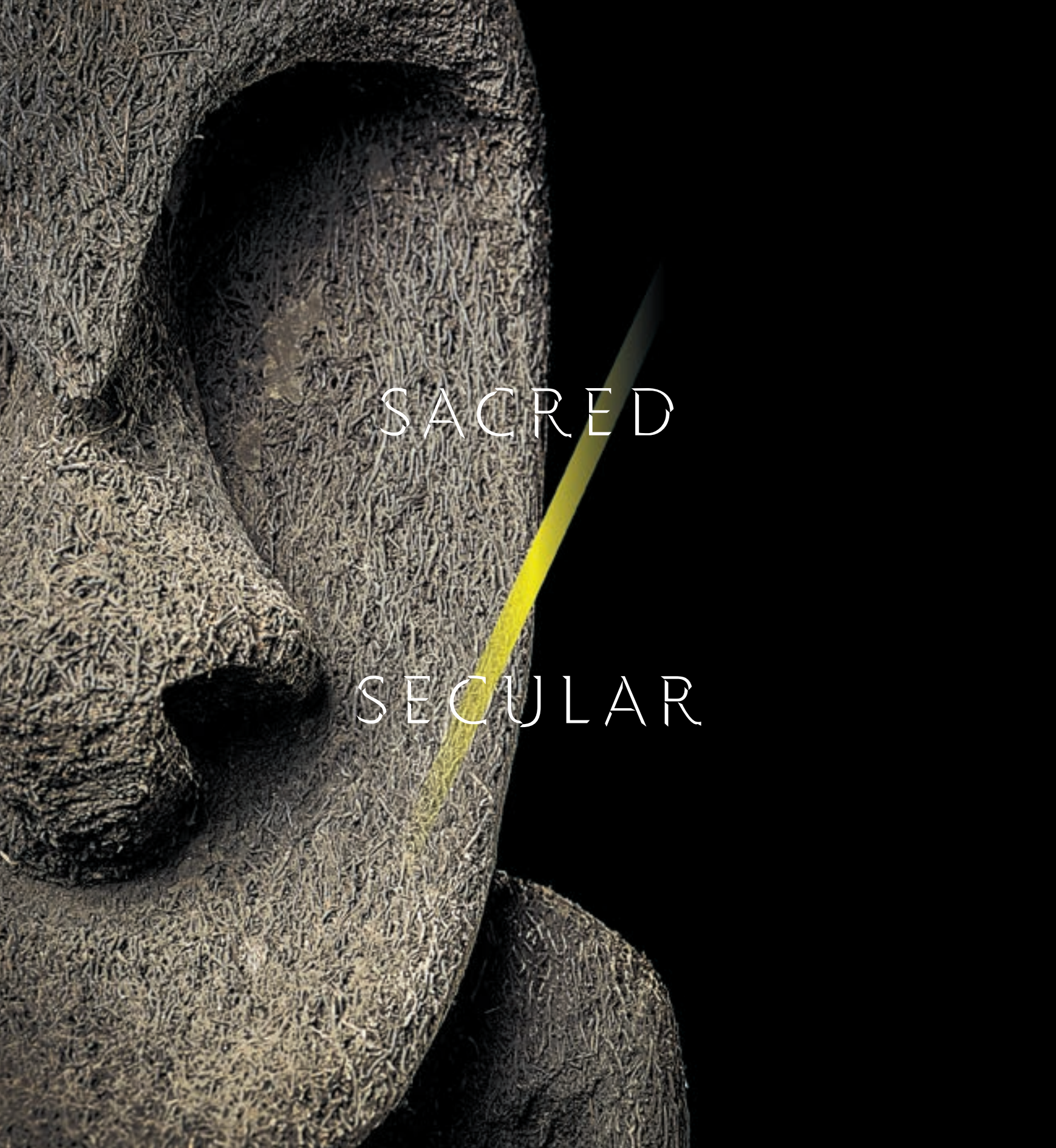
Remains of an unknown crocodile were found during road works near Mortagne-au-Perche. This specimen comes from an age when France was covered by a hot sea in which a rich tropical fauna would prosper (ammonites, sponges, corals). It dates from the Cretaceous and more precisely the lower Cenomanian, 100 million years ago. The discovery of this crocodilian in Normandy gives us precious indication on the paleobiogeography of this era. It also is an addition to the family of *Pholidosauridae* that is still not very well known, especially in Europe. It was described in 2007 as a new genus and a new species named *Oceanosuchus boecensis*. This holotype is a part of the treasures of the collections of the Havre Museum of Natural History.

Provenance
St-Maurice-d'Etelan, Normandy, France
Era
End of Neolithic (from 2 800 to 2 300 years BC)
Material
flint
Dimensions
L 24 x l 4.5 cm
Inventory number
2012.3.267
Collection
Schneider, Le Havre Museum

FLINT DAGGER FROM THE GRAND-PRESSIGNY AREA

This long flint blade, also called dagger, was found in the dredging products of the Seine. The flint used to make this blade comes from a field in Central France. This shows that, starting from the Neolithic era, commercial exchanges between different territories sometimes hundreds of kilometres away existed.

Grand Pressigny (Touraine, France) is known for its large good quality flint fields. Since the middle of the 19th century, vestiges of large workshops in which where produced, amongst others things, large blades were discovered. The amount of waste left over is that of an industrial-scale production. It is also possible to determine the vast areas in which these daggers were disseminated: Paris Basin, Brittany, Saone valley, Germany, Belgium, the Netherlands, Switzerland ... Considering that Prehistoric men knew the quality of the flint and would always used it, we can suppose that the activity of these workshops peaked at the end of the Neolithic era (from 2800 to 2300 BC). It is in the same time that this wide circulation of these blades through France and bordering countries occurred.


SACRED
SECULAR

Sacred or profane, by entering the collection of a museum, artefacts acquire a whole new condition. Museums most certainly participate in giving them an eternal life, though some of these objects are deprived of their original sacred status.

By exploring the origins of objects and taking cultural specificities into consideration, the museum becomes a place of full knowledge and connection. It grows by working with the communities from which these objects come and makes it a humanist institution that can claims itself to be a place of universalism.

HANDAXE

While the first hand axes discovered in Africa date from 1.5 million years BC, the oldest European ones were produced 800 000 years ago. They can be hafted an, depending on their size, shape or weight, they could be used as picks, knives, scrapers or weapons. They are Homo erectus' major tool.

Knapped on both sides this tool can be of all shapes and sizes, some measuring over 30 cm while others are less than 5 cm long. The biggest hand axes with a thick butt could be used as weapons as well as simple tools. The thinnest hand axes were used as knives; some were used to pierce, scrape, dig...
Abounding during the Lower Palaeolithic, they are the typical tool of Acheulean civilizations (from 800 000 to 300 000 years BC). But with the growth of industrial production during the Middle Palaeolithic, they progressively became rare and completely disappeared during the Upper Palaeolithic, 40 000 years ago.

Provenance
Le Havre, Normandy, France
Era
Lower Palaeolithic (from 800 000 to 300 000 years BC)
Material
flint
Dimensions
L 34 x l 14 cm (with its base)
Inventory number
2012.3.178
Collection
gift from Louis Cayeux

Provenance
Le Havre, Normandy, France
Era
Lower Palaeolithic (from 800 000 to 300 000 years BC)
Material
flint
Dimensions
L 28 x l 10 cm
Inventory number
2012.3.24
Collection
gift from Louis Cayeux

Provenance
Yport, Saint-Léonard, Normandy, France
Era
End of Neolithic /Chalcolithic
(from 2 500 to 1 800 years BC)
Material
flint
Dimensions
L 14,4 x l 4,4 x H 1,9 cm
Inventory number
2012.3.342
Collection
Le Havre Museum of Natural History

STONE SICKLE

A knife is an ordinary everyday cutting utensil; any flint blade or flake can be used for this purpose. This one is a long flint blade with a finely polished edge that was probably used to harvest cereals.

The back of the knife, on the opposite side of the sharp edge, has been adjusted to be more functional. Use-wear analysis (study of the patterns of wear on the sharp edge of stone tools) gives indications on the purpose of the knife.
We can assume that it was used as a sickle to harvest cereal because of the shape of the slight polishes on the edge of the blade. Other knives can have typical traces of meat cutting use.
Some of the knives could be hafted and once they were worn out, they were reused as chisels. Knives have been used since the Lower Palaeolithic, over 800 000 years ago.

Provenance
Theuville-aux-Maillots, Normandy, France
Era
Middle Neolithic (from 4 700 to 3 500 years BC)
Material
flint
Dimensions
L 6,5 x l 6 cm
Inventory number
2012.3.96.2
Collection
Deposit from the French Government

SCRAPER

Scrapers were most likely used for skin preparation; skin would then be remodelled into clothes, bags, sheltering material, etc. The very sturdy sharp edge probably made it possible to work with more resistant materials such as bone, animal antlers or wood.

Scrapers were very common during the Prehistory Ages; it is a universal domestic tool that had many uses. The development of this tool dates back to the Acheuleen age - 800 000 years BC - but only becomes widespread during the Upper Palaeolithic, 40 000 years before our era.
There are many types of scrapers depending on the nature of the stone, whether it is made from a flake or a blade, and on the thickness. Making a scraper is rather simple: with a hammer – hard or soft, chip one end of the blade or flake in a very regular circular curve; it will be the sharp side of the tool. Most scrapers were hafted.

There are two known ways to "scrape": by " pushing" or by "pulling" the scraper. These two techniques leave very different marks that archaeologists know how to analyse.
The scraper shown here was found in Theuville-aux-Maillots, an inhabited site that unveiled various small structures (ditches, post holes, silos, fireplaces, various pits), an abundant lithic industry and a bit of ceramics.

Provenance
Saint-Pierre-de-Manneville, Normandy, France
Era
End of Neolithic - beginning of Bronze Age (from 2 700 to 1 600 years BC)
Material
deer antler
Dimensions
L 28 x l 14 cm (with its base)
Inventory number
2012.3.284
Collection
Faraut

DEER ANTLER PICK

Antler picks were used for cultivation during the Palaeolithic era. In Normandy, during Neolithic times, they were used for mining. In flint mining shafts were found picks dating from the end of the Neolithic era, around 2 200 years before our era.

During the Neolithic era, flint pits and mines are opened to extract large quantities of good quality raw material. By the end of the era, mining activities had developed all over Europe. To dig in layers of chalk and remove blocks of flint, two tools are majorly used: flint and deer antler picks. Miners would generally use fallen antlers, more resistant. Besides utilizing them as pickaxes, they would also be used as claws or crowbars to remove the cracked rocks and the priceless flint nodules. Antlers could be also used as hammers, levers or corners.
These tools were used for over two millennia, evidence that they were completely adapted for this type of use.

PROVENANCE
Yport-Saint-Léonard, Normandy, France
ERA
End of Neolithic - beginning of Bronze Age (from 2 700 to 1 400 years BC)
MATERIAL
flint
DIMENSIONS
L 3 x l 4 cm
INVENTORY NUMBER
2012.3.291
COLLECTION:
Duteurtre

PIERCING ARROW

The object shown here is an arrowhead with stem and shoulders. It is typical of the end of the Neolithic Era and the Bronze Age. If the arrow is mostly a hunting tool, it can also be used as a weapon: arrowheads found stuck in human bones on archaeological excavation sites.

During the Neolithic era, two specific kinds of arrowheads were used: cutting arrow and piercing arrow. The latter more recent and is typical of the end of Neolithic and Bronze ages.
Piercing arrowheads have different shapes epending on cultures and time. Shoulders can either be slightly flared, forming a notch or on the contrary long and lean. The stem is more or less long.

There are many shapes and designs, some being more aesthetical than practical.
Arrowheads can be hafted with tar, usually from distilled birch bark, or with a mixture of pine resin and beeswax.

Provenance
Yport-Saint-Léonard, Normandy, France
Era
Neolithic (from 6 000 to 2 000 years BC)
Material
flint
Dimensions
L 2,8 x l 2,6 cm
Inventory number
2012.3.294
Collection
Le Havre Museum of Natural History

CUTTING ARROW

During the Neolithic era, arrowheads are easily identifiable and of two main types: piercing and cutting. In France, the cutting structure is the first one to be used. It has a triangular or trapezoid shape.

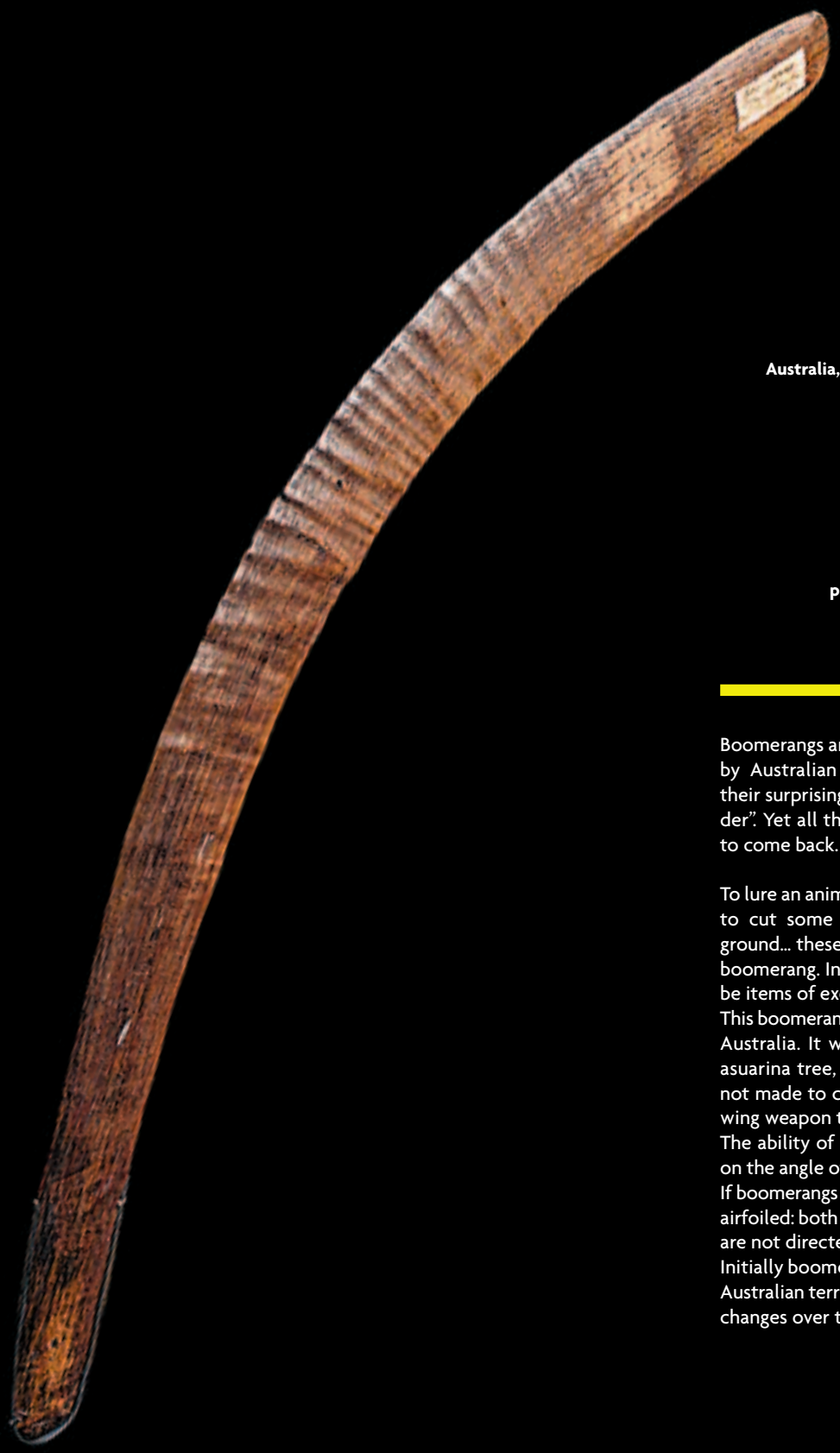
The oldest bows and arrows dated back from 10 000 years BC. They were found in the Stellmor peats in Germany. The invention of the bow is closely linked to that of the arrow that had to be equipped with a point. A simple sharp flint flake could have also served as a point but it seems that men rapidly started to knap them into finer shapes for a better balance and higher degree of perforation.
Men also realized the higher degree of wound severity inflicted by cutting arrows compared to piercing arrows. They are very destructive for tissues and split vessels, therefore increasing the chances of bleeding. There are many examples of uses of these arrows.

Provenance
Gommerville, Normandy, France
Era
Neolithic (from 6 000 to 2 000 years BC)
Material
flint
Dimensions
L 11 x l 3 cm
Inventory number
2012.3.275
Collection
Louis Cayeux

POLISHED STONE AXE

Polished stone axe are the iconic tool of the Neolithic era. It was used it to clear up forests for agricultural purposes and to cut wood to build houses. In Normandy, polished stone axes were used between 4 500 and 1 800 BC.

Polished stone axes are the symbol of the first farmers of the Neolithic. It is made from a stone coarse shaped and is then polished on abrasive stones, often sandstone but also granite, quartzite or other siliceous stones. By polishing the axe, it becomes sharper and more resistant. Essential to clear woods into agricultural lands, polished axes were also used to cut down trees or to cut lumber. Hundreds of thousand of these axes were found in villages' dumps, graves, and sometimes in special storage places.
It is to be noted that the skill put into the fabrication of polished stone tools has not only technical reasons, but also aesthetic and social. Some polished axes, large or made of semiprecious stones, probably were ceremonial objects.



Provenance
Australia, most likely South of the continent
Date
found during the 19th century
Material
wood (casuarina stricta, sheoak)
Dimensions
L 68 cm
Inventory number
2013.7.1
Acquisition
probable gift to the City of Le Havre at the end of the 19th century

HUNTING BOOMERANG

Boomerangs are the most known objects made by Australian Aboriginal people because of their surprising technology: the "return to sender". Yet all the boomerangs are not designed to come back.

To lure an animal into a trap or to destabilize it, to cut some meat or to dig a hole in the ground... these are some of the many uses of a boomerang. In special occasions, they can also be items of exchange or ceremonial objects.
This boomerang probably comes from Southern Australia. It was carved out of a root of the asuarina tree, which is very dense wood. It is not made to come back, but is used as a throwing weapon to hunt birds and emus.
The ability of a boomerang to return depends on the angle of its curvature and on its surface. If boomerangs seem flat, they are in fact slightly airfoiled: both parts on either sides of the angle are not directed in the same way.
Initially boomerangs were not used all over the Australian territory, but though commercial exchanges over time they became widespread.

Provenance
Santa Cruz Islands
(Salomon Islands, Pacific Ocean)
Date
collected during the 19th century
Material
leaves (probably coconut tree), plant fibers
Dimensions
L 100 x l 50 cm
Inventory number
2012.8.77
Acquisition
found by Louis Le Mescam,
given to the City of Le Havre in 1895

FISHING KITE

These kites were used for fishing on pirogues and were held by the fisherman by a thread. A fish-hook and a cobweb decoy would be attached to it, skipping on the surface of the water following the pirogue's movements. Particularly damaged, these objects were restored in 2013.

This kite is made with large leaves - probably of coconut tree - fixed together with wooden pins. The frame is made with sticks tied together with fibre bonds. At one of the ends, the handle is overed in European fabric.
Fishermen would hang a fishhook with bait on the kite. The movement of the bait, following the pirogue's, would attract fish that would eventually raise out the water to catch the bait. The kite would then fall and fishermen would simply have to pull the fish out onto the boat.

The many fishing techniques that were invented all over Oceania show that the people have a perfect knowledge of their marine environment. This kind of object is not commonly seen in western museums. Their impressive size and the fragility of the materials they are made of could explain why. The Museum of Le Havre has three fishing kites with several fishing instruments that come from this part of Melanesia, a set of an unusual typological and geographical coherence.

Provenance
Cook Island (Polynesia, Pacific Ocean)
Date
19th century
Material
wood, stone, coconut tree fibres
Dimensions
H 78 cm
Inventory number
2012.8.32
Acquisition
probable gift to the City of Le Havre, end of the 19th century

CEREMONIAL ADZE

In the Cook Islands as anywhere else in the Pacific, some ceremonial objects look just like an everyday life tools. Adzes are tools used for cutting wood. This one resembles the common tool but is used for ceremonies.

For this object, both the material and the assembling have a symbolic importance.
Stone blades were items of exchange and were generally used to make working tools. But for this item, the stone has not been knapped to be sharp. It has a symbolic shape that could represent a safe haven, a place for a divinity, for instance Tane, the god of woodcarvers and carpenters.
Only experts could accomplish the traditionally ritual activity of fabricating and plaiting the coconut tree fibres. Several plaiting and assembling techniques are used for this adze, sign of its worth.
It was carved with tools made out from stone and seashell. Eventually, these tools were replaced by metal. Western travellers would admire the delicate carvings and often collected such pieces; five of these adzes were given to the Museum of Le Havre.

Provenance
Western Polynesia
(Fiji, Samoa or Tonga Islands, Pacific Ocean)
Date
19th century
Material
beaten barkcloth covered with pigments
Dimensions
L 469 x l 81,5 cm
Inventory number
2012.8.29
Acquisition
found by Louis Le Mescam,
given to the City of Le Havre in 1895

CEREMONIAL TAPA

Beaten barkcloth is used almost all over the Pacific. This artefact is not very documented but from its impressive size and its well-kept decoration one can assumes it is a ceremonial tapa.

In the Pacific, Tapa is a common material used for everyday life objects such as clothes or blankets, and for ceremonial objects: garment for powerful men, mourning robe, shroud for the deceased, exchange present or wrapping for sacred objects. Tapa is considered as a link between the people and their gods and ancestors, a vessel of the sacred.
Only women are allowed to manufacture tapa. Paper mulberry or fig tree inner bark is separated from its core, the phloem, and is then soaked in water. Starch slowly bonds the various pieces together. The resulting material is beaten, which spreads out the pieces and makes them thinner. In Polynesia, a wooden mallet is generally used.
Decorating the cloth is the last stage. It can be done with a stencil – as it is the case for this one, freehand or by imprinting dyed leaves. The barkcloth can be also painted with a coloured matrix or dipped into a dye bath.
Sailors and missionaries collected many tapas but, because they are easily damaged, only a few antique tapas are kept in western museums today.

Provenance
Austral Islands (Polynesia, Pacific Ocean)
Date
probably found during 19th century
Material
wood
Dimensions
H 126,5 cm
Inventory number
2015.1.2
Acquisition
purchased in 2013 (collection of Mrs Quilez)

CEREMONIAL PADDLE

Though it has the shape of a paddle, the way the wood was carved indicates that it was to be shown off and was probably used in dances. Paddles are amongst the most collected objects during the 19th century: there are over a thousand pieces in museums collections.

Dances, ceremonial or non-religious, are an important part of the Polynesian culture. Dancers, dressed in elaborate costumes, staged all sorts of objects. Navigation had a vital importance, which could explain why some of these dancing objects, such as this paddle, where strongly connected to life at sea.
The carvings on this paddle are very delicate; the geometrical patterns represent triangles and broken lines. Traditionally, carvings and engravings were made with stone tools or of animal teeth. Metal tools, brought by Europeans, progressively replaced the traditional ones. The patterns made with metals tools are more regular, as it can be seen on this paddle.

Provenance
Vanuatu (Melanesia, Pacific Ocean)
Date
19th century
Material
pig's teeth, pieces of shell, plant based paste
Dimensions
d 9,5 cm
Inventory number
2013.8.3 and 2013.8.4
Acquisition
found by Louis Le Mescam, given to the City of Le Havre in 1895

VANUATU PIG'S TEETH

A very specific social system, based on ranks, exists in Northern and Central Vanuatu. It is a social organization of power and prestige that is mainly based on pig ownership and exchange. The most valuable pigs have curved tusks.

For a pig to grow such teeth the upper canines have to be removed. The lower tusks then grow continuously, forming a curve. The animal is unable to feed itself and is taken care of by women. It takes 7 to 8 years for a tusk to form a complete circle. A pig that that has reached this stage acquires a high symbolic and economic value.

Because of this value, pigs play central role in the payment of ranks. Therefore, many objects and prestigious decorations are related to this animal. Teeth such as these can be found on ceremonial masks or on funeral figures. Pigs still have a specific role and are used in numerous exchanges: for instance as payment for a bride - a sort of dower, or for an infraction.

Provenance
Vanuatu (Melanesia, Pacific Ocean)
Date
19th century
Material
imported beads, plant fibres
Dimensions
L 19,5 cm
Inventory number
2012.8.64
Acquisition
found by Louis Le Mescam, given to the City of Le Havre in 1895

VANUATU RANK ARMBAND

This armband is an object of power of the islands of Vanuatu, archipelago situated between New Caledonia and the Fiji Islands. The specific hierarchical system in this archipelago is characterized by ranks which we can acquire during his life, and which are marked by the ownership of specific objects.

In Vanuatu, society is based on a system of ranks. The higher rank an individual acquires, the more important he becomes. In a system of exchanges in which pigs play a central part, ranks are gained by accumulating and redistributing wealth. Various objects such as armbands, common to all the North of the archipelago, symbolised the obtained rank. They are worn on arms or on legs.
This armband is made with imported beads. Traditionally, beads were made from seashell and slices of coconut tree wood. These ornaments are found in the funeral figure of a dead person. It was a way to take with him in the afterlife the power and wealth gained during his life.
It is a rank object made for men. There also are female rank societies in Vanuatu that are currently less well known.

Provenance
Ambrym Island, Vanuatu (Melanesia, Pacific Ocean)
Date: Unknown
(probably 19th century)
Material
tree fern
Dimensions
L 42 x h 200 cm
Inventory number
2015.1.4
Acquisition
Customs seizure, 2013

VANUATU RANK SCULPTURE

If this sculpture is the sign of the high status of its owner in the rank hierarchy of Vanuatu, it is also bound to the spirit of an ancestor. It would be carved behind closed doors.
In Vanuatu, an individual acquires ranks throughout his life and with it objects that mark his rank. Only an expert could make such a piece of art. He would detain the technical and spiritual knowledge needed for its realization. Most of the face is sculpted from tree fern wood, a very fragile material; some of these sculptures are painted. Colour pigments were particularly valuable and were a part of a cycle of exchanges. Nowadays, still a few craftsmen are authorized to make such sculptures.
This object was seized by customs in Le Havre: tree fern exportation is prohibited. As it is the case for many confiscations, it should have been destroyed. It was given to the Havre Museum of Natural History that committed to link it back to its origins.

FOSSILS AND BELIEFS

Before their origin was scientifically explained, fossils inspired many stories. Men turned to mythology and beliefs to find explanations about these petrified animals. After all, ammonites are named after the ram-horned god Amon.

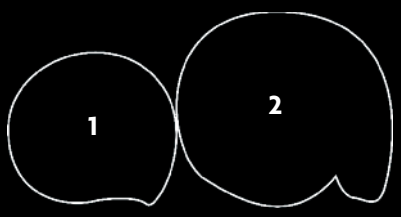
With their spiral shape, ammonites are the fossils that were sacralised the most. In the 7th century England, Saint Hilda is said to have petrified all the snakes on a hill before building a convent. The locals would sculpt snakeheads on ammonites that are now named Hildoceras; they are found in large quantities on that hill.
People also believed that shark teeth were in fact petrified snake tongues, though they simply were fossilized teeth.
Belemnites, an extinct variety of cephalopods -of the same family as octopuses, squids and cuttlefishes, were often mistaken for lightning stones because of their rifle bullet shape. According to the popular beliefs, they would have witnessed the mythical Flood.

STRENOCERAS NIORTENSIS 1

Provenance
Bayeux, Normandy, France
Era
Upper Bajocian (168 million years BC)
Material
fossil
Dimensions
L 3,5 x l 3 x th 1 cm, 13 g
Inventory number
ENS 456
Acquisition
coll. ENS – Paris VI

PERONOCERAS SUBARMATUS 2

Provenance
Saint Quentin, Rhône-Alpes, France
Era
Toarcien (from 182 to 174 million years BC)
Material
fossil
Dimensions
d 4,5 x e 2 cm, 31 g
Inventory number
ENS 456
Acquisition
coll. ENS – Paris VI



BELEMNITES TRIPARTITUS 1

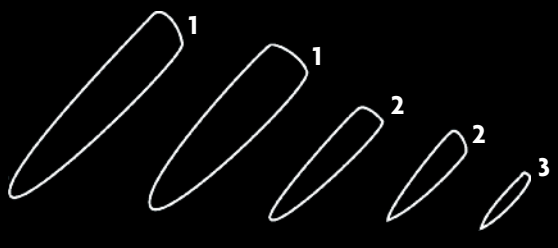
Provenance
Tilly-sur-Seulles, Normandy, France
Era
Toarcian (from 182 to 174 million years BC)
Material
fossil
Dimensions
L 10,7 x d 1,8 cm, 110 g
Inventory number
2011.17.50 (2 specimens)
Acquisition
Kuenegel collection

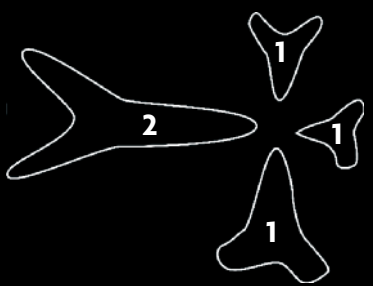
BELEMNITES PAXILLOSUS 2

Provenance
Tilly-sur-Seulles, Normandy, France
Era
Toarcian (from 182 to 174 million years BC)
Material
fossil
Dimensions
L 6,5 x d 1,2 cm, 19 g
Inventory number
2011.17.54 (2 specimens)
Acquisition
Kuenegel collection

BELEMNITES PISTILLIFORMES 3

Provenance
Villers-sur-Mer, Normandy, France
Era
Oxfordian (160 million years BC)
Material
fossil
Dimensions
L 3,4 x d 0,5 cm, 1,3 g
Inventory number
2011.17.244 (2 specimens)
Acquisition
Kuenegel collection





GLOSSOPÈTRES

1

Provenance
Charleston, South Carolina, United States
Era
Eocene (from 56 to 34 million years BC)
Material
fossilized tooth
Dimensions
3 specimens : the biggest L 2 x L 1,8 cm; the smallest L 1 x l 1,2 cm, 1,3 g in total
Inventory number
2011.17.965
Acquisition
Kuenegel collection

2

Provenance
Charleston, South Carolina, United States
Era
Eocene (from 56 to 34 million years BC)
Material
fossilized tooth
Dimensions
L 3,8 x l 2,2 cm, 2 g
Inventory number
2011.17.967
Acquisition
Kuenegel collection


VISIBLE
INVISIBLE

Knowledge is a photographic developer for every object, natural or artificial. What can we see, other than the features of materiality?

Magic is in what is visible. This exhibition is a spectacle of shapes and colours and that is what visitors enjoy in the first place.

The magic of objects is also in the invisible. Studying the insides of objects means disclosing the story of their components and their function. The magic of African Nkisi revealed by X-ray gives us a better understanding and reveals the sacred character of this object.

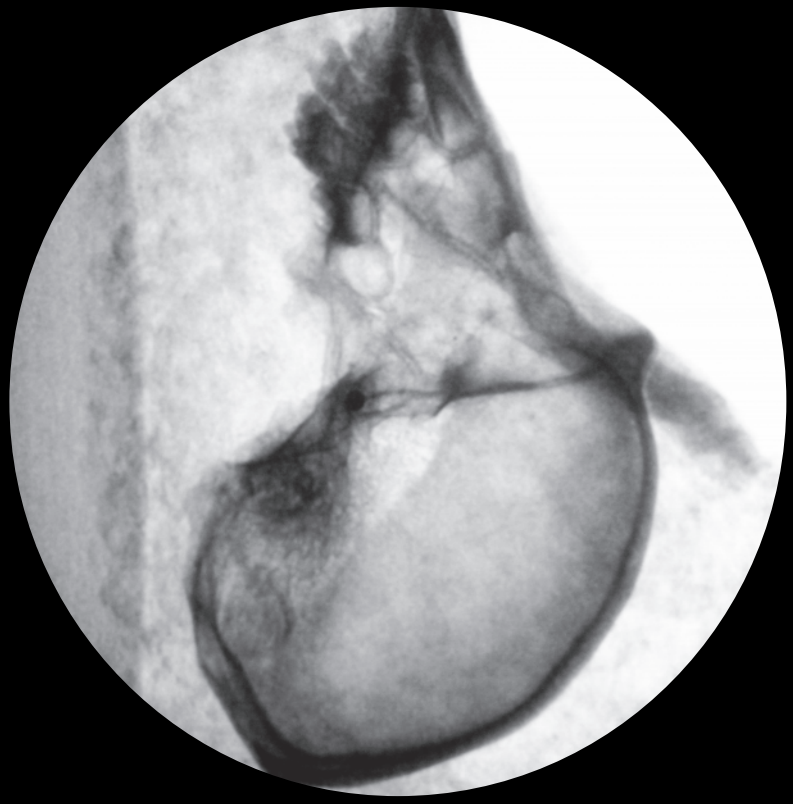
Provenance
Democratic Republic of Congo
Ethnic group
Vili or Yombe
Date
last third of the 20th century
Material
Chimpanzee skull, rattan, clayey gangue, fur, plant cluster, metal
Dimensions
22 x 20 x 17 cm
Inventory number
2012.9.26
Acquisition
customs devolution
X-ray source
UMR 7179, CNRS-National Museum of Natural History

NKISI MBUMBA, MEDICINAL SKULL

Nkisi mbumba is a magic object that can only be handled by a diviner. It made from a monkey's skull enclosed in a clayey gangue that is inserted in a rattan basket. The skull is considered as "medicine", a magic substance. For this one, the "medicine" has been placed in a small metallic piece that can only be seen through X-ray.

When placed inside homes, these plant medicines protect families, control rain, cure illnesses, defend against sorcerers and help win the favours of the gods before war. Mbumba were also used to identify a perpetrator or a sorcerer during *liboka*, a complex ceremony that the entire village had to attend.

The word mbumba has several meanings, among which: "grave", "medicine ball" or "trap". The oldest ones were made with a human skull with a clay face modelled directly onto the bone, or fixed onto a tray. This one is made with a chimpanzee skull but other animals, such as baboons or gorillas, could also be used.

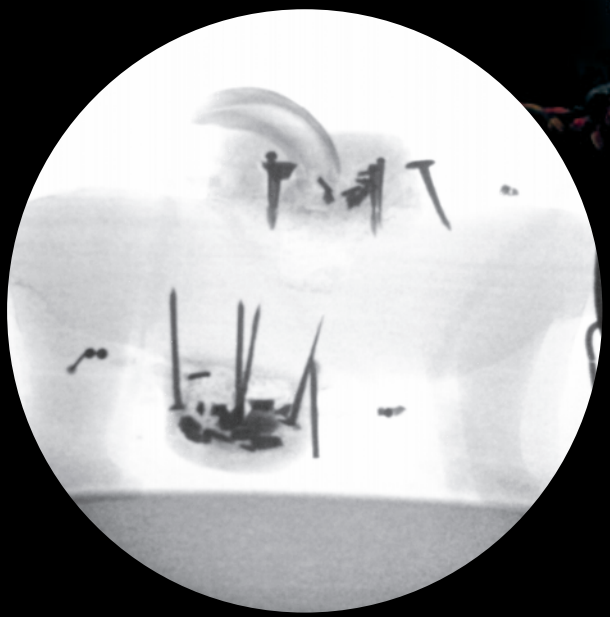


Provenance
Republic of Congo (Congo-Brazzaville) or Democratic Republic of Congo (Congo-Kinshasa)
Ethnic group
Teke
Date
19th century or beginning of the 20th
Material
wood, plant fibres, metal, upholstery nails
Dimensions
24 x 7 cm
Inventor number
2008.4.212
X-ray
source UMR 7179, CNRS- National Museum of Natural History

TEKE STATUETTE

This statuette has two small "medicines", magic bundles, hanging on its elbows. Once the nganga "diviner" charges these bundles, the statuette is endowed with powers of individual protection.

Usually Teke statuettes, also called butti, are encased from neck to feet in a gangue of earth that contains magic bundles. This one only has two "medicines". One of them contains a small metallic ball that can only be seen through an X-ray.
The nganga, the diviner, is the only one to know the magic spells that activate these bundles. The Teke ritual is very similar to that used by their Kongo and Vili neighbors for nkisi. This statuette also has the power to dispel diseases and death from the village.
Male Teke statuettes have characteristic features: bent legs, arms at a right angle and stuck onto the body, scarified face, trapezoidal beard and helmet-like hairstyle.



PROVENANCE
Democratic Republic of Congo
ETHNIC GROUP
Kongo or Vili
DATE
19th century
MATERIAL
wood, cloth, plant and clayey amalgams, tooth, reed, mica, various metals
DIMENSIONS
35,5 x 8 cm
INVENTORY NUMBER
2008.4.383
X-RAY
source UMR 7179, CNRS-National Museum of Natural History

NKISI ZOOMORPHIC STATUETTE

This statuette representing a dog is a nkisi, an "idol" believed to hold a major power. Its abdominal and dorsal cavities contain called magic bundles called bilongo (metal, seeds, hairs, teeth and various binders) enhanced with cloth plaits and a cluster of clay.
A nkisi is intended for personal or family use. During special a ceremony, it is consecrated and activated by the nganga, the healer-diviner, who puts the bilongo in it. The statuette then passes on to its owners the vital force it carries thus helping them to keep a good health and to solve their problems.

Nkisi are often anthropomorphic. Hunting dogs such as this one have the ability to detect sorcerers. The plait is a symbol of the visible and invisible worlds while the red and the white of the cloth represent blood and the dead's world.

Vernacular name
white rhinoceros
Family
Rhinocerotidae
Genus
Ceratotherium
Species
Ceratotherium simum
Provenance
CERZA zoological park
Date
2014
Material
polyurethane foam, iron
Dimensions
L 4 x l 1.50 x H 2.30 m
Inventory number
specimen to be mounted
Acquisition
gift from the CERZA zoological park
UICN conservation status: Near Threatened
CITES classification: Appendix I

WHITE RHINOCEROS AND ITS SKULL

The rhinoceros is the biggest continental mammal after the elephant. Five different species live in Africa and in Asia. The white rhinoceros roams the sub-Saharan lands of Africa. Because of extensive poaching, it is in danger of extinction.

White rhinoceros can reach 2 meters to the withers and weigh 3 tons. They feed on grass and move slowly, always taking the same paths. Their sight is weak but they have an acute sense of hearing. After 16 months of gestation, the young are born without horns and weigh around 40 kilograms. They always walk in front of their mother, on which they feed for about a year. Though they are very hard, the horns are not made of bone but of keratin, a protein that can also be found in nails and hair!

In Africa, there are two species that both have two horns: the white and the black rhinoceros. In Asia, the rhinoceros of Sumatra, the Indian rhinoceros and the rhinoceros of Java only have one. Though their average life expectancy is long (50 years), the five species are endangered because of poaching: in some traditions,rhinoceros horns have medicinal and aphrodisiac virtues.

PROVENANCE
Fresney-le-Puceux, Normandy, France
DATE
Pliensbachian, -185 million years BC
MATERIAL
limestone, fossils
DIMENSIONS
opened up: L 50 x l 40 x e 10 cm, ca. 40 kg
INVENTORY NUMBER
2011.12.2656
ACQUISITION
collection of the Le Havre Museum of Natural History

BLOCK OF *ACANTHOPLEUROCERAS*

Once opened up, this block of stone displays a spectacular set of ammonites and a few bivalves. The two main geneses of ammonites indicate that it dates from 185 million years BC. The gangue in which they were found preserved them as well as if they had been in their shell. It allows us to see details that usually disappear with time and fossilization.

The two species of ammonites in this gangue are: *Acanthopleuroceras* - from the Greek *Acanth*: thorn, - *pleur*: side and *ceras*: horn - and *Tragophylloceras* - from the Greek Trag: billy goat, phyll: leaf and ceras: horn. The Roche Blaine quarries, where the block was discovered, are amongst the last ones still in operation in the region. From a palaeonthological point of view, they are known for their beautiful calcified ammonites. The diversity of species - about fifty different ammonites - found in Roche Blaine comes from a particular ecosystem: a diversified fauna developed in the many different ecological niches that existed then.

Provenance
unknown
Date
Most likely from the Gallo Roman epoch
Material
puddingstone
Dimensions
L 33 x l 25 x H 8 cm, 5,5 kg
Inventory number
2012.3.447
Acquisition
inconnu

Provenance
Yport
Date
unknown
Material
puddingstone
Dimensions
L 38 x l 21.5 x e 5 cm, 6 kg
Inventory number
PPe200
Acquisition
unknown

PUDDINGSTONE: ROCK AND GRINDSTONE

Puddingstone is a sedimentary rock formed by the accumulation of fragments of other rocks. It is also called a conglomerate. This rock is made of pebbles agglomerated with natural cement. During the Neolithic in Normandy and in all the North of the Paris Basin, people started using the puddingstone to make grinding tools.

Pebbles, commonly found on the seaside, are fragments of rock torn away by erosion. They are polished by the strength of water currents, for instance in rivers, that cause friction between the pieces of rock. They accumulate, are bound together with a natural silica cement and form a conglomerate called puddingstone. Depending on the area they come from their colours and speckled aspect differ. A soil good for farming can form on the layer of puddingstone. During the Neolithic, people used this material to grind, in particular cereal. With time grinding tools became more elaborate. Gallo-Romans used puddingstone to make rotating millstones that they exported all over the region.
In the North of the Paris Basin these very dense stones were used to make grindstones.

Provenance
Babaudus, Rochechouart-Chassenon astrobleme, Limousin, France
Date
around 200 million years ago
Material
siliceous minerals
Dimensions
n° 9 L 10.5 x l 8 x e 6 cm, 448 g; L 12 x l 7 x e 6 cm, 445g; n° 13 L 0.18 x l 0.13 x H 0.09 cm, 1 483 g
Inventory number
n°9: 2015.10.2; n°13: 2015.10.3
Acquisition
gift from T. Vincent 2004; collection of the Le Havre Museum of Natural History

IMPACTITES

Impactites are the remains of the impact of a meteorite on Earth. When the meteorite touches the planet's surface it provokes a big shock wave, as well as an increase in temperature of several tens of thousands of degrees! After being sawed and polished, they reveal their internal structure, made by the fusion of collided rocks.

Meteorites fall towards Earth at a very high-speed: between 15 and 170 kilometres per second! When they collides with Earth it creates a crater, also called astrobleme - from the Greek astron: celestial body, and blêma: blow. The temperature at the point of impact is so high that the meteorite and the collided rocks melt and combine into impactites.

Over 160 impact craters have been found on the surface of the Earth. Over time, these craters fill up, subside or weather away. They can then only be identified thanks to impactites and impact structures that are found on site. In Rochechouart, approximately 200 million years ago, a 1.5 kilometre diameter meteorite weighing over 6 billion tons collided with Earth. The crater was over 20 kilometres in diameter! This site is scientifically very important: no crater is visible. It is the first impact structure to be discovered only by the determination of the impact effects on the rocks.

PROVENANCE
Cotentin, France
DATE
unknown
MATERIAL
iron oxide (Fe3 O4)
DIMENSIONS
L 28 x l 27 x H 16 cm, circa 30kg
INVENTORY NUMBER
PPe201
ACQUISITION
collection MHNH

MAGNETITE

Magnetite is a natural iron oxide ore that has magnetic properties. It contains indications on the evolution of Earth's magnetic field. Commonly found in northwestern Cotentin, it is a very dense rock: this block weighs a dozen kilograms.

Crystals of magnetite are scientifically interesting because they are a record of Earth's magnetic fields. During the billions of years of existence of our planet this field changed a lot, and even reversed several times. Magnetites carry within them the history of these variations, sealed by the congealing of their crystals.
This rock is an iron ore exploited in many quarries that was already used as raw material during the Iron Age, 800 years BC. In more recent times it has been used as a boat stabilizer because of its high density.


APPEARING
DISAPPEARING

The evolution of the living world, as that of civilizations, does not follow a linear path.
The naturalist Steve Gould explains how the faunae of Ediacara (illustrated here by a specimen of Dickinsonia), of Burgess, Tommot, had thrived while many organisms did not survive natural selection.

Appearances and disappearances invite us to see time on different scales. The long scale of our planet's history and of the major faunae extinctions as of ammonites or dinosaurs. The shorter scale of the Havre Museum's history and of destruction of collections in 1944, confronting the utopia of conservation to material contingencies and to the madness of man.
Texte kids:

Fossils are proofs of the existence of dinosaurs and of big mammals that disappeared several million years ago. Today, some species also are threatened. Museums unveil traces of a distant past and testify of the fragile balance of life on Earth.

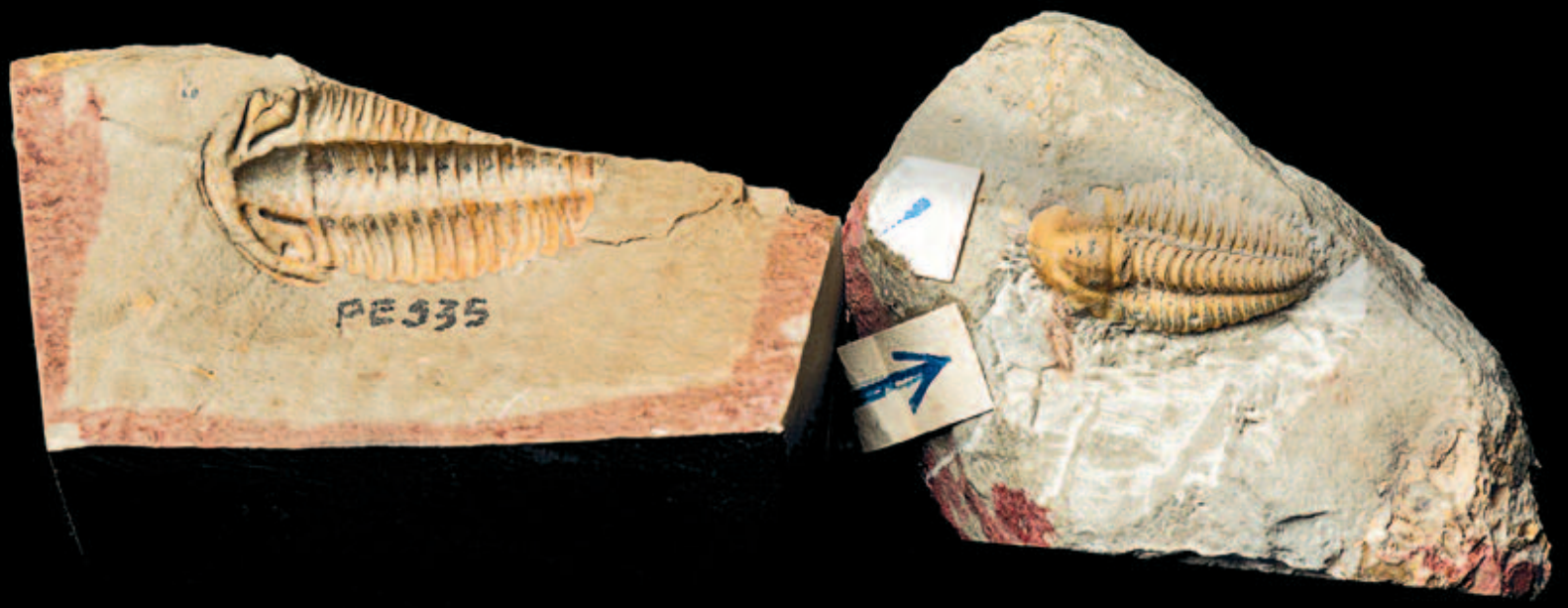
Provenance
Ediacara (Australia)
Era
Ediacarian (from 635 from 541 million years BC)
Material
sandstone
Dimensions
L 15 x l 11 x e 5 cm, 1,3 kg
Inventory number
2015.10.7
Acquisition
through an exchange with Australia

DICKINSONIA COSTATA FROM EDIACARA (AUSTRALIA)

The age and the diversity of the fossilized fauna found in Ediacara, Australia makes it a world-wide paleontological reference. The number of species discovered on this site is so substantial that it is considered as an "explosion of life". These fossils are mainly imprints and are amongst the oldest known complex forms of life.

A few million years later, Tommot in Siberia around 530 million years BC - and Burgess in Canada - around 515 million years BC, will spawn the same massive diversity of life.

The Havre Museum of Natural History has two specimens coming from Ediacara in its collections. A shallow 3-centimeter diameter oval shape with a central grove is imprinted on the surface of this small piece of stoneware. This species, commonly found in Ediacara, is called *Dickinsonia costata*. It is assumed that Dickinsonia were able to move: fossilised trace imprints were found on site. Its classification remains unclear and there are several theories on this subject. It could be an annelid (a ringed worm), but no proper evidence has been found so confirm this idea.



PROVENANCE
unknown
ERA
Palaeozoic (from 541 to 252 million years BC)
MATERIAL
plaster and fossil
DIMENSIONS
L 5,5 x l 3,5 x th 2 cm, 54 g;
L 6,6 x l 3,8 x th 3 cm, 87g
INVENTORY NUMBER
2007.2.577; 2007.2.571
ACQUISITION
Le Havre Museum of Natural History, Hupé collection 689

TRILOBITES

Trilobites are arthropods that have an exoskeleton. Their appearance is close to that of woodlice, though they aren't strictly related to them. These marine animals populated the seas of the Palaeozoic Epoch for over 300 million years. There were about 20 000 different species of trilobites of an extraordinary diversity of shapes.

The smallest specimens measured less than a few millimetres while the biggest go be up to two meters long! For most species, the middle of the body stands out. Its name comes from the division of its body in three parallel lobes.
Trilobites appeared approximately 540 million years ago when species developed exponentially in the phylum of arthropods. An impressive variety of trilobites were found and thoroughly documented showing the diversity of modifications within the group. It also illustrates the population dynamics: the occurrence of a modification that, little by little, increases in frequency within the specie... The first trilobites had a poorly mineralized exoskeleton that evolved through time into a more solid shell. Their geographical distribution is wide and species evolved very quickly which is why they are considered as very good index fossils.
Trilobites disappeared 250 million years ago during the massive extinction in which 95% of marine species went extinct.

PROVENANCE
unknown, probably China
EPOCH
Miocene (between 23 and 5 million years BC)
MATERIAL
fossilized bone
DIMENSIONS
L 60 x l 30 x H 56 cm
INVENTORY NUMBER
2011.12.1566
ACQUISITION
allocation from French customs, 90's

CHILOTHERIUM, FOSSILIZED RHINOCEROS

This skull belongs to an animal that resembled a rhinoceros. It is a Chilotherium, from the Greek, Chilo: lip and ther: wild animal. This extinct species lived during the Miocene, from 23 to 5 million years ago. This grazing mammal was well adapted to the huge grasslands it lived on. The lower jaw is very well preserved. Teeth, and especially the tusk-like incisors, are typical of this animal. Though the provenance of this fossil is unknown, the distribution of other found fossils indicates that it probably comes from Eurasia or Asia. By analysing the rock gangue in which it was trapped we can assume that it came from China.

The Havre Museum of Natural History was given this large fossilized skull in the 90s as an allocation from French customs. It was then still contained in its gangue and was taken out and cleaned at the Museum. It is only then that its genus was discovered.

PROVENANCE
Le Havre, Cap de la Hève, Normandy, France
ERA
Lower Albian (113 million years BC), discovered in 1992
MATERIAL
fossilized bone
DIMENSIONS
large L 30 x l 24 x th 16 cm, env. 10 kg; small L 21 x l 12 x th 20 cm, 3,036 kg
INVENTORY NUMBER
2013.2
ACQUISITION
gift from Pierre Gencey

NORMANNIASAURUS GENCEYi'S VERTEBRA

This terrestrial herbivore dinosaur is a sauropod, just like the famous Diplodocus. It is almost twenty meters long and is amongst the biggest dinosaurs of all times. The big quantities of fossilized wood found in the same strata attest of the plentiful vegetation on which it would feed.

Only a few bones of this animal where discovered. They were typical enough to be sure it was an unknown species. Thanks to two vertebrae and a few limb bones helped scientists link this dinosaur to the Titanosaurus family. This terrestrial dinosaur was found in marine sediments but most likely lived on the emerged lands close to the Armorican Massif (currently Brittany). After it died, the sea probably washed its remains away to the place where it sunk: present time Le Havre. When the cliffs partially collapse, revealing new outcrops, beautiful discoveries are made. Pierre Gencey found this specimen in Normandy and the palaeontologist Jean Le Loeuff described it in 2013. It was named after its discoverer and its place of collection.

Provenance
Feuguerolles-Bully, Normandy, France
Era
Toarcian (180 million years BC)
Material
limestone rock and fossils
Dimensions
L 30 x l 20 x e 5 cm, 3.7 kg
Inventory number
2015.10.8
Acquisition
collection and harvest of the Havre Museum

AMMONITE SLABS

These slabs contain a large amount of ammonites. Two species are mainly found: Dactylioceras, of which there is most, and Hildoceras in lesser amounts. The fossil concentration in this layer is probably due to a change in the environment that could have been a cause of mortality within the species.

For palaeontologists, these slabs are a rare opportunity to study these species that lived together. They also show their ratio: we can clearly see here that Dactylioceras were more profuse.
Ammonites are amongst the commonest fossils.

During their 300 million years of evolution, there were thousands of species with a multitude of shapes. They disappeared at the same time as most dinosaurs, 65 million years ago. Many hypotheses where made on their disappearance. Scientists recently discovered that ammonites most likely fed on plankton and assumed that their extinction is linked to the disappearance of their main source of food.

PROVENANCE
Fresne d'Argences, Normandy, France
ERA
Callovian (from 166 to 163 million years BC)
MATERIAL
fossilized bone
DIMENSIONS
tibia L 60 x d 25 x th 20 cm
INVENTORY NUMBER: 2012.15.1s
Acquisition: harvested and given by Roger Brun

LORICATOSAURUS PRISCUS'S TIBIA

Lexovisaurus, also named Loricatosaurus, is a stegosaurus dating from 163 million years ago. It is one of most ancient stegosauruses to have been discovered! This dinosaur was a 5 meters long herbivore that walked on all fours.

After a close examination and study of some parts of this skeleton, this dinosaur was identified as a stegosaurus of the genus Lexovisaurus. However, a recent study invalidated this name, and its genus is now Loricatosaurus.
A few decades ago, during a trip to the clay pit of Fresne d'Argences, the collector Roger Brun discovered about twenty fossilized vertebrae and limb bones belonging to this dinosaur. Finding a terrestrial animal in marine sediments is an exceptional discovery. This stegosaurus probably spend its life in the Armorican Massif, a part of Brittany that was above water when Normandy was covered by sea. One has to imagine that the dead animal was washed away from the coast into the sea.

Provenance
unknown
Era
unknown
Material
bone
Dimensions
approx. L 60 x l 15 x H 15 cm
Inventory number
2012.3.445
Collection
Le Havre Museum of Natural History

ANKLE BONE OF AN AUROCH'S HORN

Aurochs are cattle that have disappeared today; they are our domestic oxen's wild ancestors. They could be 1,80 m in the withers and weigh 800 to 1000 kilograms. They were more massive that our current oxen and their horns could be up to 120 centimetres in length. However, the average size was 62 centimetres for males.

The first aurochs appeared in India during the Pleistocene, 1.8 million years ago. They spread through Eurasia and North Africa. Palaeolithic artists, especially in the Lascaux caves, would paint them frequently. Males were much stronger than females and their coat was of a more or less dark brown. Aurochs were exterminated by hunting; he last specimens were killed in Poland at the beginning of the 17th century. They were domesticated very early and gave our current ox and it's African and Indian relative, the zebu. Domestication started 8 500 years ago in the Middle East, approximately at the same time as goats, sheep and pigs. It occurred 7 000 years ago in North Africa and India. Domestication and breeding are two of the main components the evolution of hunter-gatherers into farmers and breeders.

Though aurochs can be seen in some zoological parks nowadays, they are only genetic crossings and attempts to artificially remake the original animal.

PROVENANCE
Saint-Pompont, Dordogne, France
ERA
Middle Palaeolithic
(from 300 000 to 40 000 years BC)
MATERIAL
bone
DIMENSIONS
L 29,5 x H 16 cm
INVENTORY NUMBER
2012.3.244
COLLECTION
Le Havre Museum

JAW OF A CAVE BEAR

Cave bears, *Ursus spelaeus*, appeared approximately 250 000 years ago. This huge bear could be 3.5 meters high and weigh close to 450 kilograms. It is almost three times the average weight of a brown bear. Like most of the megafauna specimen of the Quaternary, cave bears went extinct about 10 000 years ago.

Cave bears are Ursidae that have powerful yet not very sharp canines, and crushing molars. It was clearly more vegetarian than the current brown bear. It was a sturdy mammal that could stand very harsh weather but was sensitive to high temperatures and long droughts. Cave bears would hibernate in caves, especially during the Middle Palaeolithic. At other times of the year, Men were likely to settle in these caves, which would provoke inevitable encounters. 35 000 years ago, Neanderthals were the first to use these animals: they would kill them for their meat, marrow and skin. It is impossible to say whether bears were hunted or if they were found already dead, from hibernation for instance.

Provenance
Seine dredging
Date
unknown
Material
tooth
Dimensions
approx. L 25 x l 10 x H 15 cm
Inventory number
2013.5.2
Collection
Le Havre Museum of Natural History

MAMMOTH TOOTH

This mammoth tooth was found after a dredging of the Seine River. It proves that these colossal mammals lived in this area tens of thousands of years ago. With its four molars, two in the upper jaw and two in the lower jaw, this huge herbivore could eat up to 180 kg of grass per day.

Only a few remains, in particular teeth and pieces of tusks, confirm the presence of mammoths in Western Europe. There are many more traces of their existence in Central and especially Eastern Europe. These mammals could measure up to three meters at the withers and even five meters for some species. Their spiralled tusks could be as much as three meters long. It is likely that during the upper Palaeolithic (from 40 000 to 12 500 years BC), Men hunted or gathered freshly died mammoths for meat, skin, ivory and bones. They used this raw material to make weapons, tools, art and even huts. Mammoths are a major component of the Palaeolithic bestiary especially in parietal art: they are widely painted in some caves such as Chauvet or Rouffignac. They disappeared less than 10 000 years ago.

Mammoth engraved in the Combarelles Cave (Dordogne, Aquitaine, France)

VERNACULAR NAME
Slender-snouted crocodile
FAMILY
Crocodylidae
GENUS
Mecistops
SPECIES
Mecistops cataphractus
PROVENANCE
Crocodile Farm, Pierrelatte, Drôme, France
DATE
2013
MATERIAL
scrap metal and wood fibres
DIMENSIONS
L 2.05 x l 0.80 x H 0.40 m
INVENTORY NUMBER
2014.10.40
ACQUISITION
gift from the Pierrelatte Crocodile Farm on the 26th of August 2013
IUCN CONSERVATION STATUS
Critically Endangered
CITES CLASSIFICATION
Appendix I

SLENDER-SNOUTED CROCODILE

Slender-snouted crocodiles are also called African gharial. They are piscivores: their diet is mainly composed of fish, snakes and amphibians. In 2004, the IUCN, the International Union for the Preservation of the Nature, classified the species as critically endangered.

Slender-snouted crocodiles have protective scales that cover their skin and osseous plates strengthen some of these scales. Males are bigger than females. Their have 64 to 70 very sharp flesh-tearing teeth. They are solitary animals for most of the year, except for the time of year when they search for a mate.
As their name suggests, African gharials are endemic to the African continent. Recent genetic and morphological studies changed the classification of this species in 2013 and gave it its own genus.

This specimen is a characteristic of the subspecies living in Western Africa. Since this change, it was classified as a species in critical danger of extinction by the IUCN. Indeed, slender-snouted crocodiles are is massively hunted for skin, and its habitat is being drastically modified by human activity.


COMPLETE
INCOMPLETE

Archives are the main source of information for the humanities. A reconstitution for archaeology, for the most recent eras, or palaeontology, for the oldest ones, is almost impossible because of the physical destruction of traces.
The most resistant materials resist time and deteriorations, which explains the abundance of lithic remains (stones) in archaeology and of hard parts such as teeth in palaeontology.
In a similar way, artificial objects can be found incomplete, either because they are fragile or because of a choice that was made at the time of collection: during the 19th century for example, parts that were considered as useless were often taken out.
The humanities are dependant on reconstitutions and hypotheses to forge knowledge. In palaeontology, a species is often described from a few pieces. Toumaï, the ancestor of Man, was in fact reconstituted from the fragment of a jawbone ...

Provenance
Bellême, Normandy, France
Era
Eocene (from 56 to 33 million years BC)
Material
hard sandstone
Dimensions
2012.17.1: L 20 x d 14 cm, 4 kg;
2012.17.2: L 15 x d 1 cm, 3, 521 kg;
2012.17.3: L 18 x d 10 cm, 2,896 kg;
2012.17.4: L 19 x l 12 x th 11 cm, 2,004 kg;
2012.17.5: L 21 x l 13 x th 12 cm, 2,971 kg;
2012.17.6: L 24 x l 16 x th 19 cm
Inventory number
2012.17.1 à 6
Acquisition
former collection of the City of Fécamp

FRUITS OF THE NIPA PALM NYPA BURTINI (6 SPECIMEN)

These six big fossilized palm tree fruits are more or less intact. They are a precious source of information on the climate they grew in. At that time in what is now France, it was hot and humid: they were fruits of mangrove palm trees!

These fruits are close to those of a current Asian palm tree: *Nypa fructicans*. Trees grow along tidal rivers, which explains why their fruits fossilized in marine sediments: after falling off the tree, they probably floated according to the current before sinking to the bottom of the river. They were then progressively covered with sediments. Their soft parts decomposed and filled with sand that hardened into sandstone. These fossils, identified as the fruit of the Nipa burtini, are the size of a coconut.
They come from collections of the former museums of Fécamp. In 1998, the City decided to donate to the Museum of Le Havre its malacology, mineralogy and palaeontology collections.

PROVENANCE
Saint-Jouin-Bruneval (whole) and Bec-de-Caux (pieces), Normandy, France
ERA
Middle Cenomanian (95 million years BC)
MATERIAL
fossil
DIMENSIONS
whole specimen: L 11 x l 9,5 x th 2 cm, 90 g; loose ossicles: L 9,5 x l 6,5 x th 2.5 cm, 100 g
INVENTORY NUMBER
MHNH 2247A
ACQUISITION
found and give to the Havre Museum of Natural History by Jean-Pierre Debris; MHNH: MHNH 2247A (complete); Croizé collection

FOSSILIZED STARFISH MASTASTER VILLERSENSIS

Starfishes' bodies are made of many small bones called ossicles. After the death of the animal, they slowly separate from the body as its flesh decays. Fossilized ossicles are commonly found in Bec-de-Caux. However, finding such a complete specimen is extremely rare.

Fossils that are made of numerous pieces are rarely found complete during palaeonthological searches. Palaeontologists usually only find a few small single parts to study their discoveries. Within a stratum, there can be ten or more very similar species of starfish. Finding such a complete fossil is a great opportunity for scientists to compare, identify and place correctly many of the single pieces.

Most starfish are predators and carnivorous. Mollusc enthusiasts, they can often be found on mussel farms along the coasts of Normandy. With its strength, a starfish is able to open the shell enough to "project" its stomach inside and digest the mussel.

Provenance
New Caledonia, Melanesia, Pacific Ocean
Ethnic group
unknown – style typical of the North Province
Date
19th century
Material
wood, pigments, plant fibres, hair, feathers;
Dimensions
L36: H 143 x L 36 cm;
Inventory number
2012.2.5
Acquisition
probable gift to the City of Le Havre at the end of the 19th century;

KANAK MOURNERS MASKS

In New Caledonia, this type of mask was usually made for the death of a leader. This mask represents the deceased. Along with the Big Hut or the ceremonial axe, it is one of the symbols of chieftainship.

In the North of Grande Terre, these masks were worn during mourning ceremonies. They would embodied a dead leader, symbolized an ancestor that founded the clan or spirits that guide the dead to the other world. The man that wore the mask could see through the holes between the teeth. The hair belonged to the mourners, relatives of the deceased. The feathers come from several birds amongst which the notou, a local bird that looks like a big pigeon.
With evangelization, natives stopped using these masks. Several can be seen in European collections. They are often called “apouéma”, a name derived from the equivalent of “mask” in cèmuhi. Louis Le Mescam, a Le Havre entrepreneur who lived in Nouméa from 1873 to 1900, brought these back. One still has both headpiece and beard but lacks its skirt, while on the other one is a beautifully preserved skirt but no headpiece or beard. Their collection, the journey and their preservation for over a century are the reasons why why those pieces disappeared.

KANAK MOURNERS MASKS

Provenance
New Caledonia, Melanesia, Pacific Ocean
Ethnic group
unknown – style typical of the North Province
Date
19th century
Material
wood, fibres and feathers
Dimensions
L 21 x H 118 cm (face)
Inventory number
2012.2.7
Acquisition
found by Louis Le Mescam,
who gave it to the City of Havre en 1895

PROVENANCE
Cap de la Hève, Normandy, France
ERA
Kimmeridgian (155 million years ago)
MATERIAL
fossilized bone, teeth
DIMENSIONS
L 140 x l 45 x H 72 cm, 70 kg environ
INVENTORY NUMBER
2011.12.2655
ACQUISITION
found and given by Marc Maréchal (1998)

PLIOSAURUS SKULL FROM THE CAP DE LA HÈVE

Pliosaurus lived about 155 million years ago. These reptiles were adapted to their marine environment: the ends of their limbs are paddle-shaped and their elongated body is hydrodynamic. Its circa fifteen centimetres-long teeth suggest that it fed on ammonites, fish and occasionally on dead reptiles ...

In 1998, just after a storm, Marc Maréchal, an amateur palaeontologist, found a skull and bones coming from the same skeleton. The skull was flattened by fossilization but the lower jaw is almost complete. Many remains of pliosaurus - from the Greek *plio* "fin" and *sauros* "lizard" – were discovered at the end of the 19th and the beginning of the 20th century in the Cap de la Hève. Unfortunately, they were all destroyed along with the Museum in 1944. This skull is a unique piece that enriches the collections of the Museum of Havre.

Provenance
Theuville-aux-Maillots, Normandy, France
Era
Middle Neolithic (from 4 200 to 3 500 years BC)
Material
ceramic
Dimensions
L 27 x l 36 c
Inventory number
2012.3.311
Collection
Le Havre Museum of Natural History

CHASSÉEN CERAMIC

This fragment of ceramic was part of a 48 cm diameter bowl. It comes from a prehistoric culture of the Middle Neolithic called Chasséen (from 4 200 to 3 500 years BC). The people who used to make this kind of ceramic were sedentary farmers and herders.

During the Neolithic, the chasséen culture spread all over in what is now France. Dark red or black ceramics of admirable quality that were expertly fired and sounded beautifully: bottles, bowls, plates, spoons ... that are typical of this culture. However in the North of France the assortment of ceramics was less significant, decorations were less regular and the quality was not as good. In Normandy, ceramics are commonly found on sites such as in Poses (Eure), Campigny or Theuville-aux-Maillots (Seine-Maritime), where this piece comes from. On this site were also found large amounts of flint tools and many structures such as ditches, posts holes, silos, fireplaces and pits.

PROVENANCE
Bardouville, Normandy, France
ERA
Lower Neolithic
(from 5 300 to 5 000 years BC)
MATERIAL
ceramics
DIMENSIONS
L 9,5 x l 7 cm
INVENTORY NUMBER
2012.3.276
COLLECTION
Le Havre Museum of Natural History

DANUBIAN CERAMIC

This shard of ceramic is dated from Lower Neolithic, between 5 300 and 5 000 years ago. Its decorations are typical of the Danubian culture, the culture of the first Norman farmers and breeders. Patterns on ceramics regularly change over time. They are for archaeologists an accurate indication for dating objects.

Decorations on this fragment of ceramic are typical of the Danubian culture. It coincides with the Lower Neolithic in France and comes from the migration of Neolithic populations. These tribes left Central Europe to go west, following the Danube River. During their migration in France they introduced farming, breeding and ceramics, the three main innovations of the Neolithic era. In those days, ceramics were essential for food preservation (vegetables, grains...). Nowadays, it is a key element for dating objects. Indeed shapes, techniques and ornamental patterns change from one period to another and are indications that archaeologists can use to estimate their age.

Provenance
New Zealand, Polynesia, Pacific Ocean
Ethnic group
Maori
Date
19th century
Material
wood, mother-of-pearl, trace pigments
Dimensions
L 110 x l 28 cm
Inventory number
2012.8.67
Acquisition
probable gift to the City of Le Havre at the end of the 19th century.

MAORI PIROGUE BOW

Pirogue plays a fundamental role in the Maori society. Not only are they common means of transport between islands, they are symbolically linked to the founding clan ancestor. They can also receive the body of the deceased for its voyage to the land of the gods. War canoes had this kind carved bows to protect their warriors and frighten enemies.

Exchanges between islands, would they be peaceful or aggressive, required fleets of boats. During the 9th century the settlers came by boat to New Zealand.
This type of carved faces decorated the bow of a waka tauai war pirogue. These canoes could be 30 meters long and hold up to hundred men Safeguarding the boat and its passengers, its face has an aggressive expression. Its open mouth and its stuck out tongue is a sign of mistrust that is also seen in the Maori traditional war dances haka. The spiral patterns represent the whirlwinds of the ocean waves that it faces on every trip. Sometimes these bow represent people or stylized birds. Circles of mother-of-pearl overlay the eyes. Mother-of-pearl comes from the land of the gods; by putting it onto wood, the last part of the work, it sgives life to the sculpture.

159
COMPLETE/INCOMPLETE


KNOWN
UNKNOWN

All that we know...
And all that we don't know...
In the collections of the museum are very well known objects of which we know a lot, and objects for which a lot of information is missing. One of the goals of museums is to put the puzzle back together, with missing parts that need to be found and with lost parts that can only be imagined.

PROVENANCE
Cap de la Hève, Normandy, France
ERA
Kimmeridgian (155 million years BC)
MATERIALS
fossilised carapace, stone
DIMENSIONS
L 40 x l 45 x e 25 cm
INVENTORY NUMBER
MHCR 1961/1962
ACQUISITION
collection and gift of Mr Croizé MHCR 1961/1962

FOSSILISED TURTLE : TROPIDEMYS

Turtle bones are often found in Kimmeridgian geological strata (155 million years BC) in Normandy. Fossilised carapaces are rarely found whole; usually, with fossilization, only a few pieces are left. Its age is still impossible to define and is currently been determined by scientific studies.

This shell belongs to a turtle of the genus Tropidemys but some criteria don't match the characteristics of this genus. Fossils found from this era were mainly marine animals and turtles were too. Marine turtles shells are made to be hydrodynamic and therefore are very flat; this one is thick and seems less suitable for swimming. Additional studies of this specimen are being done to determine its species. Knowledge of our history changes with discoveries and our heritage and its definition that are in constant evolution.
The shell of the turtle is made of scutes that, during the millions of years of its evolution, widened and bound together. In the shell, the animal's vertebrae are also joined together in a way that makes it impossible for the animal to come out..

Ethnic group
Toucouleur
Provenance
Mali
Date
19th century, before 1890
Material
wood, leather, metal rivets
Dimensions
H 91 x d 48 cm
Inventory number
2008.4.382
Acquisition
found during the battle of Ouossébougou (current Mali) in 1890. Gift from General Archinard, 1929.

AHMADOU TALL DRUM

This drum is one of the most documented objects in the African collection of the Museum. In his personal diary, General Louis Archinard wrote that this tabala was played uninterruptedly during the two days of the battle of Ouossébougou, from the 25th to the 26th of April,1890.

This battle confronted the French and the Toucouleur armies. The latter had retreated in this fortified city of the desert after their capital Segou had fallen twenty days earlier. The drum was found in the citadel and given to Archinard by his Bamana allies after the fortress was taken. The skin of the drum was deliberately slit to make sure it wouldn't sound again, as a sign of the French army's victory.

In 1929, General Archinard himself placed the drum in one of the Museum's windows.

PROVENANCE
Vanikoro, Santa Cruz Islands (Salomon Islands, Pacific Ocean)
DATE
found during the 19th century
MATERIAL
wood, plant fibres, printed cloth
DIMENSIONS
l 6 x H 30 cm
INVENTORY NUMBER
2012.8.55
ACQUISITION
found by Louis Le Mescam, given to the City of Le Havre in 1895

SANTA CRUZ STATUETTE

Made in Vanikoro in the Salomon Islands, this statuette is an exceptional piece: it is rarely found in the collections of European museums. It is not very well documented but it is most likely a protective figurine.

Carved from a single piece of clear lightwood, this statuette is a stylized representation. Its arms are stuck to the body and details such as hands, feet and ears are simply underlined with incisions. It is wearing a loincloth made with of imported printed fabric decorated with geometrical patterns. Stylized frigate birds are carved on its base. These birds give precious indication for fishermen: they signal the presence of schools of fish, especially bonitos.
In this part of the Pacific, pirogue hangars also served as ceremonial houses where important events of the ritual life took place, and where sacred and precious objects were kept. These kinds of statuettes are most likely protective figures in which offerings could be deposited. This is probably an indication of the Polynesian origin of the Santa Cruz people: this kind of ritual is closer to the Polynesian than to the Melanesian tradition.

Provenance
Bilma region, Niger
Ethnic group
Touareg
Date
before 1932
Material
wood, leather, brass, cotton, iron, straw
Dimensions
60 x 40 x 75 cm
Inventory number
2008.4.369
Acquisition
gift from Mrs Amiel, widow of General Henri Amiel, in 1976

TOUAREG DROMEDARY SADDLE

These saddles with a cruciform knob are used by Touareg Nomads to harness dromedaries. They are considered as the most prestigious animals in the Saharan region. They are used for races and fights and are a pride to their owners.

The reputation of a warrior rests on the quality of the harnessing and the care he puts in the decoration of his saddle. It is designed to carry several travel bags hanging from the sides of the animal. The emerald green colour of the leather is made with copper oxides. The Touareg people consider it a noble colour as well as a symbol of protection; it is often combined with scarlet leather. Geometrical patterns such as triangles also are prophylactic symbols.
The Museum keeps copies of pictures of this saddle when it was the property of lieutenant Henri Amiel in the 30's. These copies come from the photo albums of the lieutenant's widow.

Vernacular Name
silver bryum
Species
Bryum argenteum
Collection date
November 1922
Collection site
Le Havre, roofs of the dock warehouses
Collector's Name
Pierre Senay
Dimensions
6,5 x 8,3 cm closed (15 x 9,5 cm open)

BRYUM ARGENTEUM

Silver bryum are rather common mosses that have a silvery aspect. They are often found in cities, in gaps in the road for instance. As mosses are very fragile, they are preserved in paper sleeves.

Pierre Senay who collected this specimen was, as Irénée Thériot, a member of the Linnaean Society of Seine-Maritime. He collected numerous specimens in the Le Havre area. This specimen comes straight from the roofs of the city docks.

Species
Barbula convoluta
Collection date
October 1922
Collection site
Le Havre, flat roofs of the warehouses of the Chamber of Commerce
Collector's Name
Pierre Senay
Dimensions
6,5 x 8,3 cm closed (15 x 9,5 cm open)

BARBULA CONVOLUTA

Barbula convoluta is a common species in Europe. This moss grows on paths, gardens or low walls.

Mosses of the Thériot herbarium are kept in paper sleeves. When specimens were added to the main herbarium of the National Museum of Natural History, sleeves were stuck on sheets, put together with specimens coming from other herbariums and organized according to the classification of species.

Provenance
southwestern Ivory Coast or south of Liberia
Ethnie
Grébo (Krou)
Date
19th or beginning of 20th century
Material
wood, plant fibers, kaolin
Dimensions
H 90 x l 40 cm
inventoriy number
2008.4.100
acquisition
Unknown

GREBO MASK

This kind of mask , created by the Grebo , Represented the spirits from the invisible world residing in the forest. they are uncommon in the collection of european museum

TITRE
drawing done by les Naturels
DATE
19th century
MATERIAL
engraving on paper
DIMENSIONS
27.5 x 34.2 cm
INVENTORY BUMBER
16054
ACQUISITION
gift or purchse

DRAWING OF ABORIGINAL

those drawings testify to the encounter between the Australian men and men. the French scientific expedition Led by Nicolas Baudin Between 1800 and 1804 .

Statuette ,
date et origine inconnues,
retrouvée dans les décombres du musée en 1944
N° 2012.25.2, H 12 x l 5 cm

During the Second World War, the Museum Natural history was closed to the public. In 1942, its director, André Maury, moved the collection of drawings and manuscripts known as the "Lesueur collection" and a part of the collections of Oceanian and African objects to protect them.

In September 1944, the centre of Le Havre was bombarded. All the remaining collections were destroyed. Witnesses recount that the remains of the building went on smouldering for two weeks. Some people salvaged burned objects they brought back to the Museum. These relics from this past are preciously preserved in the Museum's stock.

From 1973 on, the collections of natural history were reconstituted, with private or institutional donations, with purchases, but also thanks to taxidermy. The Museum of Le Havre made strong partnerships with zoological parks such as CERZA, near Lisieux. These partnerships are an opportunity for the Museum to get very rare species.

The Museum also requested the production of contemporary objects that naturally had a place in the collections.
Furthermore, several thousand of palaeontology and mineralogy specimens and also numerous books and manuscripts were given byprivate collectors. The City of Havre buys, with the help of other public partners, objects or sets of objects.
Preserving and enriching this heritage are two of the most fundamental tasks for the Museum today. The third one is to make it accessible to all.

Provenance
Ghana and southeast of ivory coast
Ethnie
Agni
Date
19th century or before
material
terracotta
Dimensions
H 24 x l 12 x e 10 cm
nventory number
2012.8.221
Acquisition
Unknown

MMA AGNI FUNERAL HEAD

This terracotta head , is a funeral Figure, named *mma*. After the death of an high rank member of the tribe, the Agni produced an idelalistic portrait of him.

Origin
Bamako or San, along the Bani river, Mali
Ethnic group
Mandé
Date
19th century
Material
wood, calabash, cotton, leather
Size
L 91,5 x l 52,5 x H 33,5 cm
Inventory number
2008.4.370
Acquisition
gift from General Archinard in August 1891, or from Mr. Fossat in 1903 (collected around 1898-1899)

BALOPHON, MALI

A balophon is a Western African percussion instrument. The term "Balafon" comes from the Malinké words bala, "instrument" and fon, "sound". This one has been restored in 2012.
Balophons can either be huge or light enough for the balophonist to hold. Slats of hard wood are arranged in an array from low to high notes and tied to a wooden structure with leather straps. The smaller and shorter the slats are the higher the sound is. Pairs of calabashes are placed under the wooden structure for amplification. Traditionally, these were pierced all over and covered by membranes made of cobweb or bat wing, called mirlitons, which are nowadays replaced by cigarette paper or fine plastic. The gourds are also arranged in an array from low to high, making one side of the balophon thicker than the other.
Several wooden slats had been removed and some of the gourds used as resonators were broken. All the gourds, except one, had lost their membranes. These mirlitons would give this balophon its characteristic timbre. Restoring the instrument turned out to be essential to esnure the good preservation of this exceptional work of art.
This instrument was entrusted for several months to Claire Musso, an art restorer specialized in archaeological and ethnographical objects. Her assignment was to clean it up, reinforce it and put it back in to shape so it could be played gain. Restoring objects for museums is a specific kind of work. Objects have to be repaired so as to be the closest possible to the original object, to improve their aesthetic integrity and sometimes, as it is the case here, to make them usable again without risking damage. The artists have to make sure that their intervention is easily understandable and replicable. The restored part of the object has to be distinguishable from the older parts, for instance by using a different color or material, and reversible. They can only work with materials that can easily be removed if needed. They can only recreate an element missing on the artifact with precise historical documentation on the missing part.
For this balophon, Claire Musso was able to ecreate the mirlitons after studying other balophons from French museum collections. On one of the gourds of these instruments, she found a membrane that was almost intact. In the same way, she decided to remove the nylon threads that were probably used several decades ago to hold up the gourds and replaced them with cotton thread, more suitable for the instrument.

Origin
Paris
Era
Chalcolithic (3 000 BC)
Material
copper
Size
5,5 x 1,5 cm
Inventory number
2012.3.25
Collection
Soulignac

COPPER ARROW

This copper arrow was found in the Paris region. First traces of the copper industry were found in Anatolia and date back to 7 200 years BC. In France, the first exploitations are 3 000 years old. A harder and more solid alloy was found by adding tin ore to molten copper: bronze.

Metallurgy started in the Middle East; the oldest metallic object shaped by the hand of man, a copper necklet, was found in Iraq and is dated from 9 500 years BC. Gold and copper were the first materials to be used. At first, they were hammered at cold temperatures. In Europe, metal objects started to be exchanged during the 3rd millennium. In Normandy, similar objects, in particular copper tools, were found and dated from the end of the Neolithic Era (2 700 years BC). Bronze quickly became prevalent but iron would come soon after. In Western Europe its use goes back as late as the 7th century BC. The work of metal will deeply change societies, but will only be widespread at the beginning of the Iron Age.

ORIGIN
Saint-Jean-de-Folleville, Seine-Maritime, Upper Normandy, France
ERA
Middle Bronze Age (from 1 400 to 1 200 years BC)
MATERIAL
bronze
SIZE
16,5 x 4 cm
INVENTORY NUMBER
2012.3.298
COLLECTION
Le Havre Museum of Natural History

BRONZE ROUND NECK AXE

The distinctive feature of round neck axes from Normandy is their large blade. It differentiates them from Breton axes. Another is the variety of the molded decorations that embellish the under parts. The most frequent ornament is a "trident", as seen on these two axes.

In Normandy, from 2 000 years BC on, bronze slowly became the only material used to manufacture weapons and tools. This alloy of copper and tin is easier to work than stone: sharper edges could be made, it could be set into any shape with a mold - long swords, arrowheads, axes - and the broken bits could be reused.
There are few metalliferous fields: copper and tin are found in sufficient quantities in few areas. This generates growing exchanges between different parts of the European continent. People living away from the fields brought metal from those living nearby, metal becoming a source of prosperity for the latter. The distribution area of these tools is wide: large quantities of these Norman axes were found in ancient depots in Great Britain. In parallel, specialized crafts and new societal models based on hierarchized organizations emerge.

ORIGIN:
unknown
ERA:
End of the Bronze Age/Beginning of The Iron Age (from 800 to 450 BC)
MATERIAL:
Bronze
SIZE:
13 x 3,5 cm
INVENTORY NUMBER:
2012.3.6
COLLECTION
Le Havre Museum of Natural History

BRONZE SOCKETED AXE

Socketed axes are typical of the end of the Bronze Era and the beginning of the Iron Age (from 800 to 450 BC). They have a standardized shape with a circular opening. Many were found in buried depots without any traces of use. Many questions regarding their use still remain.

Many typical Bronze Age depots have series of metallic objects – usually bronze – grouped in a small part of the room and buried in the ground. Many of these are filled with dozens of socketed axes such as the ones shown here. As often, the surface of these axes has no trace of use. They might have been used for commercial exchange, probably as ingots in the metal trade. Other hypotheses were made to explain the meaning of these storage places: they could have been “treasures”, "smelters’ depot", "traders' hiding places" or “religious depot”.

VERNACULAR NAME
Bongo
FAMILY
Bovidae
GENUS
Tragelaphus
SPECIES
Tragelaphus eurycerus
SEX
female
AGE
adult
DATE
2014
MATERIAL
mounting and skeleton assembling
SIZE
L 2.10 x l 0.80 x H 1.45 m
INVENTORY NUMBER
2014.10.46
ACQUISITION
donation of the CERZA Zoological Park
CONSERVATION STATUS
Near Threatened
CITES CLASSIFICATION
Appendix III

BONGO ANTELOPE

Bongos live in the forests of the African plains in the middle of the continent and from Ivory Coast to Kenya. They are the biggest of African antelopes: they can measure up to 130 centimeters to the shoulder!

Bongos live small herds of six to eight females with their young, and a male. During the calving season, these small groups gather to form a nursery heard of about fifty females! Very cautious, bongos are active during daytime and at night. During the day, they hide in bushes and small shrubs, out of which they only go at nighttime. Their huge spiraled horns can be as big as a meter long!
A few decades ago, they were massively hunted, mainly for their skin but also for their meat. They also suffered from the destruction of their habitat. The species has already completely disappeared in Uganda. In 2007, there were no more than a hundred mountain Bongos left! Protected since then, they can be seen in zoos, though bongos need special care in captivity.

ORIGIN
Ellen Trevorrow, Ngarrindjeri Terrotory, Southern Australia
DATE
2013
MATERIAL
plant fiber
SIZE
25 cm
INVENTORY NUMBER
2015.8.1
ORIGIN
Australia

WICKERWORK OF ELLEN TREVORROW

This fishing basket (fish scoops) is started up from an oval shape. The sides are progressively reduced and joined together into a triangular shape with an opening on top. It is made to collect objects easily. Women and children used these kinds of baskets to collect small fish (sprats and tadpoles). Once the basket was full, water could easily evacuate through the small holes and the remaining contents could be poured into a bigger basket.
Ellen Trevorrow is an aboriginal artist who lives and works in Coorong, in the Murray Mouth. She practices and teaches the art of wickerwork, honoring the traditional Ngarrindjeri techniques. Her work was exhibited all over Australia and in several countries around world.
Ellen Trevorrow is one of the resident artists hired by the Havre Museum of Natural History for the Pacifique(s) project. It started in 2012 and should be finalized in 2017. She was greeted by the Museum along with other artists as well as scientists, leaders and senior figures of the different communities involved in the project (Australia, New Caledonia, Vanuatu and Cook Islands). By the end of her stay, she had made several woven baskets, of which this fishing basket that was offered to the city of Le Havre.

COLLECTION
160 paleontological specimens
ORIGIN
Cotentin
DATE
Eocène
MATERIAL
fossils
DIMENSIONS
bloc 40 x36x H22 cm
boîte 26 x 19 x H 10 cm
INVENTORY NUMBER
2010.2
ACQUISITION
Gift made in 2012

2 SPÉCIMENS DISPLAYED :
bloc (2010.2.99.05081)
box of *Cypraedia yolanda* (2010.2.1)

GIFT FROM OLIVIER GAIN

The collections of the Museum are reference point for Norman paleontology. Olivier Gain's large collection of fossils from the Cotentin enriches the paleontology collections that did not have such essential items. They are indeed precious specimens: they come from hardly accessible fields and are key for scientific research and development in paleontology. Thanks to these samples, Olivier Gain has discovered many unknown species.

This is only a small part of a collection of several tens of thousands specimens. Olivier Gain organizes important scientific excavations and closely studies the specimens he unearths. In 2012, he published the first volume of his work Les Fossiles de l'Eocène moyen du Cotentin. In this book, he characterizes new species, holotypes of which were given to the Museum for its collections. Of major scientific interest, this collection shows the large diversity of species that populated Cotentin 40 million years ago, when a sea recovered the area. Moreover, Mr. Gain enhanced its scientific value by accurately inventorying, photographing and preparing the fossils.

GIFTS

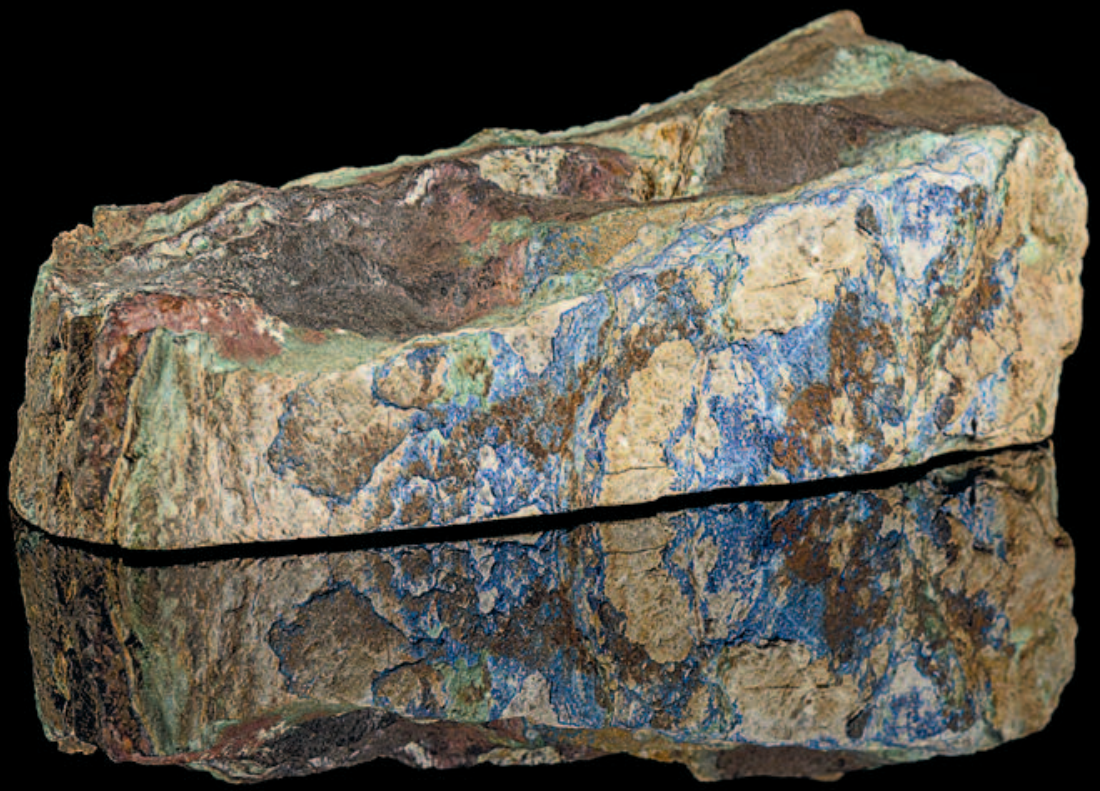
COLLECTION
1199 paleontological specimens
ORIGIN
Normandie
INVENTORY NUMBER
2007.5
ACQUISITION
don de 2005

2 SPÉCIMENS DISPLAYED
pine cone, Cauville, Normandy, Lower Albian (2007.5.647.1)
Ammonite Mortoniceras, Cauville, Normandy, Albian (2007.5.622)

GIFT FROM FRANK DESCHANDOL

Before he became a wildlife photographer, in the 90's, Frank Deschandol was looking for fossils along the coast from Le Havre to Saint-Jouin-Bruneval. This set contains typical local fossils and exceptional specimens.

Thanks to the accuracy and the thoroughness of the discoverer, all the fossils of this collection have been properly prepared and well documented. Every specimen has been inventoried with a geographical and stratigraphical localization, hence giving the set a great scientific interest. The Kimmeridgian stage (150 million years) is very well represented with many bones of vertebrates, in particular very rare fish of the genre Caturus or a beautiful set of big *Metriorhynchus vertebrae*, a crocodilian. He also had a penchant for the Albian (110 million years) and Aptian (125 million years) ages: this collection also contains series of ammonites of these stages, amongst which rare bucaillella, and beautiful shellfish that were perfectly prepared.



COLLECTION
72 specimens of Mineralogy
DIMENSIONS
L 11 x l 4 x e 4 cm, 334g
NVENTORY NUMBER
2015.12
ACQUISITION
Gift made in 2008

GIFT FROM MICHEL CATTELIN

Michel Cattelin is an amateur collector who gave his collection of mineralogy to the Museum of Le Havre. This well identified set is small but of great value. Mineralogy is a complex science where proper information on the field of origin is essential to identify specimens accurately.

Mineralogy is often assimilated to gorgeous crystals. However, much smaller or less well-crystallized minerals have a scientific interest that goes beyond aesthetics. The shape, the size, the color, the hardness and many other criteria tell us a lot about the physico-chemical conditions of the forming of Earth. This collection has a rather wide variety of minerals. Their provenance and the way they were formed indicate the large diversity of minerals that exists in France and all over the world. A common ore such as a calcite can crystallize in a multitude of ways depending to its origin. Many of these minerals come from mountainous regions; in these geographical areas, there are numerous bedrocks that contain various different minerals.

Collection
10 000 sand samples and document collection
Dimensions
L 58 x l 51,5 x e 7,5 cm, 10 kg
nventory number
2015.13
Acquisition Mode
Gift made in 1996

GIFT FROM SURBAIN AND ANDRÉ DE CAILLEUX

André de Cailleux de Sernarpont, also know as André de Cailleux (1907-1986), is a geologist and a renowned French geographer. Thanks to his expeditions and this collection he developed and standardized in 1935 the study of sands: morphoscopy, amongst others things. The shape, the mineral composition and the size of every grain are information about its origin. André de Cailleux also had a degree in advanced astronomy.

Using a multidisciplinary approach, André de Cailleux published on various objects, small and big. Besides his studies on sand and a doctorate in sedimentology in 1942, he also studied planetology. His interdisciplinary works often were a source of scientific progress. He became one of the most important specialists of the Quaternary. Lecturer at the Sorbonne, he created the Revue de géomorphologie dynamique in 1950. André Cailleux was a member of numerous scientific committees and chaired in the permanent committee of the International union for the study of the Quaternary, the French society of geochemistry (1961) and the International Association of Planetology (1979).
This entire sand collection he gave to the Havre Museum in 1996 is kept in a beautiful old cabinet. Every sample is carefully arranged and labeled in small cardboard glazed alveoli. This array is made of around 8 000 samples coming from all over world and has a high scientific interest.
His son, Urbain de Cailleux, gave to the city of Le Havre the invaluable collection of documents associated to these samples.

TITRE
02001: "*HISTORIC RESEARCH ON THE NAVIGATION OF THE SEINE*". FIRST PAGE OF A REPORT WRITTEN BY JEAN-BAPTISTE DENIS LESUEUR, FATHER OF CHARLES-ALEXANDRE LESUEUR.

02005: "*MAP OF THE COURSE OF THE SEINE FROM ROUEN TO PARIS TO BE OF USE FOR THE REPORT OF J.B. LESUEUR, TAKEN FROM THE NEWSPAPER OF THE NAVIGATION OF THE LUGSAIL LE SAUMON (THE SALMON)*".

DATE
19th century
MATERIAL
paper documents: 2 "singles" and a bundle
SIZE
02001 36 x 23 cm; 02005 50 x 23 cm
INVENTORY NUMBER
02001 and 02005
ACQUISITION
gift from Denis Lefèvre-Toussaint, Charles-Alexandre Lesueur's offspring

GIFT FROM DENIS LEFÈVRE-TOUSSAINT

The Lesueur collection consists of over 10 000 handwritten pages on various subjects. Three successive gifts made by one Charles-Alexandre Lesueur offspring between 2006 and 2014 enrich this collection and help getting to know and understand this man better.
Among the manuscripts kept by the Le Havre museum, there are letters written by Lesueur to his father during the first three years he spend in the United States, letters he wrote to one of his friends in Le Havre, descriptions of animals, minerals and fossils, history and ethnography reports written by François Péron...
Archives can always be completed: they are a core to which new elements can be added. These additions can help understanding a detail or the entire collection. The documents that were recently given to the Museum differ from one another: marriage certificates, death certificate, inventory of belongings, documents about the family house. But added to the pre-existent collection, they create a coherent ensemble of which the long-term preservation is ensured. Their analysis will help understanding Charles-Alexandre Lesueur's work.

Origin
Honiara, Guadalcanal Island, Salomon Islands (Melanesia, Pacific ocean)
Ethnic group
unknown
Date
between 1972 and 1974
Materials
wood and mother-of-pearl
Size
4 eggcups: H 6,5 à 7 x d 4.5 cm; musumusu PEOc 1 : L 12 x l 7,5 x H 17 cm; musumusu PEOc 2: L 11 x l 6,5 x H 15.5 cm
Inventory number
musumusu PEOc 1 and PEOc 2; coquetiers: PEOc 3, PEOc 4, PEOc 5 and PEOc 6
Acquisition

DON LE BORGNE MUSUMUSU FIGURINES AND EGGCUPS

These objects are not authentic ancient objects; they were crafted at the beginning of the 70s to be sold to tourists. They are made with traditional elements and are adapted to tourists' tastes, therefore symbolizing the convergence of two worlds, the Pacific and the West.

Typical of the Salomon Islands, musumusu figurines were placed on the prow of pirogues to drive away dangers of the sea. Pirogues were used for fishing bonitos or head hunting; musumusu were represented carrying a human head or a fregata bird. This one is a very stylized human head. The wood is clearer and denser than the wood usually used, and its treatment is different (polished and not covered with a black tint). Finely chiseled mother-of-pearl inlays remind of traditional designs that were painted on the faces of men or put on over-modeled skulls with mother-of-pearl.

The eggcups combine both cultures: the shape is western, but the wood treatment is typical of the Central Salomon Islands (darkened light wood, finely chiseled mother-of-pearl).

The small objects were crafter for tourists and adapted in shape, size, use and/or esthetics so that the traditional elements would be closer to western taste - and sometimes transportation restrictions.

2 displayed specimens
Ammonite
Perisphinctes sp.

Origin
Courban, Côte-d'Or, Burgundy, France
Era
Callovian-Oxfordian,
Size
d18 x th 4 cm, 1 492 g
Inventory number
2015.11.1

Ammonite sheet Procerite siemiradzkia microshell

Origin
La Javie, Castellane, Alpes-de-Haute-Provence, France
Era
Middle Bathonian
Size
L 21.5 x l 12 x th 3.5 cm, 810g
Inventory number
2015.11.2

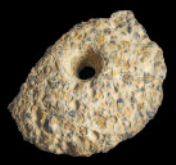
PURCHASE FROM PHILIPPE COURVILLE 15 000 SPECIMENS PALÉONTOLOGICAL

Philippe Courville is currently teaching at the University of Rennes. He patiently constituted this massive collection by searching on many sites all over France. Many fossils of scientific, museological or educational interests can be found in this set.

Most of the fossils of this collection were collected on constructions sites. These temporary archaeological sites give out rare specimens that come from otherwise inaccessible strata.
The Parisian Bassin is a concentric geological structure that covers the North of France. Specimens of the same period can be found on either side. The numerous fossils of this collection come from the eastern part are interesting: they can be compared to the many specimens of the Museum's collections that were found on the western side of the Bassin.

COLLECTIONS

ARCHEOLOGICAL COLLECTION



Puddingstone:
grindstone
n° 2012.3.447
Page 132

Axe made
from polished jadeite
n° 2012.3.23
Page 44

Handaxe
n° 2012.3.24
Page 103

Stone sickle
n° 2012.3.342
Page 104

Scrapper
n° 2012.3.96.2
Page 105

Deer antler pick
n° 2012.3.284
Page 106

piercing arrow
n° 2012.3.291
Page 107

cutting arrow
n° 2012.3.294
Page 108

polished axe
n° 2012.3.275
Page 109

Chasséen ceramic
n° 2012.3.311
Page 156

danubian ceramic
n° 2012.3.311
Page 157

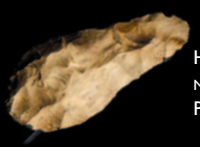
copper arrow
n° 2012.3.25
Page 178

Bronze Round Neck Axe
n° 2012.3.298
Page 179

Bronze Socketed Axe
En bronze
n° 2012.3.6
Page 180

blades
n° 2012.3.245.1 à 2012.3.245.7
n° 2012.3.97.1 à 2012.3.97.4
n° 2012.3.436
n°2012.3.175.3 à 2012.3.175.13
n° 2012.3.87.1 à 2012.3.87.11
n° 2012.3.188
n° 2012.3.231
Page 60

Flint dagger from the
Grand-Pressigny area
n° 2012.3.267
Page 99



Handaxe
n° 2012.3.178
Page 102

ETHNOLOGICAL COLLECTION

Three Indian throat axes
n° 2013.6.1 ; 2013.6.2 ; 2013.6.3
Page 47

Ivorian mask
n° 2008.4.92
Page 78

wé mask
n° 2008.4.350
Page 80

Bété mask
n° 2008.4.280
Page 81

Bété mask
n° 2008.4.353
Page 82

Bété mask
n° 2008.4.352
Page 83

Bété or wé mask
n° 2008.4.351
Page 84

Bété or wé mask
n° 2008.4.349
Page 85

Fang Mask from the Ngil secret society
n° 2008.4.319
Page 90

Lwalwa mask
n° 2015.1.3
Page 91

Bamana female figurine
n° 2008.4.211
Page 92

Zambezi headrestn
N°2008.4.96
Page 93

Moai wooden figure
n° 2012.8.22
Page 94

kiribati spear
n° 2013.8.1
Page 95

ceremonial mask
n° 2012.8.66
Page 96

hunting boomerang
n° 2013.7.1
Page 110

fishing kite
n° 2012.8.77
Page 111

Ceremonial adze
n° 2012.8.32
Page 112

Ceremonial tapa
n° 2012.8.29
Page 113

ceremonial paddle
n° 2015.1.2
Page 114

Vanuatu Pig's teeth
n° 2013.8.3 et 2013.8.4
Page 116

Vanuatu Rank
armband
n° 2012.8.29
Page 118

Vanuatu Rank sculpture
n° 2015.1.4
Page 119

Nkisi mbumba
crâne médecine
n° 2012.9.26
Page 126

Statuette Teke
n° 2008.4.212
Page 128

Nkisi zoomorphic
statuette
n° 288
Page 129

Kanak Mourners masks
n° 2012.2.5
Page 152

Kanak Mourners masks
n° 2012.2.7
Page 154

Maori pirogue bow
n° 2012.8.67
Page 158

Ahmadou Tall drum
n° 2008.4.382
Page 163

Santa Cruz
Statuette
n° 2012.8.55
Page 165

Touareg
dromedary saddle
n° 2012.2.5
Page 166

Grebo mask
n° 2008.4.100
Page 170

Mma Agni Funeral head
n° 2008.4.221
Page 174

Balophon, Mali
n° 2008.4.370
Page 177

Wickerwork
of Ellen Trevorrow
n° 2015.8.1
Page 182

eggcups
n° PEOc 3, PEOc 4,
PEOc 5 et PEOc 6
Page 188

musumusu
n° PEOc 1 et PEOc 2
Page 189

Ceremonial axe
n° 2012.2.1
Page 43

ZOOLOGICAL COLLECTION

Long-finned
pilot whale
n° 2011.15.124
Page 15

Hunting scene
of the Bengal Tiger
n° 2012.4.26
Page 17

Python molurus
n° 2014.10.45
Page 16

Firecrest
à triple-bandeau
n° o/181.014
Page 14

shrew
n° PZ 37
Page 19

European mole
n° PZ 36
Page 21

Great bittern
n° 2014.10.20
Page 56

Bongo Antelope
n° 2014.10.46
Page 181

White rhinoceros
and its skull
N° en cours
d'attribution
Page 130

Goliath Beetle
n° PEnt1
Page 70

Hyacinth macaw
n° 2014.10.21
Page 57

Slender-snouted crocodile
n° 2014.10.40
Page 147

Teinopalpus imperialis
n° PEnt2
Page 7

Hummingbird
n° O/ 007.007.
Page 77

Comet butterfly
from Madagascar
and his cocoon
n° Pent3
Page 18

BOTANICAL COLLECTION

IRIDACÉES FAMILY
N° 31-199/882 ; 2013.11
PAGE 48

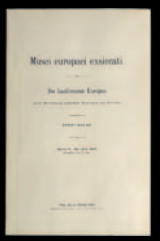
DROSÉRACÉES FAMILY
N° 78-447/1941 ; 2013.11
PAGE 50

AMARYLLIDÉES FAMILY
N° 30-196/870 ; 2013.11
PAGE 51

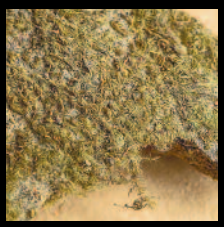
RANUNCULUS FICARIA
N° 2013.9.1.47
PAGE 53

GENTIANA CENTAURIUM
N° 2013.9.2
PAGE 54

APIUM GRAVEOLENS
N° 2013.9.2
PAGE 55



BAUER'S EXSICCATA
N° 2014.2
PAGE 72



FISSIDENS PUSILLUS
N° 287
PAGE 73

CINCLIDOTUS AQUATICUS
N° 288
PAGE 73

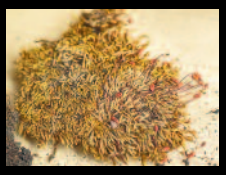
CINCLIDOTUS FONTINALOIDES
N° 289
PAGE 73

DICRANUM MONTANUM
N° 266
PAGE 74

DICRANUM VIRIDE
N° 267
PAGE 74

DICRANUM BONJEANI
N° 264
PAGE 75

DICRANUM CONGESTUM
N° 265
PAGE 75



BRYUM ARGENTEUM
N° 2014.1
PAGE 168

BARBULA CONVOLUTA
N° 2014.1
PAGE 169

PALEONTOLOGICAL COLLECTION

Dinosaur egg lay
from Rennes-le-Château
n° 2012.18.1
Page 22

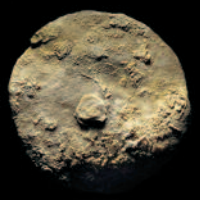
Anahoplites planus
n° 2015.10.10
Page 25

Series of Douvilleiceras
ammonites
n° 2011.2.1 à 2011.2.90
Page 66

skull of Young
ichthyosaurus
Stenopterygius
longifrons
longifrons
n° Typo 2
Page 87

Ammonites
n° ENS 456
Page 120

Nautile
Paracenoceras sp.
n° MHBR 0075
Page 23



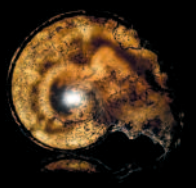
Nummulites
n° 2014.11
Page 27

Ammonites diversity
n° MHBR 0076,
2015.10.5, 2015.10.6 et
2015.10.11
Page 68

Lepidotes lennieri
n° 2011.12.2659
Page 88

Belemnites
n° 2011.17.50,
2011.17.54, 2011.17.244
Page 122

Ostracods
and Foraminifera
n° 2015.9.1
Page 26



Arietites sp.
n° 2015.10.9
Page 25

Carcharocles
megalodon
teeth
n° 2012.15.2 et
2011.17.1046
Page 42

ichthyosaur skull,
Platypterygius
hercynicus
n° 2010.4
Page 86

Oceanosuchus
boecensis
2011.12.2658
Page 98

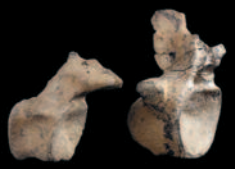
shark teeth fossils
n° 2011.17.967, 2011.17.965
Page 123

Block of Acanthopleuroceras
n° 2011.12.2656
Page 131

Dickinsonia costata d'Ediacara
n° 2015.10.7
Page 138

Trilobites
n°2007.2.577 ;
2007.2.571
Page 139

Chilotherium,
Fossilized rhinoceros
n° 2011.12.1566
Page 140



Normanniasaurus genceyi's Vertebra
N° 2012.2
Page 141

ammonite slabs
n° 2015.10.8
Page 142

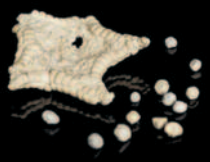
Lexovisaurus,
Loricatosaurus priscus
n° 2012.15.1
Page 143

Ankle bone
of an auroch's horn
N° 2012.3.445
Page 144

Jaw of a Cave bear
n° 2012.3.244
Page 145

Mammouth's teeth
n° 2013.5.2
Page 146

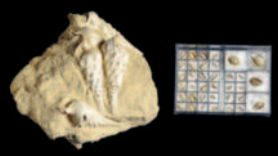
Fruits of the nipa
palm Nypa burtini
n° 2012.17.1 à 6
Page 150



Fossilized starfish,
Mastaster villersensis
n° MHNH 2247A
Page 151

Pliosaurus skull
from the Cap de la Hève
n° 2011.12.2655
Page 155

Fossilised Turtle,
Tropidemys
n° MHCR 1961/1962
Page 162



Olivier Gain gift
n°2010.2
Page 186

Ammonite Mortoniceras
N° 2007.5.622
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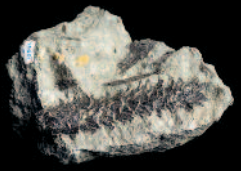

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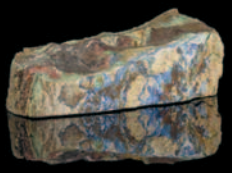

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