



the Art of Science

BAUDIN'S VOYAGERS

1800-1804



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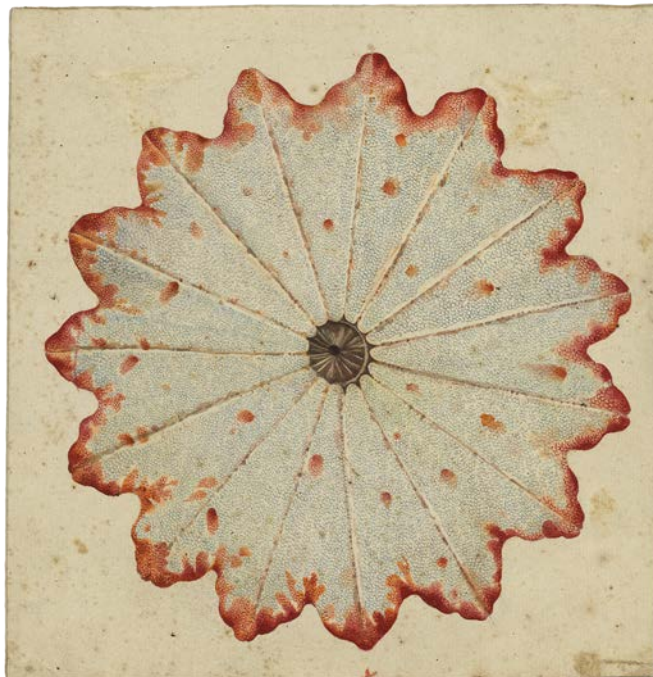
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the Art of Science

BAUDIN'S VOYAGERS

1800-1804



SEA STAR *Anseropoda rosacea*

Artist Charles-Alexandre Lesueur

Watercolour on paper

Muséum d'histoire naturelle, Le Havre

In October 1800, two ships, *Géographe* and *Naturaliste*, left France for New Holland, bound on a voyage of discovery. They were led by Nicolas Baudin, and the expedition party included scientists and artists who collected, documented and captured evidence of what they saw.

The Art of Science exhibition presents paintings and drawings created by artists Charles-Alexandre Lesueur and Nicolas-Martin Petit during Baudin's expedition to Australia in 1800-1804.

This education pack links in to the exhibition, and contains background contextual information and activity suggestions which can be used to support an excursion to the Western Australian Museum.

Aboriginal and Torres Strait Islander peoples are advised that this exhibition includes names, images, objects and works of people who are now deceased. The language used in this exhibition is a reflection of the period.

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THE AGE OF ENLIGHTENMENT



EMPEROR NAPOLÉON

Artist William Dickinson, painting, 1800
National Library Australia

Baudin's 1800-1804 expedition took place during a period which we now call the Age of Enlightenment, or the Age of Reason. It was a time when British, French and other European politicians, philosophers, scientists and writers were 'rethinking' their world. They questioned traditional authority, religion and superstitions, and embraced scientific inquiry, observation and experimentation.

At that time, large areas of Australia, Pacific and Indian Ocean were still unexplored by Europeans, and, among their other pursuits, European scientists were curious about what countries lay in these southern latitudes, what resources they held, and if the oceans between them were connected. On a more political and economic level, better knowledge of the globe was of interest since it held potential benefits of identifying new trading routes, closing in on strategic locations and finding new sources of wealth.

The philosophy of Enlightenment, with its focus on scientific reasoning and the rights of individuals, contributed to the French Revolution, which overthrew the French king and the aristocracy, and brought Napoleon Bonaparte to power. Bonaparte was fascinated by voyages of discovery himself; he had even tried to enlist for an exploration voyage to the south seas earlier in his career. His wife, Josephine, cultivated exotic plants and animals at the couple's estate in Malmaison.

And so, since Baudin's voyage reflected Bonaparte's personal ambitions, the thinking of the time and France's imperial goals, it came to be much promoted, well-funded and widely discussed.

“The most honourable occupation and the most useful to nations is to contribute to the extension of human ideas.”

Napoléon Bonaparte

Study the source!

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EXPEDITION LETTERHEAD

Artist unknown

Print in black ink on paper

Muséum d'histoire naturelle, Le Havre

PLATE | 1

Think!

1. Why was this image originally created and how do you think it was used?
2. What clues does the picture give you about the purpose of Baudin's voyage and the activities that will take place during the voyage? What elements of the image illustrate the links between discovery, science and art?
3. The slogan of the French Revolution was *Liberté, Egalité, Fraternité*. (Liberty, Equality, Fraternity). What do these words mean? Why do you think the words *Liberté* and *Egalité* were chosen to be included on the letterhead? Can you suggest other words that may have been included instead? What might have been the reason *Fraternité* was left out?

Dig deeper!

4. Create a timeline of European exploration of Australia up to 1800.
5. Make a list of 10 scientific discoveries or inventions that took place during the Age of Enlightenment.
6. Find examples of modern day letterheads and logos that you like. You will probably find that they look very different to the one above! Update Baudin's letterhead into a more modern style. Alternatively, design a letterhead for a modern day organisation which is working to explore space or the deep sea.

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THE ROLL CALL



Nicolas Baudin

1754-1803

Expedition leader, travelling aboard the *Géographe*.

Experienced navy officer and accomplished cartographer.

Had been on previous scientific expeditions to the Indian Ocean and the West Indies.

Has had many personal conflicts with members of the expedition.

Died of tuberculosis before returning back to France and his achievements and contribution to the success of the voyage was underplayed by those who survived him.



Jacques Hamelin

1768 -1839

Second in command of the expedition, travelling aboard the *Naturaliste*.

Originally a merchant seaman, joined the navy and fought in the French Revolutionary Wars.

After returning from the voyage to Australia, was promoted and put in charge of equipping the French fleet with weapons to invade England.



François Péron

1775 – 1810

Passionate and talented scientist: zoologist, anthropologist and natural historian.

Abandoned medical studies to join Baudin's expedition.

His early death prevented him from completing the account of the voyage, and from classifying most of the huge collection of specimens he collected during the journey.



Charles-Alexandre Lesueur

1778 – 1846

Originally enlisted with Baudin as a gunner's mate, and, along with Petit, only took over artist's duties after three men who had been officially recruited as expedition artists quit.

Although not trained in the scientific process, learned on the job and eventually fulfilled the role of assistant senior zoologist.

Along with Francois Péron, was instrumental in completing the published record of the expedition, the *Atlas of the Voyage de découvertes aux Terres Australes* and eventually became a curator at the Natural History Museum in Le Havre.

Dig deeper!

1. What does the work of a modern day zoologist, anthropologist or cartographer involve? Can all of these occupations be considered 'scientific pursuits'?
2. What is meant by 'scientific method', and why do you think it matters whether Baudin's artists were trained in it or not?
3. We don't know what Nicolas-Martin Petit looked like. Why do you think that is the case?



Nicolas-Martin Petit

1777-1804

Like Lesueur, became an 'accidental artist' after originally joining the expedition as an assistant gunner. Had experience working with the famous neoclassical artist Jacques-Louis David, but was not trained in the scientific method.

While Lesueur focused on depicting animals, Petit completed many sketches of Aboriginal people. Some of his work was published unfinished, as he died in a street accident soon after returning to France.



Louis de Freycinet

1779-1842

Hydrographer and navigator.

Was given command of a newly purchased ship, *Casuarina*, after Hamelin left Australia for France with the *Naturaliste* in November 1802

Published the first map to show the full outline of Australia and completed the account of the journey that Péron had started.

Undertook a second voyage of exploration of Australia in 1818, on which he secretly took his wife, Rose.



GENERAL CHART OF NEW HOLLAND

Drawn by Louis de Freycinet, *Carte Générale de la Nouvelle Hollande*, 1811, engraved by Pierre Alexandre Tardieu
Kerry Stokes Collection

Nicolas Baudin left France aboard the *Géographe* in October 1800 with instructions to map the coast of New Holland (the western portion of Australia). His second in command was Jacques Hamelin, commander of the *Naturaliste*. The expedition carried 22 zoologists, botanists and other scientists. Several of these scientists deserted in the early stages of the trip, falsely citing ill health.

Unexpected delays meant Baudin and Hamelin did not reach New Holland until seven months later, arriving at Cape Leeuwin on 27 May 1801. A number of dramatic events marked their first contact with Australia, including a drowning of a sailor, stranding of a shore party and the first encounters with Aboriginal people.

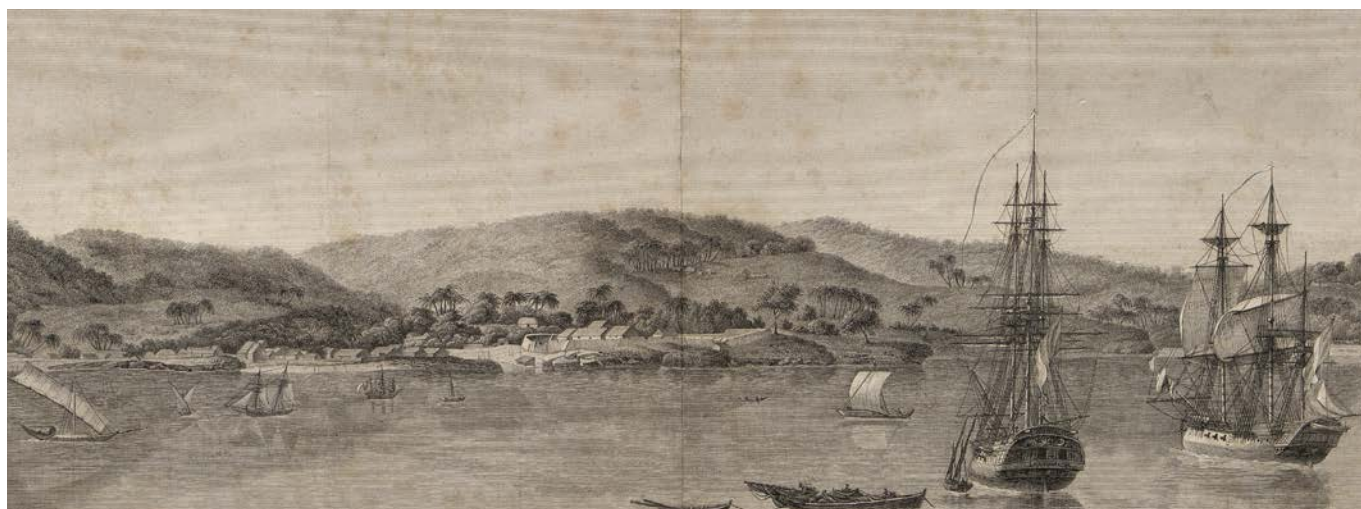
Géographe and *Naturaliste* separated in a storm but both parties went on to survey large stretches of the north west coast. They reunited in Timor, then headed back south across the Great Australian Bight to Tasmania. Here, they had many meetings with Aboriginal groups. These meetings were generally peaceful. However, their journey was marred by scurvy and dysentery and by tensions between Baudin and the scientists, since scientific method and collection often conflicted with naval discipline. This appears to be the reason for the earlier desertions.

In South Australia, Baudin crossed paths with English explorer Matthew Flinders and, much to their mutual dismay, learned that each had charted much of the coast and they were not the first to do so.

Both Baudin and Hamelin decided to pull in at the British colony in New South Wales for supplies. This allowed the *Naturaliste* to head back to France with all the specimens collected thus far, and *Géographe* to continue exploring the Australian coast. Baudin purchased a new vessel, the *Casuarina*, to accompany him, and put it under the command of Louis de Freycinet (who was to return later to Australia, leading another expedition).

Baudin's expedition continued to be plagued by bad weather and ill health among both people and animals on board, so in August of 1803 Baudin made the decision to head back to France. He died of tuberculosis along the way, and never got to glory in his discoveries.

Study the source!



**TIMOR – VIEW OF THE HARBOUR, THE TOWN
AND OF THE DUTCH PORT OF KUPANG**

PLATE | 2

Engraving by Jaques Milbert from a drawing by Charles-Alexandre Lesueur
Muséum d'histoire naturelle, Le Havre

Think!

1. What place does this picture show?
2. What do you think the climate of this place was like? How can you tell?
3. How many sea vessels can you see? Why might they be there? What do you think is happening aboard each boat?
4. Can you spot a tall wall around some buildings? Suggest a reason for why those buildings are protected and others are not?
5. Why do you think the original drawing was turned into an engraving?

Dig deeper!

6. Where is Timor? Are the original inhabitants of Timor Dutch? If not, why was there a Dutch fort in Timor?
7. Baudin's expedition was plagued by sickness, and Baudin himself died during the journey. Find three illnesses which commonly struck sailors in the past, their causes and symptoms.



VIEW OF SYDNEY – CAPITAL OF THE SOUTH LAND ENGLISH COLONY

Artist Charles-Alexandre Lesueur

Print in black ink on paper

Muséum d'histoire naturelle, Le Havre

PLATE | 3

Think!

1. What can you see in the foreground, middle ground and background of this drawing?
2. What adjectives could you use to describe this scene? What is it about the picture that makes you suggest these words?

Dig deeper!

3. Use Google Maps to find Sydney Cove. What would you be looking at if you stood on its eastern side today?
4. What is the difference between etching and engraving?
5. Find one other primary source (eg. painting, diary extract, quote from a letter) and one secondary source (eg. encyclopaedia, blog article, history book) which illustrate or describe what Australia was like around the year 1800.

OBSERVING AND COLLECTING NATURE

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SOUTHERN MAORI WRASSE – *Ophthalmolepis lineolatus*

Artist Charles-Alexandre Lesueur

Watercolour, gouache and pencil on paper

Muséum d'histoire naturelle, Le Havre

The Baudin expedition left France with 22 scientists on board. However, due to illness, desertion, and deaths a large percentage did not complete the full voyage.

The *Géographe* and *Naturaliste* were packed with scientific equipment, and had specially allocated space to accommodate live animals, plants and collected specimens. A large library was also included, containing scientific texts, maps and charts.

The voyage made enormous contribution to various scientific fields, including botany, vertebrate and invertebrate zoology, anthropology, geology and geography, and helped to change the image of science to something which is an occupation for professionals rather than a hobby for amateurs.

3,872 animal species and 1,500 plant species were collected during the journey. Of these, 2,542 animal species and over 640 plant species were new to science. Some specimens were dried, others salted or preserved in alcohol. However, 72 live animals survived the journey and became the first major collection of exotic animals to come to France.

In addition, Baudin's scientists gathered seeds, mineral samples, native artefacts and other objects, and made extensive notes and observations which were later published.

The records and samples amassed during the expedition provide an invaluable snapshot of the times and continue to inform scientists today.



BANDED HARE-WALLABY – *Lagostrophus faciatius*

PLATE | 4

Artist Nicolas-Martin Petit
Watercolour, gouache and brown ink on paper
Muséum d'histoire naturelle, Le Havre

Think!

1. What scientific information about the habitat, behaviour and features of the banded hare-wallaby is communicated by this image?
2. What information about the banded hare-wallaby is missing?

Dig deeper!

3. Conduct research to find answers to question 2 above.
4. The banded hare-wallaby was among the many species transported live back to Europe. However, Baudin's scientists preserved many other animals they collected through taxidermy. Explore the process of taxidermy. What knowledge and skills does an effective taxidermist need to have? Are there any ethical issues that should be considered when undertaking live animal transport and/or taxidermy?

RECORDING AND PAINTING WHAT THEY SAW

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SAILORS NEAR THE CAPSTAN ON GÉOGRAPHE

Artist Charles-Alexandre Lesueur
Pencil on paper
Muséum d'histoire naturelle, Le Havre

Charles-Alexandre Lesueur and Nicolas-Martin Petit took over as expedition artists after the official artists abandoned ship six months into the journey, at Mauritius. They both made an important contribution to science.

Their illustrations complement zoologist Francois Péron's meticulous scientific notes, and include pen and ink drawings and water colour paintings of birds, animals, marine creatures, coastal profiles, and 19th century Aboriginal people.

Lesueur's and Petit's artwork is even more remarkable, in that much of it was produced under difficult conditions, often in wild seas.

They devised specific methods to accurately record the diversity of the flora and fauna collected. For example, Péron and Lesueur constructed a special frame to reproduce the exact proportions of fish specimens and to enlarge small specimens. They made comparative notes of known species, noted anatomical details and dimensions, completed many water colour paintings to illustrate the natural colour of the species – and even commented about the taste and smell of some of the animals.



PLATE | 5

PORTUGUESE MAN O' WAR
Physalia physalis

Artist Charles-Alexandre Lesueur
Watercolour and pencil on paper
Muséum d'histoire naturelle, Le Havre

Dig deeper!

1. The bluebottle jellyfish, *Physalia utriculus*, is a species of jellyfish commonly found washed up on WA beaches. Research to find out how it is similar and different to the Portuguese man o'war.

Study the source!

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PLATE | 6

STUDY OF A WOMBAT 1

Sketch showing details of the front and rear feet and of the muzzle. Most likely completed during the expedition's visit to King Island (Tasmania) in late 1802.

Charles-Alexandre Lesueur
Pencil and ink on paper
Muséum d'histoire naturelle, Le Havre

*This artwork is not included in the exhibition.



PLATE | 7

STUDY OF A WOMBAT 2

Wombat seen from the front, with a pencil sketch of the whole animal in profile and details of the feet, muzzle, skull and teeth. Most likely completed during the expedition's journey back to France.

Charles-Alexandre Lesueur
Watercolour, ink and pencil on paper
Muséum d'histoire naturelle, Le Havre

*This artwork is not included in the exhibition.



PLATE | 8

STUDY OF A WOMBAT 3

Completed after the expedition's return to France.

Charles-Alexandre Lesueur
Water colour, ink and pencil on paper
Muséum d'histoire naturelle

*This artwork is not included in the exhibition.



PLATE | 9

STUDY OF A WOMBAT 4

Final illustration published in the Atlas – Voyage de découvertes aux Terres Australes 1807.

Engraving by Chobard from drawing by Charles-Alexandre Lesueur under the supervision of Jacques Milbert Museum d'histories naturelle, Le Havre

*This artwork is not included in the exhibition.

Think!

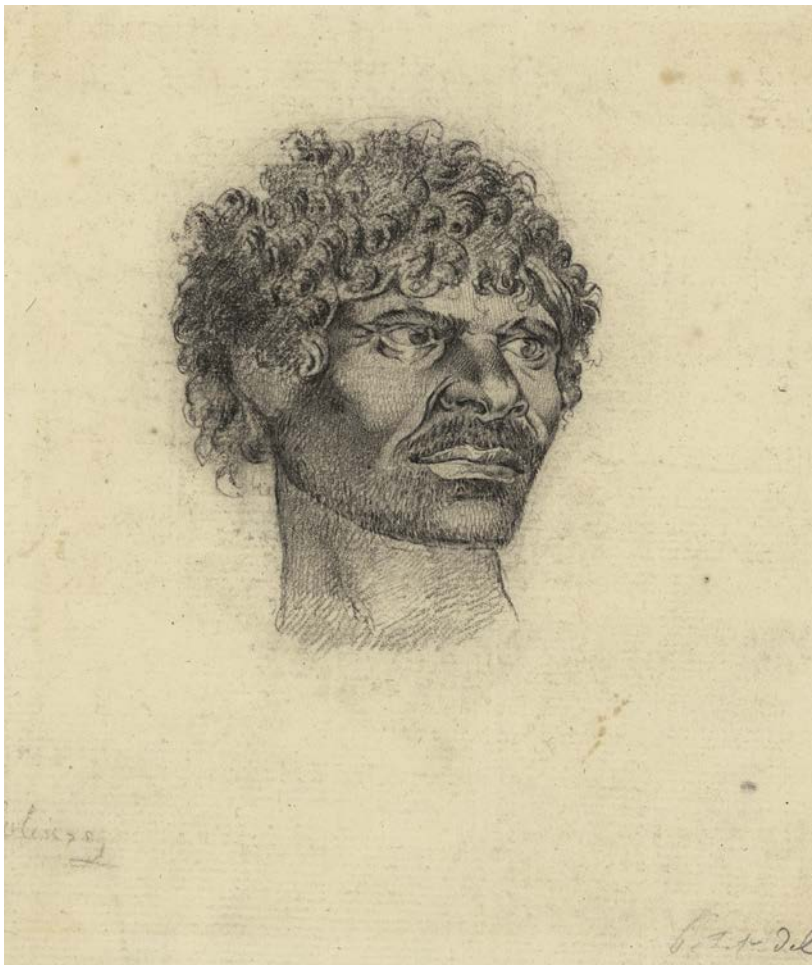
1. How many years have passed between the creation of the first sketch and the final engraving?
2. List at least three differences between the depiction of the wombat in the early sketches and its final appearance in the published engraving. Suggest reasons for these differences.
3. Consider the definition of a primary and secondary historical source. In your opinion, to what extent is the final engraving a 'primary source'?

Dig deeper!

4. The wombat drawn by Lesueur was once abundant on Bass Strait islands, but is now a threatened subspecies. Find an example of a native Western Australian plant or animal which would be identified as a threatened species.

Then:

- a. investigate the reasons for its endangered status and /or
 - b. create a scientific drawing of the species, clearly labelling its key features.
5. Discuss: to what extent do we need scientific drawings in an age of digital technology?



COLLINS – PORT JACKSON

Artist Nicolas-Martin Petit
Black chalk or charcoal, black in and pencil on paper
Muséum d'histoire naturelle, Le Havre

Among Baudin's instructions for the voyage was a directive to study the inhabitants of the lands they encountered. Before leaving, he was asked to familiarise himself with reports from earlier voyages, and to imitate the conduct of those explorers before him which resulted in positive cultural experiences.

Baudin was instructed to try and extend friendship to people he would meet in each country, to offer tokens of good will, and look for positive ways to build connections with the Australian Indigenous people.

In the end, Baudin's meetings with Aboriginal people were mostly fleeting, and usually associated with those living along the coast. The expedition's early encounters at Geographe Bay (WA) and Shark Bay (WA) in 1801 were not friendly, with the Aboriginal people brandishing spears and clubs in an attempt to persuade the French to go away. However, in Tasmania the Europeans were able to mingle with the indigenous population with less mistrust and fear.

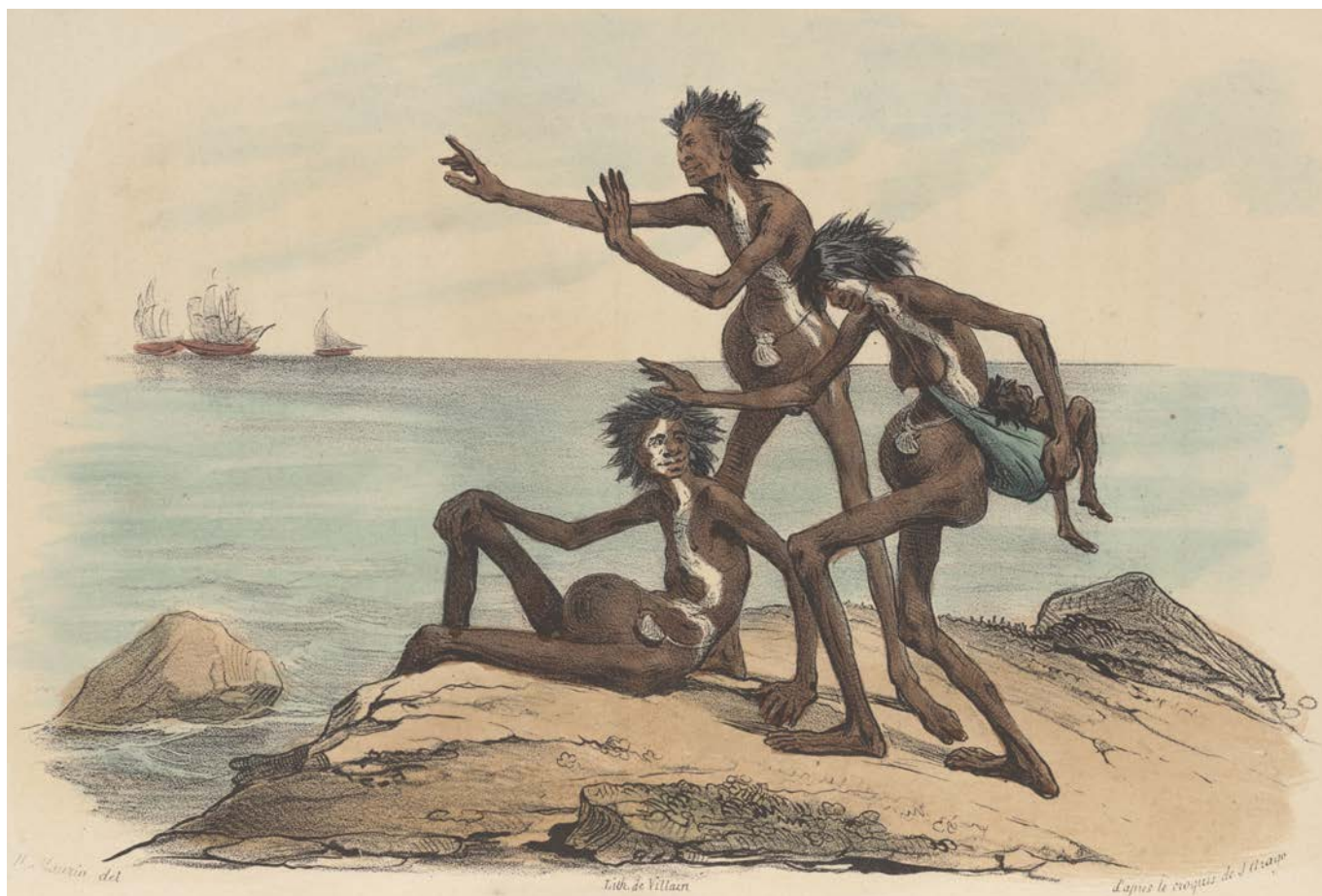
A tight schedule meant that Baudin's artists and scientists did not always have the time to get to know and accurately describe the Aboriginal people they met and draw their weapons, utensils, or ornaments. Nevertheless, the drawings and associated descriptions provide invaluable information about the traditional lifestyle and the material culture of 19th century Aboriginal people.



ABORIGINAL PEOPLE IN FRONT OF THEIR BARK HUT

PLATE | 10

Artist Charles-Alexandre Lesueur
Engraving in black on paper
Muséum d'histoire naturelle, Le Havre



NATIVES FROM PERON PENINSULA

PLATE | 11

Lithograph by François Le Villain. Drawing by Nicolas-Eustache Maurin from a sketch by Jacques Arago. National Library of Australia

Note: Jacques Arago was an artist travelling with Louis de Freycinet during Freycinet's return voyage to Australia, in 1818.

*This artwork is not included in the exhibition.

Think!

1. Compare and contrast the images drawn by Jacques Arago and Charles-Alexandre Lesueur.
2. Consider the image by Lesueur (Aboriginal people in front of their bark hut) and the portrait of 'Collins' by Petit' over page. Baudin's artists have often been commended for creating 'sympathetic depictions' of Aboriginal people. Do you think this is a fair statement?

Dig deeper!

3. Art is an important – but imperfect - source of historical information. Collect examples of drawings or paintings showing scenes or events from different stages of Australia's history. For each one, create a label which gives an example of one thing that can be learned by looking at the image, and one thing that can not.



SKETCH OF THE SWAN RIVER

Surveyed by Citizen Heirisson, Sub-Lieutenant
 Artist Louis de Freycinet
 Watercolour, black ink and pencil on paper
 Archives Nationales de France, Paris

At the turn of the 19th century, significant stretches of the Australian coast were yet to be mapped, and Baudin's instructions included the direction to chart the coast of New Holland and the area around Van Diemen's Land.

Poor weather conditions and ill health of many on board prevented Baudin from visiting the northern shores of Australia, but he managed to fulfil most of this brief. In fact, the expedition's hydrographic work (ie. work related to the study of oceans and coastal areas) was one its major achievements. The chief hydrographer was Louis de Freycinet, who later returned to Australia in 1818.

Freycinet, supported by other geographers on board, created a number of 'first ever' maps (eg. Kangaroo Island), and improved existing, earlier maps, such as those from around Shark Bay and WA's south west.

An accidental meeting between Nicolas Baudin and English explorer Matthew Flinders in 1802 led both explorers to conclude that New Holland and New South Wales were part of the same land mass – yet signified that neither could claim the sole right to that discovery.

It is important to note that Baudin's expedition was to be purely scientific, with no territorial or military ambitions. This is in contrast with an earlier French exploration undertaken by Yves-Joseph de Kerguelen-Trémarec and Louis de Saint Aloüarn, which resulted in the French claiming possession of New Holland in 1772.

Study the source!

“ I have never been able to imagine that there was any justice or even fairness on the part of Europeans in seizing, in the name of their government, a land which when first seen was inhabited by men who did not always deserve the titles of ‘savage’ and ‘cannibal’ that have been lavished on them... ”

PLATE | 12

Extract from a letter written by Nicolas Baudin to New South Wales Governor, Phillip Gidley King, December 1802, (cited in Fornasiero, J. (2013). *The Acquisitive Eye?: French Observations in the Pacific from Bougainville to Baudin*. In West-Sooby J. (Ed.), *Discovery and Empire: The French in the South Seas* (pp. 69-98). South Australia: University of Adelaide Press. Retrieved from <http://www.jstor.org/stable/10.20851/j.ctt1sq5wxf.10>)

Think!

1. Does Baudin’s statement suggest that he had positive or negative opinion of Aboriginal people? What makes you say that?
2. Baudin’s quote above is not complete. The end of his sentence read:

“ ... as they are still only nature’s children and just as uncivilised as Scottish Highlanders or our peasants of Lower Brittany ”

Does knowing the last part of Baudin’s quote change your ideas about him?

Dig deeper!

3. Despite Baudin’s aversion to seizing new land for France, he had no problem leaving his mark by giving places around WA names linked to his expedition. Find the following places on a map:
 - a. Lesueur National Park
 - b. Point Peron
 - c. Hamelin Bay
 - d. Geographe Bay
 - e. Cape Naturaliste
4. Find three places in Western Australia which have links to French explorers but which are not linked to Baudin’s 1800-1804 expedition.
5. What criteria should be used to decide if a voyage of scientific discovery has been successful? Do you think Baudin’s voyage was successful? Explain your answer.

HASS

Year 4 Geography	<ul style="list-style-type: none"> The main characteristics (e.g. climate, natural vegetation, landforms, native animals) of the continents of Africa and Europe, and the location of their major countries in relation to Australia The importance of environments to animals and people, and different views on how they can be protected
Year 4 History	<ul style="list-style-type: none"> The nature of contact between Aboriginal and/or Torres Strait Islander Peoples and others (e.g. the Macassans, Europeans) and the impact that these interactions and colonisation had on the environment and people's lives (e.g. dispossession, dislocation, the loss of lives through conflict, disease, loss of food sources and medicines) The journey(s) of at least one world navigator, explorer or trader up to the late eighteenth century (e.g. Christopher Columbus, Vasco de Gama, Ferdinand Magellan), including their contacts and exchanges with societies in Africa, the Americas, Asia and Oceania, and the impact on one society
Year 5 Geography	<ul style="list-style-type: none"> The main characteristics (e.g. climate, natural vegetation, landforms, native animals) of the continents of Africa and Europe, and the location of their major countries in relation to Australia The importance of environments to animals and people, and different views on how they can be protected

SCIENCE

Year 5-6 Science as a Human Endeavour	<ul style="list-style-type: none"> Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions
Year 7 - 8 Science as a Human Endeavour	<ul style="list-style-type: none"> Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures
Year 7 Biology	<ul style="list-style-type: none"> Classification helps organise the diverse group of organisms

ARTS

Year 4 Visual Arts	<ul style="list-style-type: none"> Appreciation and respect for a range of artwork from different social, cultural and historical contexts
Year 5 Visual Arts	<ul style="list-style-type: none"> Appreciation of the role of art from different times and cultures, and consideration of how the artist's perspective is reflected in the artwork Responses that identify and describe, using visual art terminology, how visual art elements and techniques are used to communicate meaning and purpose in artwork
Year 7-10 Visual Arts	<ul style="list-style-type: none"> <i>Responding</i> (broad link to all outcomes)

GENERAL CAPABILITIES

Literacy
Numeracy

Critical and Creative Thinking
Personal and Social Capability

Ethical Understanding
Intercultural Understanding