But first, the plateau

... a blackish stripe from the north to the south, was the humble profile of this continent: we endeavoured to near the land; but the winds, and currents were so contrary, that the remainder of the day was spent in useless efforts. In the evening we lay to; my colleague, Maugé, and myself profited by this circumstance, and threw out the drag; this instrument, which is more particularly used in fishing for coral, is so constructed that it will; bring from the bottom of the sea to the surface, every thing which it there finds.


The diary

25 December 1972

**Site 264** Site 1 (34°58.13′S; 112°02.68′E) Water depth 2,876 m.

Occupied 22–23 December 1972

I'm jotting these few notes to record the atmosphere before the first hole is drilled. Nobody amongst the scientific crew seems the least bit confident about their ability to handle their allocated job—I find that refreshing—I'm not the only one who is nervous! It's a nervousness that stems from being a necessary part of a small team. On site, we wait a whole morning before the first core
comes up, and occupy the tense time with sneaking yet another quick peep down the microscope (can I really tell these tiny mineral fragments apart?)—or hassling about all possible contingencies—which don’t mean much in the abstract.

However, our introduction to the drilling routine goes smoothly enough—I suppose we will get used to the pressures of eighteen-hour days during the actual drilling. The nine-metre core barrels come up dripping onto the deck; the seafloor slides out in a plastic lining; after the initial measurements are taken, they go to the core lab where they are sawn lengthwise—the band saw I find terrifying, especially if the ship is rolling, and anecdotes of lost fingers abound! Once sawn, one half of the core is then stored—archived in a container below decks. The rest we sample—taking tiny muddy smears on a glass slide is the first step—the smears must be thin enough to let the light through the microscope for counting the different mineral grains, or microscopic fossils. We have now got through most of the routine work of making a first examination of the cores, their colours and textures and composition recorded. It’s very satisfying to have so many aspects of a well tied up so soon.

I spent today finalising some map drafting for the initial report—Peter Barrett has the lithology—the rock descriptions—all drawn up, we are in pretty good shape regarding this particular site.

An entourage of albatrosses has been following us for the last three days. Half a dozen on average, mostly Wandering Albatross. They swoop and glide and hover just behind, then briefly settle in the wake to pick up food scraps. There’s one we can’t identify—it’s smaller, with dark colouring extending right across its back and a black bill. There are shearwaters too.

The Naturaliste Plateau—a question of foundation

After leaving Fremantle on the Glomar Challenger, we drilled the first hole of Leg 28 near the southern edge of the Naturaliste Plateau. In part, the site was drilled to establish the geological relationship with a nearby site drilled further north on the plateau. But it was also to test the drilling rig that had been repaired during the ship’s stay in Fremantle.
This large submarine plateau is tacked on to the extreme southwestern margin of Australia, extending some 400 kilometres into the Indian Ocean from the tip of Western Australia (Figure 2.1). Many deep submarine plateaus lie off the Australian coast but this is the deepest of them all, lying in waters 2,000–5,000 metres deep. The deeper Mentelle and Naturaliste troughs separate this chunky rectangular block of sea floor from the west Australian coast. The plateau’s surface is fairly flat. Its northern flanks slope gently; its southern and western slopes are steep. Some distance beyond its southern edge lies the Diamantina Zone, often called the Diamantina Fracture Zone for that is indeed how it seems—a long narrow feature of broken sea floor stretching far into the Indian Ocean.

Figure 2.1. Sea floor topography south of Australia showing Naturaliste Plateau, the Diamantina Fracture Zone and, further south, the Abyssal Plain and the Southeast Indian Ridge.

Note: Numbers shown with white dots are drilling sites from Leg 28.
Source: Geoscience Australia, 2009 m grid. Additions drafted by Clive Hilliker.
Our introduction to the routine of drilling went smoothly enough, although winds and currents from the southwest initially caused some difficulties with the site location. The drill penetrated mostly chalky muds or oozes, or chalk itself—made up of the calcium carbonate shells of tiny marine organisms—and ranging in age back some 90 million years into the Cretaceous. Right at the bottom of the hole are fragments or cobbles of dark volcanic rocks. Here, as is so often the case in geology, we touched on controversy. What’s the origin of the Naturaliste Plateau? At the time of the breaking up of the megacontinent of Gondwana, it probably lay at the junction of three major tectonic plates: mobile sections of the Earth’s crust, in this case encompassing Australia, a formerly much enlarged or ‘Greater’ India and Antarctica.

The main question for us in our drilling was: Are the foundations of the plateau part of the adjacent ocean floor or a fragment related to the adjoining continent? It should be possible to tell these apart. The oceanic crust—the upper part of a tectonic plate—is composed of dark-coloured or mafic rocks, rich in magnesium and iron; basalt is typical. In contrast, continental crust, lighter in colour, is rich in aluminium, silicon and oxygen—granite is typical.
The conglomerates or aggregates of cobbles at the bottom of the hole resemble those from volcanic eruptions on oceanic islands; they are similar, too, to rocks that crop out on the beaches around Bunbury to our north. Perhaps they are part of a huge volcanic province that also includes massive flood basalts in eastern India. However, samples collected more recently by dredging on the plateau’s southern edge point more confidently to a continental foundation. The dredges were taken by the French research ship *Marion Dufresne* in 1998, and brought up fragments of gneiss—a banded metamorphic rock otherwise similar to granite. Later, in 2005, dredges taken by the Australian research ship R/V *Southern Surveyor* hauled up both gneisses and granite. These were dated by geochemical means as 1,100–1,200 million years old, confirming their relationship to the adjacent continent. From these it seems that the volcanic rocks we drilled are part of a capping—a hard carapace—that overlies the much older continental crust below.

**The first scientists—the Baudin Expedition**

It was the French expedition under the command of Captain Nicolas Baudin that in 1801 sailed from the west across the Naturaliste Plateau, and bestowed the names of their ships on Cape Naturaliste and Geographe Bay, features of the adjacent coastline. It was dredge samples taken in that bay on their first evening that spurred their scientists to explore the geology of the adjacent continent.

*Naturaliste* and *Geographe* reached the Australian coast in May 1801, sailing over what we now know as the Naturaliste Plateau and encountering the west coast of Australia near Cape Leeuwin, which was sighted on 27 May. The rugged, habitually windswept and sea-beaten Cape Leeuwin projects in a southwesterly direction at the meeting point of the Southern and Indian oceans. Its name, bestowed by Matthew Flinders in 1801, echoes the earlier exploration of this coast by ships of the Dutch East India Company. In 1622 the galleon *Leeuwin* (Lioness) was almost shipwrecked in the vicinity after sailing from Batavia. The ship’s log of the *Leeuwin* has been lost; its captain’s name remains unknown.

With the *Naturaliste*, under Captain Hamelin, and its sister ship *Geographe*, Baudin’s expedition of discovery circumnavigated much of Australia’s coastline between 1801 and 1803. Baudin’s was an expedition on a grand scale. The magnitude of the science and the mapping undertaken by the
expedition has only recently been appreciated. It was probably the most successful scientific exploration of the southern continent in the pre- and early colonial period. Its legacy is clear in the plethora of French names—some 240 in all—along the present coastline of Western Australia: names such as capes Leveque, Cuvier, Bougainville and Voltaire; and the islands Lacepede and Forestier, and those that form the Bonaparte Archipelago. It was also the first exploring venture to undertake geological investigations of the western coast of Australia.

Battling an image problem

The public image of Baudin has suffered in comparison with that of Matthew Flinders. Flinders, arguably the first to circumnavigate Australia, and who is popularly credited with coining the name of the continent, is seen as heroic. His life, loves and achievements are well known to the public, not only through tales of his mapping of much of the Australian coastline, but through novels—some aimed specifically at young audiences—and even through the personification of his ship’s cat.

Since the 1980s an impressive school of study has grown up, redressing the earlier neglect, or even dismissal, of Baudin’s contribution to science and cartography. Why did it take so long for the magnitude of Baudin’s contribution to be recognised? He has been seen as incompetent, as unworthy and cantankerous. This image, in the public eye—but not necessarily that of historians—has suffered in contrast to that of Flinders.

There may also be an ageist component in their differing images—Baudin was 46 when his vessels reached Australia shores; Flinders was 26 when he took charge of the Investigator, and may thus have been the more dashing figure.

There are probably many reasons for such a lack of understanding in relation to Baudin’s achievements. Some were political. On its return the expedition was not considered by French authorities to have brought glory or political advantage to France. There was too a strong sense of competitiveness relating to Flinders and his mapping of the coastline, with accusations that the French explorers had plagiarised Flinders’s charts. Inherent in this perception was the British sense that they alone were responsible for the colonisation of Australia, so they felt a need to counter Napoleon’s global ambitions—a view that led to the belittling of the achievements of any French rivals.
Figure 2.3. Bust of Nicolas Baudin; Augusta Historical Society Western Australia. Sculptor Peter Gelencér.
Source: Photographer Dean Faull.
Another factor in the unfortunate way that history has treated Baudin is that he died of tuberculosis in Mauritius (then Ile de France) during the return voyage to France, and others on the voyage published the official accounts of the expedition. By contrast, Flinders was the author of his own voyage narrative. Moreover, Flinders, ironically enough, incarcerated in the same Mauritius for seven years, had had the opportunity to hone and refine his reports before their eventual publication.

The origin of the Baudin expedition—its founding—was essentially for scientific purposes. There is no doubt that, should it have been successful in its aims, a certain glory would have accrued to France. But the motives underlying its founding were only secondarily political. At the end of the eighteenth century there was a desire in France to be seen at the forefront of the Enlightenment that was sweeping Europe. Her scientific institutions were eager for new material to describe. This relative lack of contemporary scientific material in France contrasted with the holdings of the British, who had amassed specimens—of both fauna and flora—through the voyages of James Cook, and from local collectors in Australia and the Pacific.

When Baudin’s expedition left Le Havre in October 1800 it carried a complement of some 24 staff who were trained to undertake or assist with scientific investigations. There were naturalists, a botanist, cartographers, mineralogists, gardeners and artists, all equipped to care for and record the natural history objects collected. In all, some 200,000 items were collected during the course of the expedition, making it one of the most comprehensive of the period. However, a number of the scientific staff withdrew in Mauritius. Others died during later parts of the voyage. Only six of the original 24 completed the voyage and returned to France.

The journals of members of Baudin’s expedition show their eagerness and enthusiasm for new knowledge, and their awareness that they were, even then, working in an arena that was essentially international in its scope. The largely unknown southern continent provided an opportunity for French scientists, most of them young, to establish themselves in this broader sphere. The journals were illustrated with artworks of supreme beauty, and contained detailed maps of the coastal sites visited. Indeed, the volume edited by François Péron (1809), with cartographer Louis de Freycinet, is a superb example of ‘art in the service of science’. The artists Charles Alexandre Lesueur and Nicolas-Martin Petit were initially, or ostensibly, hired as gunners, but showed their skills early, after the official artists, Milberg, Lebrun and Garner, left the expedition at Mauritius on
the outward voyage. The intensity and accuracy of the natural history illustrations by Lesueur and Petit is explored more fully in the volume edited by Fornasiero and others in 2016.

Baudin’s unfortunate death led to a prolonged neglect of the expedition and blighted its success. His own credibility as an explorer and leader suffered. The reports and charts of the voyage, published notably by the young scientist François Péron, contributed in a major way to the assault on Baudin’s leadership. The official account, published under the title *Voyage de découvertes aux Terres Australes*, was presented to Emperor Napoleon in 1807; the first Atlas, with charts of the regions surveyed, was published by Louis de Freycinet. After Péron’s death in France, de Freycinet completed the account with the publication of a ‘complete’ map of the Australian coastline. But it was Péron who so belittled the competence of his captain that he virtually wrote him out of the official account. Not only did he pay scant reference to Baudin, he was highly critical of his leader’s competence as a navigator. The antagonism and lack of respect between the two men had simmered throughout the expedition. Partly this was rooted in Péron’s perception that his captain was unwilling to give the scientists—the ‘savants’—free rein during their collecting excursions onshore.

**Life with scientists on board**

On Baudin’s side, his personal journal was not published in French until 2001. Christine Cornell, however, published an English translation in 1974. From this journal it is evident that Baudin appeared to think that he was dealing with a new phenomenon in accommodating and managing a complement of scientists with their peculiar ways in the collection of the materials of natural history. After going ashore in Tenerife on the outward journey to Terra Australis, when the scientists insisted on accompanying their captain on an official visit to the Spanish Governor, Baudin confided in his journal on 1 November 1800:

> I must say here, in passing, that those captains who have scientists … aboard their ships must take with them a good supply of patience. I admit that although I have no lack of it, the scientists have frequently driven me to the end of my tether and forced me to retire testily to my room. However, as they are not familiar with our practices, their conduct must be excusable. (Baudin 1974)
The animosity between the naval commander and the free-thinking young scientists was felt by several members of the expedition, but it was François Péron who protested loudest at the shackles of naval discipline imposed by Baudin, so it is unfortunate that it was he who managed to attach his name to the first official report of the expedition.

Always eager to make the most of limited time ashore, Péron was often late for scheduled rendezvous, constantly frustrating Baudin, whose major worries were considered to be the safety of his vessels and the production of navigational charts. One entry in Baudin's account, written after a day's exploration in Shark Bay on the west Australian coast, records his frustration as captain with this particular scientist. Baudin wrote in his journal of 1 June 1801:

By five o'clock everyone was back except Citizen Péron, who was no doubt carried away by his enthusiasm and had gone too far to be able to get back by the specified time. While we waited for him, we sat down to our meal and dined without him, for he did not return. (Baudin 1974)

By the next morning Péron had still not returned.

To counter these perceptions, and to present the case for an unbiased view of the Baudin expedition, authors Jean Fornasiero, Peter Monteath and John West-Sooby published the narratives of both captains—French and British—together in *Encountering Terra Australis* (2004). In the case of Baudin, this account, including his chatty and unabridged sea log, was the first to be published in English.

The animosity between Baudin and the 'savants' whose role it was to undertake both measurements and specimen collecting, seems curious when Baudin's previous history as a commander is considered. Anthony Brown, in his *Ill-starred Captains: Flinders and Baudin*, emphasised that Baudin's earlier reputation was made transporting plants and animals across the seas to Europe. During one voyage from the Caribbean—from Puerto Rico—Citizen Baudin clearly got his hands dirty: 'He puts his hands to the task of pulling out, carrying and planting our living trees and shrubs and sets us an example by his ceaseless activity'; this in a report from the botanist André Pierre Ledru, appointed to that expedition by the Paris Museum of Natural History. Further, Baudin is reported to have been at great pains to protect the plants in his care on the homeward voyage, and was able to deliver a collection not only of plants, but also of insects, stuffed birds, shells and other items to the Paris Museum, this in spite of his home port Le Havre being blockaded by the Royal Navy.
With such credentials in managing and safely delivering natural history collections, it might be imagined that Baudin would have been less impatient with the collecting and exploring habits of the young scientists on the *Geographe* and *Naturaliste*. His previous history does not paint him as the stern naval commander concerned only with his schedules and charts. Could it be, therefore, that it was the abrasiveness and ambition of such as the young François Péron that evoked a seemingly constant criticism by his commander? Or had Baudin reached a point in his career wherein he felt that his own prospects of advancement were increasingly limited and he was jealous of the young bloods among the savants?

A comprehensive biography of François Péron—subtitled *An Impetuous Life*—was published by Edward Duyker in 2006. The picture Duyker draws is of a young man of great enthusiasms, recently released from the French revolutionary army and fresh from medical school, but with little previous experience in scientific collecting, and prepared to take personal risks in the hitherto unknown coastal environments encountered in the southern seas. While annoying his commander by his wilfulness in adhering to instructions and his persistently late returns to the *Geographe*, Péron collected something like 100,000 specimens, ranging from molluscs to crustaceans, to fish and medusa or jellyfish and to new species of mammals. He enjoyed a close relationship with the artist Lesueur, who was to illustrate many of the species that Péron described as new, in watercolour paintings of great beauty. Péron, according to Duyker’s account, not only collected and described but also was prepared to take a broader view than mere taxonomy, and to place organisms within the wider contexts of their evolution and ecology. His vision of the compass of natural science was wide and extended to systematic measurements of ocean temperatures at the sea surface and at depths, a work first published in 1804 and subsequently translated into English in 1830. He had ambitions, too, to undertake anthropological studies of Australia’s Indigenous people and had hoped to have an accepted role in this field, but found himself listed as ‘zoologist’ and charged with studies of comparative anatomy.

However, he sought every opportunity to make observations on the peoples encountered during the expedition. The first landings on the west coast, affording only brief contacts with the locals, frustrated him. It was only when the expedition reached Van Diemen’s Land that Péron was able to observe some of the Indigenous inhabitants at close quarters. One of his most significant observations involved noting both cultural
and physical differences between the inhabitants of Van Diemen’s Land and New Holland—even suggesting these might have been different races, separated by long periods of time. His anthropology was criticised by contemporary scholars as being somewhat lightweight; he was excused only on the grounds that his time was consumed by his role as zoologist.

The first geologists

While the collecting activities of Péron have drawn the attention of historians of science, the contribution of the expedition mineralogists is worth remembering. The first scientists to examine the geology of the coast—the mineralogists Louis Depuch and Joseph Bailly—were graduates respectively of the École des Mines and the École Polytechnique in Paris. Péron also took an interest in the geology of the voyage, although he lacked formal training in the discipline. Canberra geologist Wolf Mayer (2009) has given a comprehensive account of the activities of these scientists throughout the voyage, acknowledging them as the first professionally educated geologists to visit this continent. Their appointment was unusual in early voyages of exploration to Australia. Usually the focus of collecting was on the fauna and flora, and zoologists and botanists were the favoured savants.

Three days after passing Cape Leeuwin, Baudin’s vessels anchored in the broad bay that lies to the north of Cape Naturaliste. This bay Baudin named Geographe—Baie du Geographe—after the vessel under his command. It was here that some of the first scientific efforts to understand the geological nature of the Australian continent were made. On the night before making the first landing, Baudin instructed that the sea floor surrounding the Geographe be dredged for sediment samples. His diary, in which he included the reports of Depuch and Bailly, records that the dredge brought up sand and black mud containing shiny particles of the mineral mica, probably reflecting the presence of granite on the nearby continent, granite which ‘the action of time and rain had broken up and swept out to sea’.

Shortly after the anchoring of the vessel, a small boat under the command of Lieutenant Henri de Freycinet was sent ashore to reconnoitre the nature of the coast. On board was Louis Depuch, who was instructed to report on the country and its soils. He recognised extensive outcrops of what he called ‘granite’ surrounding a little cove (now Eagle Bay, and home to an
expensive holiday resort) where the boat landed. He was surprised by the apparent layering of minerals within the rocks, although he was able to quote earlier claims that ‘granites’ in the European Alps also showed such striping. Today these rocks are classified as ‘granite—gneiss’ and form part of the Leeuwin Complex, a belt of ancient, metamorphosed igneous rocks stretching along the coastline from Cape Leeuwin to Cape Naturaliste. The gneiss in these outcrops is a rock type in which the original minerals of the parent granite are stretched—thus giving a banded or foliated appearance. Present knowledge shows that these rocks were intensely deformed some 600–700 million years ago in the Precambrian Era. This is almost certainly the origin of the banding reported by Depuch.

**Mapping the coast of the continent; return to France**

The mapping and description of much of the western coast of Australia was an early success of the expedition. The two vessels became separated and met again in Timor, where they remained for 11 weeks while fever and dysentery claimed a number of lives. Then, sailing in a wide arc around the western and southern coasts of Australia, they headed for Tasmania, or Van Diemen’s Land, and charted the whole length of its east coast. It was on the return voyage in the *Geographe*, sailing westwards and mapping Australia’s southern coast, that Baudin unexpectedly encountered Flinders’s *Investigator* in Encounter Bay off South Australia in April 1802. The meeting between the two on board the *Geographe* was cordial but restrained—at least on Baudin’s part—perhaps because England and France were still at war, and perhaps because the discussions were conducted in English, which Baudin was uncomfortable with. Nevertheless, useful information was exchanged on the surveying work of both expeditions; information on Van Diemen’s Land was also included.

The *Geographe* and *Naturaliste* met again in Port Jackson. Then the *Naturaliste* sailed again for France, carrying a large number of the specimens—in 33 crates—collected during the expedition, disembarking those at Le Havre in June 1803. From there they were mostly transported to the Muséum d’Histoire Naturelle in Paris. In Port Jackson, Baudin acquired another vessel, the *Casuarina*, placed it under the command of Louis de Freycinet and sailed west again with the *Geographe* in a mapping expedition through Bass Strait before following
the west coast northward again to Timor. On 7 July 1803 it was decided to return to France. It was when they called into Mauritius on the return voyage that Baudin died of tuberculosis on 16 September 1803.

The sojourn of the vessels in Port Jackson had provided another spur for the fertile mind of François Péron. It was in Mauritius that political issues surfaced in response to the continued warring relationships between France and England. With some concern that the island’s governor, General Charles Decaen, might consider delaying the *Geographe’s* crew there to provide manpower to help fight off any British invasion, Péron wrote to that dignitary pointing out that such action would violate the neutrality of the expedition. However, somewhat later, Péron, perhaps based on his time in Port Jackson, wrote again to Decaen asserting that that the expedition had received secret orders to gather intelligence on British settlements in New Holland and that the scientific efforts of the savants were merely a guise. Péron’s report, noting the vulnerability of the settlement at Port Jackson and suggesting that Irish convicts might take the side of the French, may have been commissioned by Governor Decaen. The fate of the report, and its ultimate recipients, seems unknown.

For the homeward journey, command of the *Geographe* passed to Pierre Bernard Milius after the *Naturaliste’s* departure and Baudin’s death. The *Geographe* arrived back in France, with further specimens, in June 1804. Most of these were also transported to the Paris Museum of Natural History, but some ethnographic collections and hundreds of live plants, including Australian myrtles, acacias and eucalypts, plus seeds and live animals (those that had survived the voyage) were transported to Malmaison, the retreat of the Empress Joséphine, to stock her park and menagerie. The specimens of fauna and flora sent to the museum were exceptionally valuable as the scientists had supplied them with careful labels showing place and date of collection. With many items collected by Péron enhanced by Lesueur’s drawings and watercolours it is surprising that much remains unpublished. Some were referenced by later French scientists, but other parts of the collection—such as the Crustacea—remained unpublished until the 1990s.

The public perception of Baudin appears to have shifted favourably in the last 20 years or so. He is clearly not forgotten. No doubt the much belated publication of his journals has encouraged a clearer perception of the man and the fulfilment of the task assigned to him by the French Government. Memorials to this sea captain and his expedition have been erected in both Western and South Australia. In Western Australia at least
eight are known, the work of sculptor Peter Gelencér, and funded by the state government. One bronze bust of the sailor/explorer at the town of Busselton now looks across Geographe Bay towards Cape Naturaliste, both features that he named in 1801. Other busts—honest portraits these, even reproducing a wart on his nose—are found at Albany in the southwest, and at Broome in the far north. The bust assigned to the Margaret River–Augusta region, shown in Figure 2.3, is lodged within the local historical society. The supporting plinths of these busts show the diverse French names that remain as a legacy of the voyage along the west Australian coast. At Robe, in South Australia, bronze busts of Baudin and Flinders share the same sandstone plinth, a fitting memorial to their encounter.

Interestingly, Péron is also remembered, although in a lesser way. He is honoured by Cape Peron, south of Perth, and by a national park in Shark Bay on the west Australian coast—an area where the expedition had carried out detailed mapping.

A fractured sea floor

Sailing south from the Naturaliste Plateau, around 170 years after Baudin’s ships sailed over it, the Glomar Challenger passed across one of the most rugged, and perhaps most mysterious, features of the Australian sea floor (see Figure 2.2). The Diamantina Fracture Zone is a narrow, 1,600 kilometre-long zone of ridges and deep valleys that stretches from the middle of the Great Australian Bight well out into the Indian Ocean. It is deeper towards its western end, where there are some of deepest features of all in that ocean. There lies the Dordrecht Hole, again named for one of the early vessels of the Dutch East India Company, which in 1619 sighted land to the south of the Swan River. The hole has been measured at over 7,000 metres depth.

Biologists and adventurers alike are drawn to the unusual depth and mountainous terrain of the Diamantina Fracture Zone. The area has been set aside as a Marine Reserve under the Australian system of offshore reserves, although its biological resources remain largely unexplored. The entrepreneur and adventurer Richard Branson identified the fracture zone as a potential target for his Virgin Oceanic submarine; it was to have been part of a proposed program of dives into the deepest parts of the world ocean.
But what do we know of the origin of this fracture zone? Again, as so often in geology, this is the subject of debate. The zone is very complex, possibly representing a zone transitional between ocean and continent. Rocky material dredged from the crests of its ridges—some 4,000 metres below the surface—shows that these are not made of typical ocean crust. The recovery of the rock known as peridotite—a dense, coarse-grained igneous rock rich in magnesium and poor in silica—attests to this. Peridotite is the dominant rock deep in the Earth’s mantle, lying beneath a much thinner crust. Explanations for the origins of this zone of rugged topography are speculative. Could it be a possible ‘scar’ in the sea floor resulting from an early phase of rifting between Australia and Antarctica? This might have preceded the better understood later spreading apart of these continents.

The name bestowed on this submarine mountain range is evocative. It is named for HMAS Diamantina, an Australian naval research vessel that explored this region in 1961; the vessel in turn is named for the Diamantina River in Queensland. But geographic names carry multiple histories, and such is the case here. The name Diamantina has wider resonance in Australia, particularly in Queensland.

Lady Diamantina Bowen was the wife of Queensland’s first governor, Sir George Ferguson Bowen, who took up his appointment to the pioneering but prosperous colony in 1859. The former Contessa Diamantina di Roma came from an aristocratic Greek-Italian family in the Ionian Islands of Greece. Her family descended from the Venetians who had long settled in the islands. Her upbringing had been privileged; she was well versed in diplomacy, language and politics. Contemporary columnists in colonial Australia described her as ‘an elegant and fascinating figure evoking popular respect’ and ‘as exotic as a bird of paradise’. Her popularity, perhaps her exoticism, is reflected in a spread of geographic names in Queensland: the Diamantina River, an island and a waterfall; and in the town called Roma. She was much involved with social welfare, and her concerns in this area are commemorated in a list of names attached to hospitals and orphanages. She was, no doubt, a vivid and unusual character. There is perhaps something appropriate in the link of her name, though secondarily, with an unusual and dynamic feature of Australia’s oceans!
This text is taken from *A Memory of Ice: The Antarctic Voyage of the Glomar Challenger*, by Elizabeth Truswell, published 2019 by ANU Press, The Australian National University, Canberra, Australia.