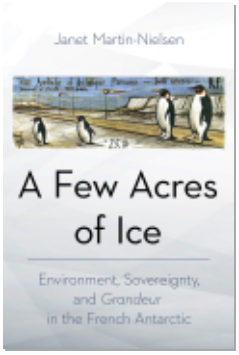
1. "All That Is Required Is to Discover It"



1

"ALL THAT IS REQUIRED IS TO DISCOVER IT"

The idea of a great southern continent permeated geographical dreams and theorizing from antiquity.[1] The ancient Greeks postulated that the Southern Hemisphere was home to a vast unknown continent, part of a larger speculative cosmology that wove together scientific thinking and an intellectual and aesthetic desire for symmetry, or ideal harmony. For the terrestrial masses to be in equilibrium, a southern continent was needed to counterbalance the known northern lands of Europe, Asia, and North Africa. Ancient philosophers, mappers, and cosmographers alike were attracted by the idea of a vast austral continent, with its connotations of otherness, extremity, and geographic symmetry. The word we use today to name that continent, Antarctica, stems from the Greek word *antarktikos*, "opposite the Arctic"—*arktos* being the Greek term for bear, representing the eponymous constellation that graces the northern sky. While the ancient Greeks defined this land in terms of their knowledge of the European world, early ideas of such lands were not restricted to Europe: Polynesian narratives describe the seventh-century voyage of Hui Te Rangiora to the white land of the frozen southern ocean and Māori legends, too, recount that such lands existed.[2]

In European medieval geography, the Antipodes (to use the term generally attributed to the Spanish scholar and cleric Isidore of Seville) lay at the heart of debate over Earth's configuration and the extent of its habitation.[3] For non-Christian classical scholars such as Servius and Macrobius, land beyond that which was known—if it existed—was conceivably populated. For Christians, however, this idea was unacceptable. Augustine and other Christian writers rejected

the idea of inhabited southern lands because of the threat they posed to the integrity of scripture and to Christian thought itself—namely, the spread of salvation to all people. If people lived on the other side of the globe, and if this place was unreachable from the Northern Hemisphere due to the impassability of the torrid regions, as it was thought, how could Christ's instruction to evangelize all people be fulfilled?

In the Renaissance, the rediscovery of ancient texts (in particular, Ptolemy's *Geographica*, translated into Latin in 1409) brought about renewed interest in the idea of a vast continent occupying the southern portion of the globe, an idea that was widely cultivated in the intellectual milieux of this era. Cartographers and geographers began to conceive of southern lands in visual and spatial terms, and they became a regular feature on sixteenth-century maps. Despite being the product of imagination and speculation, albeit rooted in classical and medieval ideas, maps of the time evolved to show a fair degree of consistency in their depictions of a great southern land. Its coastline, topography, and toponyms were recognizable and even well-known (if invented) geographic features. Christopher Columbus's voyage of 1492 to the New World—the western Antipodes—also gave cartographers of the imagined southern continent a real and yet just-discovered place to mirror. More broadly, as Alfred Hiatt writes, by showing that antipodal spaces were indeed reachable from the known world, Columbus's voyages turned the question of the evangelization of antipodal peoples into a real, practical problem with political as well as religious consequences.[4]

One of the earliest of these maps, French mathematician, cartographer, and artist Oronce Fine's influential 1536 cordiform map of the world, shows a massive austral continent covering the South Pole region and reaching far up the coasts of South America and Africa, separate from other lands (figure 1). Alongside mountain ranges jutting skyward near a coastline speckled with intricate inlets and bays, Fine inscribed the words "nvper inventa, sed nondvm plene examinata" (lately discovered but not yet fully examined)—a reference to Ferdinand Magellan's great voyage of 1522. Indeed, it was Magellan's sighting of land to the south of the furthest known extent of South America—the land he named Tierra del Fuego—that gave new cogency to the idea of a southern continent. It is thought that Fine was the first to baptize this continent "Terra Australis," which, alongside "Terra Australis Incognita," soon became widely used. Fine's cartography combines cosmographic and geographic theorizing; ideas passed down from classical and medieval traditions; and the new discoveries and travel narratives, varied in their authenticity, from traders, navigators, and evangelists, which flooded Europe through the sixteenth century. That maps of the era showed nearly equal ratios of land to sea in both hemispheres is a reminder that, far from being simply speculative, Terra Australis was equally the result of cal-

FIGURE 1. Oronce Fine, *Mappemonde en forme de cœur* (World map in the form of a heart), 1536, 52×59.5 cm, 2 assembled sheets (Bibliothèque nationale de France).

culation, mathematical and precise, driven by the ancient ideals of symmetry and balance.

While in the sixteenth century Terra Australis Incognita was often represented as stretching high up toward (or even joined to) Africa, Oceania, and South America, this imagined land gradually lessened in size as navigators and explorers brought back observations from their epic voyages.[5] Speaking to broader visions of man's place in the world, in seventeenth-century Europe Terra Australis manifested itself in political views of colonial expansion and romantic ideals in literature. While today the Antarctic evokes images of endless ice, a white and barren environment, empty and unable to support human life, until well into the eighteenth century Terra Australis was conceived of entirely differently, with ample, fertile lands, blessed with a temperate or even hot climate, thought to be inhabited by people, possibly highly civilized—elements from the known world brought to bear on the unknown, used to give meaning and shape

to the unseen. On maps, animals, people, and plants—many fantastical but with groundings in the known (and especially the newly discovered)—filled the continent's blank spaces, which were being explored by thought and imagination even before they were explored in reality.

At the opening of the eighteenth century, Terra Australis Incognita was still a mystery, unseen, a place of lore and fable, despite its appearance on maps for centuries. At this time, the New World was increasingly well-known, and the Pacific and Indian Oceans had been extensively explored. While Terra Australis had never been sighted, its existence was presumed. It called to navigators and explorers, to scientists and writers, to cartographers and philosophers enchanted by its possibilities and by speculation of the riches and glory that might be found there. The continent was often still drawn as a huge landmass filled with people and the splendors of nature. At a time when exotic countries and faraway lands were à la mode in European intellectual circles, Terra Australis drove discussions of known versus unknown, distance and the reach of human knowledge, and otherness. This space was informed as much by classical and medieval ideas disseminated over the centuries as by the age of exploration as by imagination, fancy, and desire. As observations from Pacific explorations were disseminated, especially from Dutch navigators, the boundaries of the unknown continent slowly receded. So too did the dream of tropical or even warm climates, of habitation, and eventually of riches. As geographic experience pushed out the older conceptions, the land slowly took the shape of the Antarctic Continent we know and recognize today. The hinge point in this transformation was the famed British explorer and cartographer James Cook's great southern circumnavigation of 1772–1775, which brought back evidence of impenetrable pack ice south of vast ice-free seas, finally and conclusively disproving the idea of a temperate and abundantly populated southern continent as had been dreamed about from antiquity on.

Early Ideas of the Antarctic in France

Sixteenth- and seventeenth-century maps and illustrations of Terra Australis Incognita caught the imagination of French cartographers, traders, and writers. Fantastical imagery and lavish descriptions served only to feed this imagination, which soon led to plans for exploration, colonization, and expansion. Inspired by compatriot Oronce Fine as well as by Flemish cosmographer and cartographer Gerardus Mercator, Norman mapmakers paid particular attention to Terra Australis, which dominated the southern portion of their resplendent mid-sixteenth-century maps. Known as the Dieppe maps, these were drawn for royal and wealthy patrons, and showed Terra Australis as a vast landmass stretch-

ing from the tip of South America across to present-day Australia. In the Dieppe school's Pierre Desceliers's rendering from 1550, a sumptuous color map two and a half meters long, the continent is elaborately detailed with exotic beasts and plants and a scallop-edge coastline. And Guillaume Le Testu, a French privateer and one of the preeminent cartographers of the Dieppe school, drew Terra Australis replete with human figures with ears as long as their bodies, described as "idolatres ignorans Dieu" (idolaters ignorant of God) inhabiting a land rich in nutmeg, cloves, and fruits.[6] That this Terra Australis was imagined rather than known was something the Dieppe mapmakers emphasized: "The so-called Terra Australis [is] unknown to us because all that is passed off on this subject is nothing but the work of imagination and unfounded opinion," wrote Le Testu.[7]

Putting images and ideas into action, in the late sixteenth century André and Francisque d'Albaigne, Italian merchants from Lucca, proposed to Charles IX a voyage to explore and colonize what they called "la tierce partie du monde" (the third part of the world).[8] The brothers reminded the king about France's mistake in dismissing Columbus and spoke of the benefits that would accrue from discovering a new part of the world with "lands and realms abundant and rich in gold, silver, precious stones, drugs and spices." While not much is known about the brothers and their project, the late nineteenth-century erudite scholar Ernest-Théodore Hamy's careful argument that they were referring to Terra Australis is widely but not unanimously accepted.[9] Gaspard de Coligny, the admiral of France and a Huguenot, looked favorably on the proposal, offering as it did prospects similar to his earlier venture to secure a haven for persecuted French Protestants.[10] But when Coligny was killed along with tens of thousands of Huguenots in the Saint Bartholomew's Day Massacre of 1572, the d'Albaigne project died too.

The "third part" of the world, as distinct from the Old World of Europe and the New World of the Americas, beckoned with the opportunity to extend European exploration and colonization of faraway lands and with the hope to correct some of the excesses and abuses associated with European incursions into the New World. In France, these dual possibilities were taken up by the Huguenot historian and writer Henri Lancelot Voisin de La Popelinière (1541–1608). His book *Les Trois Mondes*, published in 1582, combined geography, religious history, and political advice to offer a vision of French colonial expansion to the new promised land of Terra Australis—that immense land of "all kinds of good and things of excellence," discovered by Magellan and "belonging to nobody."[11] This was offered as much as an antidote to the Portuguese and Spanish hold over the New World as a refuge for French Protestants. With the New World divided up between the Iberian powers—a result of the Papal Bull of 1493 and the subsequent Treaty of Tordesillas—France was excluded from that region of the globe. That France had empowered Spain's political and military position by failing to

colonize the Indies was strongly felt even as France was subsumed by the Wars of Religion. For La Popelinière, Terra Australis offered a way for his country to redeem itself, a new hope, at once a means of strengthening the French state and of atoning for the violent behavior inflicted in other newly discovered territories. From these swirling ideas, La Popelinière is thought to have departed from La Rochelle in May 1589 with three ships in search of Terra Australis. "All that is required," he had written seven years prior, "is to discover it."[12] It is hard to reconstruct his voyage. It seems that he turned around upon reaching Cap Blanc in western Africa, for reasons that are opaque, and returned home with one of the ships. The other two ships continued on to South America.

While La Popelinière elicited interest in the idea of Terra Australis as a place for French renewal, for sixty years after his aborted voyage no further French expeditions set out for the unknown southern continent. Engrossed by the Wars of Religion, which stretched from 1562 until the end of the century and took perhaps three million lives, the country was divided and exhausted. This only changed in the first half of the seventeenth century as the Counter-Reformation elicited tremendous interest in missionary work and evangelization. With this push to renew the French Catholic Church, asserting Christianity beyond France's European borders and searching for new peoples to convert took center stage. In this context, the "third world" offered a speculative space for France to realize these aims without encroaching on rival powers and a place in which the church could absolve itself after the devastation of the Wars of Religion. Eager for France to build an empire to rival Spanish holdings in the Americas, Abbé Jean Paulmier de Courtonne, the canon of Saint-Pierre Cathedral in Lisieux (Normandy), argued that France was obligated to discover and evangelize this unknown third part of the world. He proposed to the pope a mission to "Terre Australes" in a series of drafts and publications in the 1650s and 1660s.[13] This was not the Antarctic as we conceive of it today, but a southern land whose borders, location, and climate were not yet known.

In his writings, de Courtonne told of a French navigator, Binot Paulmier de Gonneville, who had discovered "Terre Australes" in 1504.[14] According to de Courtonne, Gonneville left the Norman port of Honfleur aboard *L'Espoir* in 1503, heading for the Spice Islands—but after reaching the Cape of Good Hope, his ship was blown by a storm to "the great austral land," where he spent six months. De Courtonne describes this land as rich and well populated, with friendly natives, plentiful food, and an ideal climate for settlement. He adds that Gonneville took possession of the land in the name of Pope Alexander VI, King Louis XII, and the Amiral de Graville. But scarce evidence remains of this voyage: while Gonneville returned to Rouen in 1505, de Courtonne wrote, his logbook was lost during an attack by an English corsair. "Terre de Gonneville" has

subsequently been identified as being in places ranging from southern Brazil to Patagonia to New Zealand to Madagascar.[15] De Courtonne himself claimed (rather doubtfully) to be a descendant of a native of Gonneville's land, Essomeric, the son of a chieftain.

But who was Gonneville and why had he never been heard of before de Courtonne's account? After all, his purported discovery took place in 1504, while de Courtonne wrote of him a century and a half later. And why does there seem to be no original documentation about him or his voyage? These problems have led to controversy, with some suggesting that Gonneville's voyage, and perhaps even the man himself, are entirely fictional, invented by de Courtonne—conclusions supported by the evidence.[16] But regardless of the account's veracity, and regardless of where the land was thought to be, its impact was significant: for more than a century, the allure of imagined southern lands, and Gonneville's purported discovery in particular, beckoned to French explorers who were eager to rediscover this lost paradise and colonize it for their country. De Courtonne himself was the first to propose an expedition to refind the lost land. Despite uncertainties surrounding its location, the king and the pope were both drawn to the proposal. Owing to internal church bickering over the granting of bishoprics, however, de Courtonne's plan was soon shelved. Still, his ideas took hold, motivating extensive French exploration of the southern oceans over the next century.

With de Courtonne's accounts, Gonneville, theretofore unheard of, was widely believed in mid-to-late seventeenth- and eighteenth-century France to have discovered a new land, and numerous French and foreign expeditions set out in search of it. His writings were well-timed, offering a balm in an era when the English and the Dutch were far outpacing the French in the South Pacific. They also fit well with Cardinal Richelieu's view of the colonial enterprise as a means of developing commerce, opening routes for emigration, and heightening national glory, as well as a political tool to combat Spanish hegemony. Richelieu's government built a strong navy, giving a firm foundation to dreams of exploration, something that only increased with Jean-Baptiste Colbert's arrival in power. Further, by crediting Gonneville with the discovery of a land far to the south, de Courtonne gave to France a moral legitimacy toward Terra Australis parallel to that of Amerigo Vespucci in the New World. His description of a fertile, temperate climate sparked the imagination of French explorers and writers, and the search for the unknown land wove a thread through subsequent French exploration in the Southern Hemisphere. To refind "Terre de Gonneville" and, with it, a great southern continent, had an unparalled allure. It was only with Cook's penetrating explorations of the southern seas in the 1770s that this French quest for the fabled southern continent, warm and full of lush life, abated. With Cook's voyage, the massive extent of the southern pack ice was

finally exposed—but still there was no knowledge of what lay beyond the forbidding ice, whether it be open sea, land, or more ice.

Through the eighteenth century, French interest in Terra Australis—whether it be a vast southern continent or specific territories in and near present-day Australia—grew in line with public fascination with faraway lands and the scientific, commercial, and colonial questions they raised. When the philosopher and mathematician Pierre Louis Moreau de Maupertuis wrote to Prince Frédéric de Prusse that southern lands offered important possibilities for science and commerce, his letter gained much attention in France's flourishing literary salons.[17] By the middle of the century, these ideas preoccupied scientific, intellectual, and social circles. The attraction also spoke to geopolitics, power, and rivalry: if France could find and exploit these lands, the country could "catch up" in the race for exploration and colonization, and it would also help restore France's naval position at a time when British naval power was in ascendence. Navigators, especially from the French East India Company, were fascinated with the idea of establishing an "Austral France" in a land that, they thought, contained riches to outstrip even those of El Dorado.

Expeditions, however, were at the mercy of changing political winds. In the opening years of the eighteenth century, until 1715, the accession of Philip V to the Spanish throne and the subsequent transformations on the European political scene facilitated French maritime activity. During the War of Spanish Succession (1701–1714), several French voyages set out for the southern seas, including that of Pierre Perrée du Coudray de la Villestreux, who became one of the first to navigate the Strait of Magellan. But this burst of activity ended in 1715 with the Treaty of Utrecht, which stripped France of many of its overseas possessions, especially in what is now maritime Canada and the West Indies. For the following fifty years, Britain ruled the waves while French mariners slumped into a period of lethargy, with no coherent policies to guide them. Still, this period did see one explicit effort to search for Terra Australis: that of the French East India Company's Jean-Baptiste Charles Bouvet de Lozier (1705–1786).

Like many at the time, Bouvet was as inspired by de Courtonne's writings as he was frustrated by his inability to find original accounts of Gonneville's voyage. Between 1734 and 1738, the experienced navigator petitioned the East India Company three times before receiving approval for his voyage to rediscover "Terre de Gonneville." There, Bouvet hoped to evangelize the natives, develop commerce opportunities, and establish a depot to serve navigators sailing between France and the Far East. Bouvet left France with two ships, *L'Aigle* and *Le Marie*, in mid-1738. On the first day of the new year, he caught sight of snow-covered land south of the Cape of Good Hope, but all attempts to disembark were blocked by thick fog and unnavigable ice. Forced to turn around, Bouvet returned

to France with descriptions of towering icebergs, freezing seas teeming with whales, and odd black and white birds, unable to fly but gracefully agile in the water. Thinking that he had seen the advanced part of a great austral continent, Bouvet named his land "Cap de la Circoncision" in reference to the religious day on which he sighted it, the Feast of the Circumcision of Christ. A map made based on Bouvet's expedition by the pioneering geographer Philippe Buache in 1739 shows a large bipartite southern continent encircling but not covering the South Pole, with Cap de la Circoncision highlighted in red at the tip of the smaller continental section (figure 2). While the French East India Company had initially thought that Terre Australe might offer strategic advantages—including a rest and resupply station for ships, a site for a new colony, and even a base for war—it did not find Bouvet's description of a snowy and fog-frozen land enticing and declined to pursue the idea further. While Bouvet thought he had discovered a southern continent, his land was later shown to be insular.[18] Still, the idea of a great southern land ripe for colonization and domination, analogous to other waiting parts of the globe, persisted.

Soon after Bouvet's return, the French naturalist Georges Louis Leclerc de Buffon proposed a route through the Pacific Ocean toward Terre Australe, the unknown continent, which he thought to be as big as Europe, Asia, and Africa put together. Buffon had an open mind as to the climate of this land, writing that conflicting reports made it impossible to know whether Terre Australe was colder than the Arctic or possessed a temperate or even warm climate.[19] His close friend, the writer and Bourguignon magistrate Charles de Brosses (1709–1777), took up the idea. De Brosses's five-volume history of the search for Terre Australe, written in the 1750s, drew from navigators' logbooks and journals of the previous two centuries to evidence a huge land situated in the austral region but with the climate, opulence, and allure of the tropics. His interest in French colonial expansion and commercial gain was both political and personal; he thought that the successful colonization of Terre Australe could counter Britain's profligate imperial expansion and, as a shareholder in the French East India Company, he saw the control of new lands on the route to India as a means of lifting the company's fortunes—and thus his own.[20] De Brosses called on the king to pursue this idea: "For a king, it would be an enterprise much more glorious than a war, than a conquest. The most celebrated of the modern monarchs will be he who gives his name to the austral world. . . . It is France above all who must attempt this, France which, until now, has let herself be bested by other nations in the domain of austral discoveries."[21] But de Brosses had the misfortune of advancing his proposals at the opening of the Seven Years' War (1756–1763). With that war, France lost its best remaining colonies as well as access to the lucrative spice trade in India. Conquered on the sea, too, where Britain now

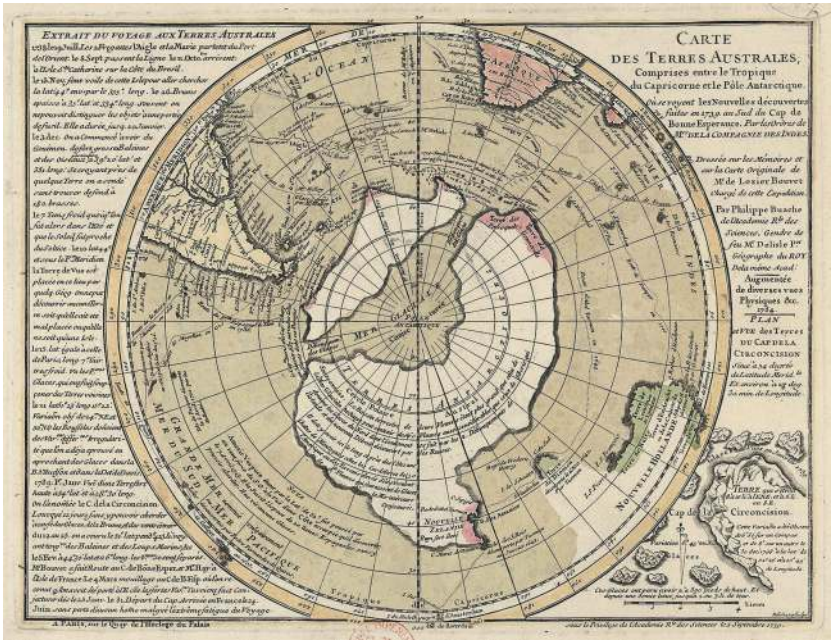


FIGURE 2. Philippe Buache, *Carte des Terres Australes, comprises entre le Tropique du Capricorn et le Pole Antarctique, où se voyent les Nouvelles découvertes faites en 1739 au Sud du Cap de Bonne Esperance par les Ordres de Mrs de la Companie des Indes, dressée sur les Memoires et sur la Carte originale de Mr de Lozier Bouvet chargé de l'expédition* (Map of the southern lands, between the Tropic of Capricorn and the Antarctic Pole, where the new discoveries made in 1739 to the south of the Cape of Good Hope on the Orders of Messieurs of the Company of India are seen, drawn up according to the notes and the original map by Mr. de Lozier Bouvet, in charge of the expedition), 1739, 25×32 cm (Bibliothèque nationale de France).

reigned supreme, France was a country humiliated—all the more so since less than a decade earlier, France had arguably been the most powerful nation in Europe.

In a push to rebuild France's empire, Louis XV, fascinated by geography and encouraged by Bouvet's voyage, ordered expeditions anew. Together with his principal counselor, the Duc de Choiseul, the king sought to restore his navy's prestige with grand expeditions to the Pacific. This push continued with the accession of Louis XVI in 1774. With the new king's interest in maritime affairs, the French Navy entered a period of prosperity. From 1766 to 1840, France surpassed all other countries in grand exploratory voyages in search of unknown lands, especially in the Pacific. The men who led these expeditions served the monarch, chosen for their proficiency as sailors and their courage proven in earlier battles; their names are still today well-known in France. While some of these navigators set out explicitly to discover Terre Australe, and several thought they did so, none of them made it as far as the Antarctic Continent. They did play an important role in the discovery of the sub-Antarctic possessions France retains today.

This era of Pacific exploration falls into two parts, separated by the French Revolution. Between the 1760s and the Revolution, French navigators set out on a series of well-equipped, state-funded, scientifically oriented voyages to the southern Pacific and Indian Oceans. Beginning with Louis-Antoine de Bougainville, these voyages—including those of Jean-François Marie de Surville, Yves Joseph de Kerguelen de Trémarec, Marc Joseph Marion Dufresne, Jean François de Galaup, comte de La Pérouse, and, during the Revolution itself, Antoine Reymond Joseph Bruny d'Entrecasteaux and Nicolas Baudin—exemplify the archetype of grand, exploratory, ethnocentric voyages in the French cultural imagination. They mark the beginning of a *grand dessein* for the Pacific for which enthusiasm was profound and long-lasting.[22] Nourished by the philosophy and intellectual pursuits of the Enlightenment, these voyages also offered new hope to a defeated country, a means of rebuilding French prestige through faraway exploits. The discovery of strange societies, too, perceived in France as the incarnation of the philosophical ideal of nature, underwrote the French belief in the dual progress of the nation and the human spirit.

Of these many voyages, it is those of Kerguelen and Marion Dufresne that are important for the sub-Antarctic islands France possesses today. Having joined the navy at the age of sixteen, Kerguelen (1734–1797) rose steadily through its ranks, serving in the Antilles during the Seven Years' War and subsequently in the North Atlantic. Inspired by Bouvet and by the idea of Terre Australe, all the rage in scientific and literary circles, Kerguelen dreamed of launching a grand exploratory campaign to find the unknown southern land. In September 1770,

he presented his ideas to the Duke of Praslin, the influential minister of the marine. Soon, he received orders to find and explore the large continent thought to occupy the southern part of the globe, an immense and unpenetrated space. Kerguelen was instructed to disembark, examine any existing production and manufacturing facilities, evaluate commerce possibilities, and begin building a trade relationship with the natives.

With two ships (the second commanded by Louis François Marie Aleno de Saint-Aloüarn) and more than three hundred sailors, Kerguelen headed south.[23] In mid-February 1772, sailing through strong winds and snow in the southern Indian Ocean, the French captain caught sight of land and, thinking it the famous continent, baptized it *France Australe*. An ensign, Charles de Boisguehenneu, managed to disembark and claim the uninhabited land for France, a simple *prise de possession* unimpeded by the complexities of territorial claim in populated regions.[24] In the ensuing violent storm, the two ships were separated. Kerguelen and his men made their way back to France, arriving in Brest in mid-1772. The navigator went straight to Versailles to recount his voyage to the king and court, telling of a land that was likely to contain wood, minerals, diamonds, rubies, precious stones, and marble. With his lavish descriptions of the elusive Terra Australis, Kerguelen was, in the words of the naval officer and explorer La Pérouse, received in France "like a new Christopher Columbus."[25]

Given the appeal of his report, it is no surprise that Kerguelen convinced the king to authorize a second, more ambitious voyage. Kerguelen left France again in March 1773 and soon refound his promised land—but the sailors and future colonists aboard the ships quickly realized that their captain's idyllic descriptions bore no resemblance to reality. The inhospitable coasts and ferocious weather—nothing but relentless cold, fog, and icy winds—allowed for only a short debarkation. Early in the new year of 1774, the men renewed the French claim from two years prior: to the accompaniment of musketry fire, they wired a bottle containing a piece of parchment with the king's name and the date to a rock in Baie de l'Oiseau (named for one of the expedition's ships). But the dream was shattered. Fearing mutiny, Kerguelen returned to France despondent, penning a letter to the court en route admitting his failure.[26] In the meantime, Louis XV had died and Kerguelen's support at the Ministry of the Marine had evaporated. With his extravagant claims about the supposed austral continent shown to be false, he was stripped of his rank, struck from the list of officers, and imprisoned.[27]

Despite Kerguelen's personal misfortunes, his voyages laid claim to the islands for France. When James Cook arrived at the seal-dotted archipelago on Christmas Day 1776, he found and respected the French *prise de possession*. He did add his own declaration of debarkation to the French parchment—and, of more im-

mediate value, his surgeon, William Anderson, found the abundant Kerguelen cabbage to be a potent antiscorbutic.[28] While he was tempted to name the archipelago "Desolation Islands," Cook ultimately chose to name it for the demoted French navigator, "but that I would not rob Monsieur de Kerguelen of the honour of it bearing his name."[29] Port Christmas (or Christmas Harbor), of course, was named for the day of Cook's arrival. That these names were given by Cook is a reminder that, despite the French claim to the islands, France had neither presence in nor control over them at the time.[30] While the islands were frequented by British and US sealers in the years following Cook's visit, they only became of political interest much later.

In the same year as Kerguelen set out on his first voyage, so too did another French navigator with similar intentions: Marc Joseph Marion Dufresne (1724–1772). Born into a rich Saint-Malo family with significant interests in the French East India Company, Marion Dufresne had the sea in his blood.[31] As a privateer during the War of the Austrian Succession, he captured several English ships and aided in the rescue of "Bonnie" Prince Charles Stuart from Scotland in 1746 before being taken prisoner. After being exchanged and returned to France, Marion Dufresne joined the East India Company, venturing as far as China. With the dissolution of the company in 1769, the navigator settled on Isle de France. Soon, he embarked on a dual mission: to return Aotourou, a Tahitian presented at the court of Versailles by Bougainville, to his home country, as well as to explore the southern seas with a view to finding Gonneville's long-lost land—and, he hoped, to make his fortune through trading. More than a century after de Courtonne's writing, Gonneville's land still beckoned to explorers.

Marion Dufresne, who was financing the voyage largely from his own funds, left Isle de France in October 1771. After Aotourou died of smallpox at Port Dauphin, Madagascar, Marion Dufresne continued south to the Cape of Good Hope, where he took on fresh supplies and then set out eastward. In early 1772, he sighted a number of islands shrouded by fog. His second-in-command, Julien Marie Crozet, took possession of some of these islands for France—the *prise de possession* which today backs French sovereignty over the Crozet archipelago.[32] Marion Dufresne did not, however, refind Gonneville's land or Bouvet's Cap de la Circoncision—and his voyage ended badly. With his ships damaged from a collision in heavy fog, he set sail in search of a place to make repairs and treat his scurvy-ridden crew. In March 1772 they reached Van Diemen's Land (now Tasmania), previously sighted by Europeans 130 years earlier on Dutch seafarer Abel Tasman's voyage. But a lack of materials forced the Frenchmen to depart quickly, heading north toward New Zealand. In mid-June, Māoris killed Marion Dufresne and nearly two dozen of his men, most likely after they fished in taboo waters.

While these voyages did secure sub-Antarctic possessions for France, they provided little in the way of new information about Terra Australis. It was Cook's momentous expedition that showed that if there was a southern continent, it was necessarily much further to the south than had previously been thought. Cook's circumnavigation of the globe in the high southern latitudes indicated that any such continent would be a permanently cold and icy land, devoid of the exotic riches long thought to exist there and not suitable for colonization. When he reached the Antarctic polar circle at 71°10 south in early 1774—the furthest south that anyone had penetrated to date—his efforts to push farther were blocked by ice. "The risque one runs in exploring a coast in these unknown and icy seas," Cook wrote, "is so very great that no man will ever venture farther than I have done, and that the lands which may lie to the South will never be explored."[33] With Cook's findings, the Antarctic question took on its modern aspect. For their part, the French were greatly discouraged by Cook's successes. Cook had done so much, La Pérouse complained, that little was left for others to explore.[34]

In the narrow window between Cook's second voyage and the outbreak of the French Revolution, and despite his grumbling about the British captain's accomplishments, La Pérouse set out on a grand exploratory voyage to the Pacific. He had been personally chosen by Louis XVI to lead an expedition to try to link up Cook's and Bougainville's earlier voyages. The choice of La Pérouse reflected his long experience: already forty-four years old, he had distinguished himself in the Americas and the West Indies during the Seven Years' War and the Anglo-French War. He was much admired for capturing two British forts on the coast of Hudson Bay in the summer of 1782, and particularly for his treatment of the governor of the Prince of Wales Fort. Charged with refinding Bouvet's land and examining the far southern archipelagos discovered by Cook—instructions that hinted at the global scale of French-British rivalry—La Pérouse's expedition also included sixteen scientists who undertook meticulously planned work in physics, astronomy, mineralogy, zoology, geography, botany, and meteorology.

La Pérouse left Brest in mid-1785, a huge crowd cheering on his ships.[35] Their departure marked the beginning of a remarkable three-year voyage that took them from Africa to South America to Alaska before crossing the Pacific and arriving in Macao in early 1787. The ships then sailed the China and Japan Seas, making La Pérouse the first European navigator to penetrate these waters, passing through the strait that now bears his name, dividing the Russian island of Sakhalin from the northern part of Japan's Hokkaidō Island. When he reached Petropavlosk in September 1787, La Pérouse dispatched Barthélémy de Lesseps (uncle to Ferdinand de Lesseps, the developer of the Suez Canal) to return to France via Siberia, taking with him reports to be presented in Versailles—a decision that would prove prescient. La Pérouse's ships then proceeded south to

Australia. It is from Botany Bay that the navigator wrote his last known messages to Versailles, detailing his plans for returning to Isle de France by the end of 1788. Resupplied with wood and fresh water, the ships left Australia on 10 March 1788 and were never heard from again. Their fate was of deep concern in French maritime, scientific, and public circles, and several rescue attempts were launched. While La Pérouse's expedition had set off in an atmosphere of optimism, even jubilation—which was initially borne out by the impressive list of new territories explored and the numerous trading opportunities identified in the Americas, Asia, and Russia—the loss of both vessels without any trace was a severe blow, dashing immediate hopes of further expansionist voyages.

Even though these voyages enjoyed huge popularity, the Versailles monarchy was moribund. During the turbulent years of the Revolution, French seafaring entered a lull. Still, one voyage stands out: a rescue mission dispatched to search for La Pérouse, about whom no news had been heard for years but whose fate remained of great interest. The naval officer and colonial governor Antoine Reymond Joseph Bruny d'Entrecasteaux was chosen to lead the expedition. He departed from Brest in September 1791 with two ships, the second one captained by Jean-Michel Huon de Kermadec.[36] As they sailed toward Australia, the expedition's scientists collected and cataloged hundreds of new species. D'Entrecasteaux also reconnoitered Nouvelle-Amsterdam Island, which had first been seen by a Castilian navigator in 1552 and which would be claimed by France in 1843. But while d'Entrecasteaux's ships came tantalizingly close to the site of La Pérouse's disappearance, he did not realize it and found no trace of the lost Frenchmen or their ships. And the expedition, ambitious and hurried, ultimately claimed the lives of both captains: Kermadec died of consumption and exhaustion in early March 1793, while d'Entrecasteaux died of scurvy and dysentery four months later. The ships subsequently made it to Surabaya, where they were seized by the Dutch, who were at that point at war with France. The men were imprisoned and, upon their release, had to find their own way home. While the many crates of scientific specimens gathered on the voyage were confiscated, the well-known British botanist Joseph Banks was able to secure the return of most of the specimens to France.

The disappearances and deaths of Marion Dufresne, La Pérouse, d'Entrecasteaux, and Kermadec were by no means exceptional: navigators Surville (drowned off Peru), Saint-Aloüarn (tropical disease), and Baudin (tuberculosis) also perished on their austral expeditions.[37] Quite apart from the likes of Marion Dufresne and his men, who were killed by the inhabitants of the lands they visited, French seamen of the era (like those of other countries) fell ill and died at a high rate from a combination of disease, spoiled food, and exposure. The unceasing cold endured on searches for Terre Australe, and the heavy humidity

of the tropical waters that separated France from the cold southern seas, were unkind to the sailors, who worked and slept in damp clothes. Food stores were often wet and spoiled from leaks in the wooden ships, and the water in the hold was frequently contaminated with excrement. The lack of fresh fruit and vegetables onboard exacerbated the situation as entire ships fell ill due to lack of vitamins. Malaria, dysentery, typhus, yellow fever, and venereal diseases, too, often decimated crews with no regard for rank. While efforts were made to conquer scurvy during the revitalization of the French Navy after the Seven Years' War, the path to understanding this illness was neither linear nor swift.[38]

The Opening of Antarctica

Despite Cook's pessimism, it did not take long for the Antarctic waters to emerge as a commercial opportunity. As Napoleon led France into war, sealers swarmed toward the Antarctic, eager to exploit the frigid southern seas for profit. Between 1780 and 1820, private entrepreneurs slaughtered millions of seals in the vicinity of the Falkland Islands, the South Georgia and South Sandwich Islands, and the Chilean coast.[39] The seal populations of the French possessions of Kerguelen and Crozet were likewise ravaged. Whalers followed the sealers in pursuit of whales and elephant seals, valued for their oil.[40] Driven by growing rivalry over resources, territory, and trade, sealers, sailors, and surveyors ventured farther and farther south until, in 1820–1821, three parties, from Russia, Britain, and the United States, all sighted the Antarctic Continent (at that time, not yet known to be continental in nature). The first to do so, almost in unison, were Russia's Fabian Gottlieb von Bellingshausen, a naval officer acting on behalf of the state, and Britain's Edward Bransfield.[41]

While France was absent from these first sightings of the Antarctic Continent, this was still one of the great eras of French navigation. During the Restoration, from 1814 to 1830, and the July Monarchy, from 1830 to 1848, France embarked on a striking series of expeditions to the Pacific.[42] During the first part of this era, from 1814 to 1840, the French state sponsored eleven major voyages for the purposes of discovery, expansion, and scientific investigation—many more than Britain (five) and the United States (three), and a hair's breadth more than Russia (ten). Given the French political and economic situation of the time—following the upheavals of the Revolution and defeat in the Napoleonic Wars—this investment demands explanation. France was a country defeated, physically drained, choked by rampant social and political divisions, and forced to pay a huge war indemnity and accept 150,000 occupiers from Britain, Russia, Austria, and Prussia. The crushing loss at the Battle of Trafalgar in 1805 had left the

French fleet in tatters. But France's defeat in the Napoleonic Wars did not mean the end of aspirations to power and prestige, especially as represented by science. The navy, certainly, was in dire shape both materially and financially, but maritime scientific voyages were still seen as a means of building reputation and standing. There was a desire to perpetuate the tradition of impressive (if often ill-fated) expeditions under the Ancien Régime (and even through the Revolutionary period), and especially to build anew on the Ancien Régime's scientific legacy. Like in 1763, in 1815 many good naval officers found themselves inactive and looked to scientific voyaging as a means of advancing their careers at a point in time when the navy was weakened. The Pacific was chosen as a venue for rebuilding and projecting French power since it was a theater in which France had enjoyed previous successes, a region of the globe with much left to discover and explore, and an ideal location for resuming rivalry with Britain.

There was also a clear geopolitical dimension at play: between the loss of Isle de France (renamed Mauritius) in 1810 and growing British influence in the region, resentment of the French-British power imbalance grew. Isle de France had long been a key Indian Ocean naval base and shipbuilding center, as well as a regular supply depot, for French navigators. As one of the few colonies retained after 1763, its loss was felt sharply. At the same time, the French also resented British colonial activity in Australia and New Zealand, which was seen as profiting from France's defeat in the Napoleonic Wars to capture a decisive advantage in the South Pacific. The British, lamented Hyacinthe de Bougainville (son of Louis-Antoine de Bougainville), were poised to gain control of the entirety of Australia despite previous French landings in the region.[43] The British annexation of New Zealand similarly antagonized the French. To the French after 1815, preventing Britain from extending its sphere of influence over the entire Pacific was paramount.

It was thus with glory, rivalry, and pride in mind that the restored monarchy took to Pacific voyaging with zest. Louis XVIII gave his patronage to expeditions including those of Louis-Claude de Freycinet and Louis Isidore Duperrey, who circumnavigated the globe in 1817–1820 and 1822–1825, respectively, and Bougainville the son, who set out to establish diplomatic and commercial relations with the Far East in 1824. While Freycinet's ship was lost in the Falkland Islands, the crew and most of the scientific work, including almost five hundred previously unknown plant specimens, were rescued, a huge morale boost to those who followed in his wake. And in the 1830s, with the reign of Louis-Philippe, political ends—namely, commerce and empire—took on a larger role in the pattern of French southern voyaging.[44] It was on one of these voyages, Jules Sébastien César Dumont d'Urville's 1837–1840 expedition to the southern seas, that France became an Antarctic nation.