Prolegomena

I saw those things, which the rude Mariner
(Who hath no Mistress but Experience)
Doth for unquestionable Truths aver,
Guided belike by his external sence:
But Academicks (who can never err,
Who by pure Wit and Learning’s quintessence,
Into all Nature’s secrets dive and pry)
Count either Lyes, or coznings of the Eye.


Death is the penaltie impos’d, beware,
And govern well thy appetite, least sin
Surprise thee, and her black attendant Death.

—John Milton, *Paradise Lost* (1674)

This book grew out of a chapter in an earlier book on the South Seas, where it was placed as a kind of pendant to another on leprosy. Scurvy being a disease afflicting voyagers in the Pacific, and leprosy an imported one that devastated indigenous populations, they combined to show how vulnerable humans were in the eighteenth century to the effects of imperial expansion, whether they were its agents or its victims. I thought of writing a book on scurvy in the early 2000s and signed a contract with a British press specializing in history titles, but procrastination put it out of reach. When I was asked at the end of the decade to sign a contract for a book to be entitled “Scurvy, the Disease of Discovery,” it seemed like a happy rejuvenation of an
old idea, and I agreed. At first I thought the title laid down a pretty straightforward track through the history of scurvy—an illness that accompanied the extreme conditions incident to navigating the ends of the known world and that was gradually banished as nutrition and hygiene on ships grew more sophisticated. But it didn’t take long to understand what many people had understood before, namely, that the course of scurvy, like that of true love, was nowhere near so smooth.

While writing the book, I have been teased by the double meaning lurking in the word “discovery,” especially with regard to James Cook’s first voyage into the Pacific on the *Endeavour* (1768–71). This was the first time a British naval ship had sailed there with a set of instructions supplied not just by the Admiralty but also with a set of hints drawn up by the Royal Society. Between them, they set out specific goals, cartographical and scientific, including mapping the coastline of New Zealand, finding out whether there was a Great Southern Continent, measuring the transit of Venus, and studying the customs of the Tahitians, whose islands had been discovered the previous year by Samuel Wallis in the *Dolphin*. The vessel was also stocked with a variety of foods supplied by the Victualling Board, all thought to have some antiscorbutic value—citrus juice, dried beans, portable soup, sauerkraut, vitriol, and malt wort—along with a direction to pay particular attention to the malt. On the one hand, Cook was charged with a set of objective tasks of discovery, some definite and some speculative, and on the other, a set of scientific experiments and ethnographic observations, among which was a nutritional trial that was to take place on the ship’s company, a self-experiment as it were. Discovery was divided then between the external world and the space of the vessel itself, but there was no friction between the two enterprises, for Cook surpassed all expectations. His discoveries of new lands and archipelagos was a matchless feat of navigation, the measurement of the transit of Venus was reckoned a success, and on the basis of William Perry’s clinical trial during the passage, malt wort was recommended as the leading antiscorbutic, for no one during this arduous voyage had died of scurvy.

But in his next voyage (1772–75), Cook succumbed to an illness whose symptoms, if not scorbutic, almost certainly were owing to vitamin deficiency; many of his crew and all of his scientists exhibited signs of scurvy; it was particularly bad on his consort, the *Adventure*, commanded by Tobias Furneaux. This was not surprising, for the search for a Great Southern Continent had taken the two ships on great loops into Antarctic waters, where for months on end no fresh food was to be obtained. Johann Reinhold Forster’s journal exhibits with great vividness a rapidly widening gap between sentiments appropriate to the public mission of discovery and the reactions
of an experimental gentleman to the failure of the nutritional experiment conducted on his own body. They are shrill, voluble, personal, and urgent. In these circumstances, scurvy acquires an importance of its own. It is not a discovery according to an established plan of public policy but rather an unfortunate event taking place in the organs, bones, and flesh of the voyager’s own body, often privately lamented and never easily communicable. The Resolution voyage was the one Samuel Coleridge relied on most heavily for The Rime of the Ancient Mariner (1798), the very same on which his schoolmaster William Wales discovered to his chagrin that he had scurvy. The poem is exclusively concerned with this latter kind of discovery, delivered as a tangled confession in which scorbutic symptoms function not as a frame but as the very substance and burden of the narrative. The purpose of the voyage is never so much as mentioned.

If there were two sorts of discovery going on—one hand, unrolling the map of the world and, on the other, revealing what had lain hidden in the sensations, passions, sickness, and contingent circumstances of the voyager—of what exactly did the second discovery consist? Well, scurvy was an inevitable accompaniment of long periods at sea. Although it was capricious with regard to the speed of its onset and the signs of its presence, no one could avoid it who lived for more than three months on preserved food; yet despite what many surgeons and physicians believed, it wasn’t a disease a person caught, like yellow fever or typhus, it came about when the source of some vital principle in food ceased to be supplied to the body. That is to say, it was owing to an innate infirmity in the human constitution that the mere mass of food could not remedy. It was a sort of essential starvation. Specialists in gases like Thomas Beddoes even referred to it as suffocation, or dry drowning, believing that victims were suffering from a huge deficit of oxygen. The symptoms plied between horrid dissolution of the body and an extraordinary susceptibility of mind; they were evinced by magnified sensations and tearful melancholy, seasoned every now and then with visions of the right kind of food and sometimes the ravishing experience of tasting and swallowing it. So if scorbutic patients were to open their mouths, they would discover (in the sense of reveal as well as find) blackened gums and very loose teeth; or if they bared their legs, they would discover blood spots and ulcers. If they talked (and they were prone to be very circumstantial), they would spend many words trying unsuccessfully to provide a full tale of the spectrum of their miseries, exhibiting a weakness of mind and fraught emotions typical of the disease. Was this why scurvy could lay claim to being a disease of discovery, because in the effort of finding exotic lands and peoples, it came upon its victims like a surprise, manifest in their own bodies and feelings?
Scurvy’s first attested appearance in literature is to be found in Luis Vaz de Camoens’s *The Lusiads* (1572), a poem celebrating Vasco da Gama’s expedition into the Indian Ocean, where the word “discover” is handled in the two different ways I have outlined. It bears the primary meaning of finding out by toil the remotest boundaries of the sea, but it has another deriving from the fact that the places da Gama discovered were already thriving ports, not at all receptive to overtures from a tattered mariner regarding trading treaties with Portugal. In rejecting da Gama’s embassy, the king of Calicut demanded (according to the journal of the first voyage) why they came so far without gifts: “To this the captain rejoined that he had brought nothing because the object of his voyages was merely to make discoveries…. The king then asked what it was he [had] come to discover: stones or men?” (Ravenstein 1898: 62). Timothy Hampton draws this interesting conclusion: “What da Gama ‘discovers’ is, in effect, his own journey” (Hampton 2009: 110). What might have been sustained as a fiction of embassy is transformed into an exercise of self-authentication, da Gama’s own greater truth concerning the accidents and perils of traversing an unknown sea: his imagined role as representative of the Portuguese Crown supplanted, like Othello’s, by a tale of moving accidents (108). A significant element of that ordeal was the arrival of scurvy off the coast of Mozambique, which is introduced like this in Richard F. Burton’s translation: “Who but eye-witness e’er my words could trust? / Of such disform and dreadful manner swole / The mouth and gums, that grew proud flesh in foyson / Till gangrene seemed the blood to poison, / Gangrene that carried foul and fulsome taint, / Spreading infection through the neighbouring air” (Camoens 1881: 5.81 [2.620]). At a critical moment in the unfolding of this voyage, the truth is available only to someone who was there, present at the emergency.

This embarrassment of the voyaging first-person narrative is so common in seagoing journals as to seem threadbare, yet in the company of scurvy, it deserves closer attention than it generally gets, for it brings the problem of discovery directly into the process of communication itself and sets a challenge for narrator and audience alike. For instance, when Captain Matthew Mitchell of the *Gloucester* describes men dying and dead of scurvy as his vessel vainly tries to make land in the South Seas, the rhetoric is familiar: “So miserable was the Scene, that words cannot Express the Misery that some of the Men dyed in” (Mitchell 1740–43: n.p.). What he discovers in his own experience, yet cannot discover as public testimony, is utterly unfamiliar, another kind of world of which we have no idea. In the fictions derived from voyages like da Gama’s, such as Francis Bacon’s *New Atlantis* (1627; from Ferdinand Magellan’s [1525]) or Thomas More’s *Utopia* (1516; from Amer-
igo Vespucci’s [1505]), it is a licence for sheer imagination and used confidently by narrators such as Ralph Hythloday: “Yf you had bene with me in Utopia, and had presentelye sene their fashions and laws, as I dyd … then doubtes you wolde graunt, that you never sawe people ordered, but onlye there” (More 1898: 53). But you weren’t, and you can’t. Usually the narrator is in a much more forlorn position, wanting sympathy that is impossible to procure. Here is Philip Carteret, a forerunner of Cook, at his wits end in the Pacific, the fabric of his ship disintegrating, and he and his men down with scurvy: “The ravages of the scurvy were now universal, there not being one individual among us that was free…. The mind participated in the sufferings of the body, and a universal despondency was reflected from one countenance to another…. And it is not perhaps very easy for the most fertile imagination to conceive by what our danger and distress could be increased; yet debilitated, sick, and dying as we were, in sight of land we could not reach, and exposed to tempests we could not resist, we had the additional misfortune to be attacked by a pirate” (Carteret in Hawkesworth 1773: 1.405–6). Whether a futile appeal for sympathy is made or transcended, readers find themselves on the near side of the boundary of discovery, usually content to leave it at that. An extraordinary example of what it is like to straddle that limit—to discover, if you like, its mutuality—is provided by Lemuel Gulliver, William Dampier’s cousin, in the fourth book of his travels as he tries to mediate between the incredulity of the Houyhnhmens and the disbelief of his own people. Having given an account of how matters stand in Europe, particularly with regard to horses, he tells his host, who plainly thinks he is saying the thing that is not, that the story of this very encounter, if told in Britain, would be rejected out of hand as a lie. It is so singularly and privately true that neither the equine public nor the European is able to accept it as anything but a fiction. The circumstances of discovering that a truth for him is necessarily a barefaced lie among strangers and compatriots alike, leave Gulliver with no market for his greater truth. He discovers from his voyage only how absolute is his isolation from the two communities he tried to represent in the course of it.

The reason that scurvy is so often part of an incommunicable story has to do with the nature of the disease. Its victims are often described as urgently bent on communicating the least change in their feelings to anyone who will listen, betraying extreme impatience if no one obliges. Their surest audience, it might be supposed, would be found among their fellow sufferers, but Carteret shows why that is not so. On his crazy ship, so John Hawkesworth’s official account goes, “despondency was reflected from one countenance to another.” What Carteret actually wrote in his journal omitted the scene of a
shared misery: “We were now in a sad deplorable situation[,] the Sickness was become general. . . . This occasioned a universal dejection onboard[,] particularly the Sick that were past coming upon deck” (Carteret 1965: 1.212). In a lightless forecastle, universal dejection doesn’t forge a commonalty of woe by the exchange of glances. It consists of a crowd of individuals in the dark, simultaneously yet singly believing that there is no grief like their own. So the challenge I am willing to meet in writing a book about scurvy as a disease of discovery involves pushing at that door until I can discover what lies behind it.

Some time during the course of evolution, a liver enzyme necessary for the synthesis of vitamin C ceased to be produced in humans and anthropoid apes. Although they still possessed the gene that did this job for other animals, it had mutated to the point that all vitamin C had to be incorporated. This did not result in adverse selection, presumably because their diet was rich in the vitamin they needed. In parallel evolutionary events, the same genetic mutation occurred in guinea pigs, some species of birds, and fruit bats. Fish, on the other hand, have never needed the extra enzyme, deriving all the vitamin C they need from their environment. Humans, therefore, depend on food to sustain an adequate level of ascorbate (roughly 1500 mg in the body of a healthy adult). If it falls below 300 mg, signs of scurvy will appear.

Except in nonsense verse, apes and guinea pigs do not put to sea, but developments in the technologies of shipbuilding and navigation made it possible for humans to cross large expanses of ocean and finally to circumnavigate the globe. Generally it takes three months without fresh food to reduce the body’s ascorbic acid to the level at which scurvy will supervene, roughly the time it took to get from the Atlantic into the Indian and Pacific Oceans. Sailors became aware how cruelly the failure of that mutant gene was to affect them when, like da Gama and Magellan, they made the breakthrough via the Cape of Good Hope or Cape Horn and found their limbs growing stiff and their skin bruised and ulcerous. Their gums grew black with corrupted blood and swelled so much the mortified flesh hid their teeth, which finally fell out when there was no longer anything solid in which to anchor them. As well as their bodies, their moods and minds were affected, alternating between blank lassitude and eager longings for the food they needed, or between fits of tears and pointless exuberance. Kenneth Carpenter estimates that scurvy caused two million deaths in navies and merchant marines between 1500 and 1800, ranking as the premier occupational disease of the great maritime era (Carpenter 1986: 253).

Land scurvy had been reported for centuries, occurring during famines, epidemics, and sieges, as well as in prisons and army camps. Lucretius handles
its symptoms very accurately in the sixth book of *De rerum natura* when describing the plague at Athens. They are found again in the histories of the early settlement of Australia. But never had there been a shock to the public mind resembling the one caused by the return of the sole surviving ship of George Anson’s squadron in 1744 after a four years’ cruise in the South Seas. Although the expedition seized a fabulous amount of treasure, four ships and thirteen hundred sailors and marines had been lost, two-thirds of the total complement, the bulk of them to scurvy. When he became First Lord of the Admiralty, Anson was determined to have no repetition of this disaster. So for as long as was possible, he maintained a policy of supplying British fleets in home waters with fresh food; but he was dealing with an insoluble problem, not only logistically, for it was a hugely expensive task to send out tenders filled with livestock and greens to ships on station, but also medically, for no one knew for certain the cause of scurvy until two hundred years later. Moreover, its cure at sea was a matter of dispute right up until the discovery of vitamin C. Unless the nutritional conditions apt for living on land could be reproduced at sea, sailors on long voyages eating preserved food were bound to contract it.

The epidemiological impasse—whether scurvy was owing to the absence of something necessary for health, or to the presence in the air or diet of some malign gas or effluvium—induced an inevitable partiality in all concerned when it came to defending a favorite theory or practice. Meanwhile, the victims felt anxious and neglected, obsessing over their symptoms. Commanders were ashamed to have the disease on their ships and often took steps to have scurvy called by another name. Physicians and surgeons were roughly divided between those with a theory and those with a practical regimen, so they quarreled over rival treatments, sometimes claiming cures with medicines that could not possibly have worked, and sometimes recommending diets difficult to obtain on long voyages. Maritime historians, finding themselves unable to offer the reader a coherent account of scurvy’s *longue duree*, have often settled for local examples of success. For instance, John Woodall, author of *The Surgeon’s Mate* (1617), is singled out as the first naval surgeon fully to confront the puzzles of the disease while recognizing the unequivocal value of fresh fruit and vegetables in its prevention and cure. George Anson and Edward Hawke are praised as pioneers of the provisioning of naval vessels on blockade duty with fresh food, an expensive but reliable method of dealing with scurvy. Among the physicians most celebrated now, but neglected in his day, stands James Lind, whose clinical trials on scorbutic patients aboard the *Salisbury* and at the Haslar Naval Hospital proved beyond any doubt that the juice of oranges and lemons cured scurvy. Captain Cook, whose regimen
of warm clothing, sufficient sleep, scrupulous attention to hygiene, and frequent landfalls combined to keep scurvy at bay during his first navigation of the South Seas, is generally praised most of all. Sir Gilbert Blane, who persuaded the Sick and Hurt Board of the British Admiralty to stock naval ships with lime juice, did much to save sailors in the Royal Navy from scurvy. Yet all of those remedies—fresh oranges and lemons, lemon juice preserved in bottles, dry clothes, regular cleaning and purging of the ship, personal hygiene, and frequent landfalls—had been known and recommended two hundred years earlier, for example, in the journals of James Lancaster and Richard Hawkins (Purchas 1906: 2.396; 17.77–78), meaning that discoveries of cures for scurvy were simply being lost or discredited and then made again. At the end of the nineteenth century, Sir Almroth Wright stood supreme among germ theorists, all of whom were convinced that scurvy was the result of eating tainted food. None of these interventions added up to a coherent account of the cure of the disease for reasons that will become apparent. Efforts to integrate the fragments of this history into a triumphal narrative make for rousing claims but partial arguments, such as those gathered under the subtitle of Stephen Bown’s book, How a Surgeon, a Mariner and a Gentleman Solved the Greatest Medical Mystery of the Age of Sail (2003), where the fifty years dividing Lind from Blane are neatly edited to explain how the problem of scurvy was solved just in time for the Napoleonic Wars. More to the point, however, are the reminders of the uneven and awkward rhythm of this tale of a disease not easily identified or readily curable. Thomas Trotter’s astonishment at Lind’s failure to draw the conclusion in favor of citrus juice as a preventive as well as a cure, which the Haslar Naval Hospital’s trials had indicated; or Christopher Lloyd’s and Jack Coulter’s amazement that the delay in making it a standard preventive should be owing to Cook’s unequivocal support for malt wort, a remedy of no use to a scorbutic patient; or Janet Macdonald’s discovery that many British warships after 1795 were not supplied with enough antiscorbutic juice for a regular issue—these moments of incredulous recognition of the nondefinitive and nonheroic phases of the narrative are useful correctives to its triumphalist inflections. Readers who believe that the curse of scurvy at sea was indeed lifted by regular doses of preserved lime juice might ponder the following irony, fully worthy of the malady: namely, that the distribution of lime juice in all vessels flying the British flag was achieved in the very same decade (1870s) that lime juice was widely discredited and supplanted by a theory of toxic food that prevailed as medical orthodoxy until the discovery of vitamin C in the 1930s. At such time, another irony surfaces, for one of its discoverers, Tadeusz Reichstein, synthesized the vitamin in 1933 while analyzing nitrogenous cyclic com-
pounds responsible for the flavors in coffee and for the toxic dust on the wings of monarch butterflies. He was not intent at all on discovering the chemical that would enfranchise humans to an unlimited stint upon the bosom of the ocean.

That is to say, a narrative of scurvy, whether found in a log or journal, a medical treatise or a general history, pretends to offer a coherent, faithful, and factual report in proportion as it elides the exceptions, contradictions, dissents, and interruptions that are inescapable even in a description of the disease. Trotter himself, surely one of its most acute observers, was driven to confess, “The Scurvy is attended by a train of symptoms peculiar to itself, and which the genius of the distemper has rendered extremely difficult to explain” (Trotter 1792: 149). The malign genius of scurvy, elsewhere called its je ne sais quoi, was sufficiently active to embarrass the descriptive resources of its victims. How frequently one is going to meet phrases such as this, which imprisons the narrator in a memory with which no reader will be capable of sympathizing: “Our mental sufferings were such as defy description, and nothing but being placed within the same situation could convince those who have not the power to imagine its monotonous dreariness” (Beale 1839: 310). The same scorbutic genius is likely to irritate any historian wishing to record a gradual accumulation of practical knowledge: “One of the most bewildering aspects of the history of scurvy,” writes J. J. Keevil, “is the manner in which a cure was repeatedly found, only to be lost again” (Keevil 1957: 1.102).

In the West, we are used to approaching medical and technical breakthroughs by a series of promising steps that steadily advance toward a full disclosure of the useful truth. Heart disease and cancer have yielded a good deal of their malignity to the pressure of medical research. This is exactly what did not happen in the case of scurvy, although considerable investments were made to find a cure. When the biochemical function of ascorbate was finally revealed in the twentieth century, the prevailing view among doctors was hostile to any notion of nutritional deficit. Robert Falcon Scott’s senior surgeon had laid it down for an axiom that there was no antiscorbutic property in any food or drug: the disease was introduced into the body on the vehicle of ptomaine poisoning. A medical officer of the Booth Shipping Line thought it arrived in the food chain from bacteria generated by a parasite living in the guts of cockroaches (Lloyd and Coulter 1963: 4.120). The only constant feature of this amazing conflict between prevailing orthodoxies and the facts was the long-running division between those who were attached to theories of deficiency and those who stood up for toxicity. One party was sure that scurvy occurred for the same reason as the suffocation of a living
creature in a vacuum, namely, the loss of an invisible and unknown element critical to life that had to be restored if the organism was not to perish. The other was equally certain that it was a corruption of the body owing to inimical particles caught from mephitic air or rotten provisions. The reason that Lind was unable to draw the conclusion his clinical trials had justified was that he did not believe there was anything in fresh fruit that prevented scurvy, citric acid acting only as a remedy for the bodily effects of tainted food. Trotter, on the other hand, believed there was an important but unknown constituent in food that was missing in a sailor’s diet, which explains perhaps why he was seduced by the plausible analogy with oxygen. Even experts closely allied in the politics of naval nutrition, such as Trotter and Blane, found themselves on opposite sides in this debate. Many surgeons recommended lime juice as a mouthwash, not as a supplement. Many, including Trotter, warned of its corrosive effects, particularly upon the stomach.

It might be objected that lots of diseases were like scurvy insofar as deep disagreements existed about their causes, leading to an uncertain methodology for treating them. However, it is generally the case that periodic epidemics of illnesses that are not, or were not, fully understood—such as the bubonic plague formerly and now ebola, zika, swine flu, and bird flu—are intermittent, unlike diseases that constantly affected populations, such as yellow fever, typhus, cholera, dysentery, and scurvy. In the case of yellow fever, as Mark Harrison has shown recently, careful empirical monitoring of its symptoms and circumstances, together with efficient nursing, had very good results even though the etiology of the affliction was still a mystery. The same empirical attention to the details of ailments such as typhus and cholera, particularly with respect to hygiene, had similar valuable results. It is commonly assumed that captains such as Cook and physicians such as Trotter exerted the same pressure on scurvy with lenitives such as clean berths, warmth, fresh air, and dry clothes. But of the many remedies available to Cook on board the Endeavour, only two were antiscorbutic, and neither significantly so. These were properly fermented sauerkraut and freshly made spruce beer, neither popular with his crews. Otherwise the well-known resource of fresh fruit and vegetables required either an itinerary interspersed with easy landfalls or a well-supplied market at the home port. Apart from those resources, there was nothing to rely on when scurvy struck. Cook had no means at hand to stem the proliferation of scorbutic symptoms on the Resolution during its cruise along the margin of the ice in the Southern Ocean; nor did Trotter when scurvy attacked the Channel Fleet in the winter of 1794 while it was based in Torbay. “Lemons indeed were now so scarce, and the consumption of juice had been so great, that little was left in the kingdom” (Trotter 1804: 1.417).
Empirically, he concluded that “recent vegetable matter imparts a something to the body, which fortifies it against the disease,” but not only did he not know what this something was, there were no recent vegetables available (1.424). To make matters worse, both Cook and Trotter entertained theories at odds with their empirical practices, for Cook believed concentrated malt to be the best antiscorbutic available, even though it contained no vitamin C (any virtue ascribed to malt must have been owing to its vitamin B, which may have eased symptoms of pellagra and beriberi, diseases often coincident with scurvy). Trotter, as we have noticed, was convinced that scurvy was owing to depleted supplies of oxygen, which he thought could only be restored by fresh food, a pneumatic conjecture his colleague Thomas Beddoes had persuaded him to embrace. This explains why his endorsement of oranges and lemons was not total, for he believed that too much citric acid might damage the digestion and hinder the conversion of food into oxygen.

Although Camoens had included scurvy in The Lusiads, the epic of Portuguese navigation, there was no epic written about scurvy itself. Its genius resisted progress by bringing its students back to where they set out, offering no option but a renewal of a quest that was going nowhere and, rather like the tale told by the Ancient Mariner, a narrative without an ending. Or perhaps it is fairer to say that it was progress in the shape of voyages of discovery and the plantation of colonies that awakened scurvy from its earthbound dream, giving it life and scope in the oceans surrounding the rapidly shrinking Terra Incognita. Every enterprise of voyaging intended to vindicate the resourcefulness of human beings exposed a weakness in their constitutions that was inevitably to become hideously visible, yet nobody knew why it should appear, or what it was. Nor was it only epidemiological disagreements that made scurvy’s story difficult to tell; its effects on those trying to tell it firsthand were fatal to the continuity as well as the probability of any tale of maritime prowess. When he arrives at the black miracle of scurvy off the coast of Mozambique, Camoens, speaking for da Gama, lists the symptoms of “a disease more cruel and loathesome than I ever before witnessed,” accompanied by the usual gesture of exclusion: “Would any credit without seeing it?” Despite copious invocations of Virgilian epic, Camoens had already disarmed his narrative of discovery of a common truth when he begins the fifth canto by acknowledging that da Gama’s singular observations, especially of this disease, were dismissed by sailors sharing the same standards of empirical observation as “false or feebly understood” (Camoens 1997: 114, 5.81; 101, 5.17).

So it is worth emphasizing that the fundamental difference between scurvy and all other epidemic maladies during the age of discovery does indeed revolve around the mutant gene that fails to prompt the synthesis of ascorbate
in the human body. Scurvy is not owing to the entry of bacteria or viruses into the organism, nor to parasites nestling in a human host; scurvy occurs because the body has not absorbed in sufficient quantity a chemical habitually ingested and crucial to the functioning of the nerves, blood, bone, cartilage, and tissue. In this respect, it resembles other illnesses that arise because of the deficiency of a necessary biochemical agent, such as caries, rickets, or goiter. These afflictions have had to await recent developments in organic chemistry in order that they be understood and treated. So although Thomas Trotter, and before him Walter Charleton, had a strong intuition that there was some sap or essence in certain kinds of food that was needed if humans were not to fall sick, they had no means of isolating it.

It is worth asking why this intuition was not more widely shared, considering the empirical evidence in its favor, and the shamefulness of scurvy must have some bearing on the answer—its association with dirt, depression, caprice, and laziness; its resistance to any adequate explanation or description; the stench of its revolting lesions—so much so that it was often deliberately misdiagnosed, or misreported, or referred to tactfully as “sickness.” It is hard not to think that the nature of voyaging to the ends of the earth in search of sights no one else had seen and territories no one else (apparently) owned—adventures amidst exceptional circumstances prolific in singular surprises—also had its effect. So there is a great emptiness in which scurvy makes its appearance, and a corresponding vacuum where explanations and cures of scurvy ought to have been found. Without an epic vehicle, then, what generic options remained? I shall be discussing romance at some length in chapter 5, but at the outset, it is worth mentioning the resources of revealed religion and myth.

When Adam is treated to the extensive view of the discoverable world by the archangel Michael in *Paradise Lost*, it is not to introduce him to the wealth of his patrimony but to the consequence of having eaten something that made him mortal: “Adam, now ope thine eyes and first behold / Th’effects which they original crime hath wrought” (Milton 1958: 252; 11.423–24). Adam’s eyes are hard to open because his body is already degraded by sin. Raphael has already warned him where this will end: “Death is the penaltie impos’d, beware, / And govern well thy appetite, least sin / Surprize thee, and her black attendant Death” (7.545–47). The prime reason he and Eve are to be expelled from the garden is because the seed of corruption is already evident to God, and two bodies that had been perfect are now disgusting. God informs Michael, “Those pure immortal Elements that know / No gross, no unharmonious mixture foule, / Eject him tainted now, and purge him off / As a distemper gross to aire as gross, / And mortal food, as may dispose him
best / For dissolution wrought by Sin, that first / Distemper’d all things, and of incorrupt / Corrupted” (11.50–57). The large promise made by science in the age of exploration and empire, “to represent to mankind, the whole Fabrick, the parts, the causes, the effects of Nature… to have [human] Eyes in all parts, and to receive information from every quarter of the earth,” has its price in the unavoidable exposure of the innate infirmity of the agents of the enterprise—starting with Adam’s eyes, so blurred by sin that he needs an angelic medicine made of euphrasy and rue in order to see not only the world he must discover but also the misery its settlement will breed (Sprat 1667: 20; Warren 2013: 569). Like Adam, the voyager in unknown seas finds things out in an adventure determined from start to finish by nutrition, succumbing to a hideous foulness in his fallen human constitution because he has eaten the wrong food.

A myth apt for scurvy is to be found in the story of Glaucus told by Ovid in his Metamorphoses; for Glaucus stands either side of a division between the known world of the land and the unknown one of the undersea, analogous to that da Gama thought he was piercing when he sailed into the Indian Ocean, or Magellan when he entered the straits named after him. Observing how the fish he has caught have begun to eat the grass upon which he laid them and, how, recruited by this new food, they find the strength to leap back into their proper element, Glaucus eats some too and directly dives into the ocean, determined to forsake the land forever. He becomes a sea god, with dark green hair, blue skin, and a fish’s tail, immortal and no longer human. Sometimes in pictures he brandishes the vegetable trophy from which his divinity derives (Fig. 1). The fish, beguiled into taking a bait that proves them mortal, mend themselves with the same vegetable and reenter a world where scurvy never comes. In following their example, Glaucus eradicates the seed of mortality lurking in himself. It is a tale of plants with magical properties prompting fish and humans to cross the boundary between mortality and eternal life. Scorbutic sin makes way for recovered innocence. Dampier reports that near the Celebes his companions who were troubled with scorbutic ulcers on their legs found great relief from a poultice made of the leaves of a local vine pounded with pig fat. Everywhere in his voyages, Dampier is assiduous in testing the benefits of plants and fruits, like Glaucus on the lookout for a leaf or berry to purge corruption.

Here it is necessary to specify what areas of the body and the brain are influenced by low levels of ascorbate, and how that influence is manifested and felt. Vitamin C is an antioxidant. Oxidation occurs in cells because of metabolic activity or inflammation, generating free radicals, the waste matter of sentience. Ascorbate scavenges these radicals, clearing up the detritus of a
working brain. A second important task of ascorbate is to serve as cofactor for the enzymes responsible for the final step in the production of collagen, the glue of the cell and the scaffold of the body. Without collagen, cartilaginous material would disappear from our joints, bones would become fragile, and scar tissue would begin to unknit. People in the last stages of scurvy were said to rattle and creak when they were moved. A third important function of ascorbate is to recycle and regenerate tetrahydrobiopterin, a requisite cofactor for several key enzymes. One of these generates nitric oxide, actually a
gas that diffuses from the cells lining the blood vessels and relaxes the surrounding muscle, thus allowing the arteries and capillaries to dilate when needed. Related to this, the fourth function of ascorbate is to prevent the leakage that occurs when loss of collagen renders the wall of a blood vessel permeable. Weakness in this seal is evident in the blood blisters (petechiae) that form around hair follicles in the first stage of scurvy, in the ulcerous ecchymoses that affect the legs and in the periosteal bleeding from the muscles that blackens the bones (Fig. 2, Fig. 3, and Plate 1). In The Rime of the Ancient Mariner, Death’s bones are recognizably those of a scurbutic cadaver, exhibiting not only the hue but also the striations in the bone typical of a collagen deficit: “His bones were black with many a crack, / All black and bare I ween, / Jet-black and bare” (Coleridge 2004: 152, ll. 181–83). At its worst, scurvy weakens arterial walls so badly that the slightest movement, smell, or sound provokes the seizure or aneurysm that brings scurvy to its fatal conclusion: Dampier’s Captain Cook, who had been ailing for some time in the South Seas, “died of a sudden, though he seemed that Morning as likely to live, as he had been some Weeks before” (Dampier 1999: 212, 61).

A fifth function of ascorbate is to serve as a cofactor for the synthesis of neurotransmitters such as serotonin and dopamine, crucial for the efficient operation of the synapses, the junctions of the neuronal pathways. When they are disturbed, not only is the mood of the scurbutic patient liable to be affected, but also the perceptual apparatus is compromised (May 2013: 95–105). This is when differences between joy and sorrow, surfaces and depths, fancy and fact all grow uncertain: when feelings are intense but rapidly supplanted by emotions quite opposite, and when impressions are so impossibly vivid they cannot be transmitted, belonging exclusively to the individual who enjoys or endures them.

It was often reported that scurbutic sailors suffered personality changes. For example, rugged sea dogs became prone to tears, describing their symptoms with dreadful volubility, as if no amount of particulars was adequate to convey the nature of their condition or allay their anxieties about it. Their sense of community was so far diminished they would fall prey to childish egotism and sometimes passionate and violent jealousy. Hallucinations were common, especially with regard to the color and consistency of the sea. Although the most common symptom in the later stages was severe debility and lassitude, it was remarkable how often sensory impressions were enlarged in scurvy, as if the neuromodulators had been put out of action, and there were no longer any inhibitions to sensory excitement. Smells became overwhelming, often disgusting yet sometimes exquisite; sights were dazzling; sounds fascinating or intolerable; the sense of touch morbidly acute; and taste fatally
voluptuous. Sailors often died from pleasure in the moment they ate the fruit and drank the sweet water for which they had been yearning. As Dampier says bluntly of Cook’s sudden death, “But it is usual with sick Men coming from the Sea, where they have nothing but Sea-Air, to die off as soon as ever they come within view of the Land” (ibid.). Many are the accounts of scurvyed seamen dying while being taken ashore, either because they succumbed to the shock of physical movement or were swept away by the joyful sight of vegetation.

To the extent that reports of scurvy are autobiographical, they exhibit a typical attention to the last detail of a phenomenon, often associated with a powerful ambiguity in their responses to it, as if it were at once the most attractive and the most sinister thing. We find James Cook on the Antarctic
sweep of his second Pacific voyage transfixed by the moonlit beauty of the ice on the rigging, until suddenly he recollects what the extra weight might do to the balance of the ship in a swell. In *Omoo* (1847), Herman Melville mentions a scorbutic whaleman who shrieked in agony at the smell of flowers. In *The Rime of the Ancient Mariner*, the sea snakes and even the albatross go through a similar rotation, for the water creatures strike the Mariner first as vile then as beautiful, while the bird is seen first as a good omen, then as a evil one, and finally as a kind of messenger of the Antarctic spirit world. In the first-person singular, then, it is hard to establish a point of interchange with an audience when talking of the experience of scurvy or of sensations received while in a scorbutic state because there is no correspondence between the egotism and passion of the sufferer, on the one hand, and the consensual
measure of value subscribed to, on the other: “Yes, so you shot a bird?” Time and again, this rupture is made plain not only in the scepticism of the audience (so many journals from remotest parts were disparaged as fictions), but equally in the challenges issued by eyewitnesses to the limited experience and imagination of those who were not present at the emergency. When Richard Walter describes the arrival of the Centurion off the shore of Juan Fernandez, he makes the usual exception: “It is scarce credible with what eagerness and transport we viewed the shore…. Those only who have endured a long series of thirst, and who readily recall the desire which the ideas of springs and brooks have at that time raised in them, can judge of the emotion with which we eyed a large cascade of water” (Walter 1838: 111). Of course the exclusively private rapture claimed here does not define a community of sufferers all suddenly enjoying together the sight of relief: “we” stands for a discrete collocation of individuals each possessed by an unparalleled emotion, analogous to no other. “We” in a state of scorbutic transport is really “I” multiplied: a crowd, as Thomas Hobbes would say, but not a community. “O Wedding-Guest! this soul hath been / Alone on a wide wide sea: / So lonely ’twas, that God himself / Scarce seemed there to be” (Coleridge 2004: ll. 597–600).

The foreignness traditionally associated with loathsome and dangerous diseases, plunging those who succumb to them into the loneliness of a castaway or the solitude of an unwelcome stranger (Bewell 1999: 6–7), is especially evident in scurvy. Community is suspended while the travails of the lonely individual are perfected. The Ancient Mariner complains most of all about his loneliness and alienation from everything familiar, ringing the changes on the word “alone,” which like a bell tolls him back to his sole self. In chapters 2 and 3, this foreignness is examined first under the heading of scientific experiment and then of nostalgia in order to show how scurvy’s estrangement of domestic and familiar things travestied, and perhaps shadowed, the course of empirical science itself, until in 1800 the two trajectories came to a strange juncture. Yet home and all its customary pleasures are inseparable from the scenes of eating and drinking that populate the dream-life of scorbutics. Trotter coined the term “scurbutic nostalgia” to signalize the vividness of the reveries of his patients and the extravagant grief they indulged when they awoke to the dismal and exiguous realities of their illness. Is it the actuality of home and its comforts they miss, or life on land, or has a malfunction in the brain coined a phantom that has no equivalent in the real world? Is it possible to recover from pathological foreignness and return to the familiar?

Scurvy stood in an odd set of relations to science, at once its cause celebre, its antithesis, and its double. A cure for scurvy was the chief object of naval
medical science in the eighteenth century, so when Cook’s vessels set sail, well stocked with scientific instruments for measuring the heavens and the earth along with a large variety of supplemental foods, the experimental nature of the voyage extended, as I have already suggested, outward to the globe and the cosmos and inward to the digestive tracts of the crew, who were asked to consume a variety of specialized foods then report the results. On his return, Cook addressed the Royal Society solely on this topic of nutrition, not on his measurements of the transit of Venus or the spellbinding discoveries he had made of lands and cultures unknown to Europeans. However, this journey and many others to the most foreign of the world’s exotic regions left scientists themselves troubled, embattled, and even nostalgic, as if the actual pursuit of knowledge had thrown up awkward facts that did not fit their protocols of investigation or expectations of consensus. Although historians of science such as Steven Shapin generally assume that the culture of the Royal Society depended on a company of civil eyewitnesses achieving agreement about the nature of an experimental event, nothing could have been more exorbitant to gentlemanly discourse than the intemperate exchanges between William Wales, the astronomer on Cook’s second voyage, and Johann Reinhold Forster, the naturalist, after they returned, so vituperative as to indicate a level of mutual exasperation and ill-will intense enough to bring the authenticity of their testimony into doubt. Both of them admitted to having contracted scurvy, suggesting that the failure of the internal experiments of the voyage were having a deleterious effect on the external ones, too.

Nevertheless, a direction had been taken in scientific practice during the seventeenth century that did not always require consensual confirmation of a fact, and it was more apt for the stress, surprise, and loneliness experienced by scientists in distant places. First of all, the improvement of specialized scientific equipment such as Robert Boyle’s air pump and Robert Hooke’s microscope brought facts to light that could not possibly have been noticed without the action of a machine. A great debate was carried on between Hooke, an enthusiast for prosthetic assistance to the sense organs, and Margaret Cavendish, who despised it. John Locke put his objection in a manner that situated the operator of a mechanical eye or ear and the specialist aboard an experimental vessel in parallel predicaments when he said that if sight or audition were increased ten thousand fold, the reporter would find himself “in a quite different World from other People: Nothing would appear the same to him, and others” (Locke 1979: 303 [II, xxiii, 12]). In this respect, improvements in navigation ran directly parallel, for Cook went off in search of the Great Southern Continent, the Terra Incognita that formed the southern border of all maps up until this time; and what the microscope disclosed,
according to the eager Hooke, was its miniature counterpart, “new Worlds and Terra- Incognita’s to our view” (Hooke 2003: xvi). Even if the experiment came closer to home, the trick was to give it distance and strangeness: “An Observer should endeavour to look upon such Experiments and Observations that are more common, and to which he has been more accustom’d, as if they were the greatest Rarity, and to imagine himself a Person of some other Country or Calling, that he had never heard of, or seen the like before” (idem 1969: 61–62; cited in Daston and Park 1998: 315). Boyle thought that uncommon experiments often disclosed facts whose relation to other phenomena was not ascertainable, inducing a state of mind he compared to reading fiction: “The full discovery of Natures Mysteries, is so unlikely to fall to any mans share in this Life, that the case of the Pursuers of them is at best like theirs that light upon some excellent Romance, of which they shall never read the latter parts” (Boyle 1671: 118–19). Bacon and Cavendish were not the only scientists to locate their fictions on the far side the known world, where the boundaries of the known and the foreign blur: Boyle wrote a romance of his own, as did Sir Kenelm Digby.

The state of mind Hooke and Boyle were alluding to, the feeling of stemming toward a new world with eyes wide open in wonder, lacking any analogy or comparison that might communicate the pressure of these foreign novelties, takes center stage in one of the more remarkable episodes of scurvy’s discontinuous history. In the last decade of the eighteenth century, Samuel Mitchell, an American chemist, took a hint from Joseph Priestley and made experiments on two gases with similar molecular structures, nitric oxide and nitrous oxide. From the results obtained from his work on the latter, he concluded that it was the gas responsible for all contagious diseases, including scurvy, and he named it “septon.” When he tested nitrous oxide at the Pneumatic Institute in Bristol, Humphrey Davy found no evidence for what Mitchell alleged, but he did fall into ecstasies that made him feel very strange indeed: “I lost all connection with external things…. I existed in a world of newly connected and newly modified ideas” (Davy 1800: 487). Besides this peculiar rearrangement of his mind, which he could neither directly express nor analogize, he found himself overloaded with sensations that brought him, via septon, into the same realm of inarticulate and isolated hypersensitivity that distinguished the state of the nerves in full-blow scurvy: “I imagined that I had increased sensibility of touch: my fingers were pained by anything rough…. I was certainly more irritable, and felt more acutely from trifling circumstances…. My visible impressions were dazzling and apparently magnified…. When I have breathed it amidst noise, the sense of hearing has been painfully affected even by moderate intensity of sound” (464, 487, 491).
It will be evident throughout this book how important to its conclusions is the history of Epicurean materialism, not only as it affects natural scientists such as Robert Boyle, Margaret Cavendish, Lucy Hutchinson, Sir Kenelm Digby, and John Evelyn, but also the physicians who first began to discriminate the symptoms and possible causes of scurvy, in particular Thomas Willis and Walter Charleton. The appeal exerted on these thinkers by Lucretius’s interpretation of Epicurus lay in its emphasis on atomic motion. For an age that was about to penetrate the secrets of calculus, or “fluxions” (as Newton called motion along the curvature of parabola), by tracing minute deviations from a straight line to its limit—a limit that for Lucretius met in vast spirals and vortices, like the clouds, lightning, and thunder of the turbulent last book of De rerum natura—the promise of a fluid mechanics seemed at once more extensive and more disturbing than the physics of solids. Boyle conceived of the body as a pump, along the lines of his favorite machine except that it sucked in all sensations as a flow of perceptions and all matter as a stream of nutrition, like a “hydraulical-pneumatical Engine.” Digby had an intuition of the anarchic energy of this process when he studied the bean plant, where he beheld a willful monad following “its own swing” and inclination for dominion, hoisting itself up over rival growth. So the idea of aliment as simply adding to the mass of a plant or a body had to be adjusted in favor of a perpetual tide of energies, appetent and resistant, and never perfectly in equilibrium (Digby 1669: 211). To account for the flow of energy, Digby supposed a crucial additive whose presence caused the bean to flourish out of all proportion to the size of its seed, and whose absence caused it to sicken, shrink, and die. Digby thought of this as a saline juice or nitrous salt. Willis and Charleton entered eagerly into this debate about nutrition as a swirl of fluid events uniting the body-engine, and the nerves in particular, to the world beyond it. The mysterious element propelled into the body by eating and drinking they called a “sap” or “latex,” and it set the terms for a flux and reflux of matter that could no longer be accounted for by considering nutrition simply as the addition of solids to body mass, or by viewing health merely as the maintenance of an internal balance according to the humoral pathology of Galenic medicine.

The doctrine of the four humors derived from Hippocrates, who had assigned their equilibrium not only to food but also to airs, waters, and places, offered a wider and more dynamic circuit that was to provide the basis of environmental accounts of health and indeed of speciation among natural historians such as Georges-Louis Leclerc, Comte de Buffon; Jean-Baptiste Lamarck; and Charles Darwin. However, even an environmental humoral doctrine supposed that a healthy life was spent in an even relationship to airs,
waters, and places rather than in a flow that might at any moment become turbulent and cause explosive alterations not only to the organs but also the nerves. In concentrating on the animal spirits and the structure as well as the distribution and activity of the nerves, Willis and Charleton were anticipating developments in medicine that took place later in the eighteenth century, propelled by the researches of John Brown and Robert Whytt into the principles of nervous irritation, which were findings that shaped the investigations of Trotter and Beddoes first into scurvy and latterly into nervous diseases. Here we arrive at another important moment in the disagreements between the school of deficient food as opposed to the school of defective food and toxic air. The latter worked in a framework of solid mechanics, believing that body mass was corrupted by foreign material coming into the organism and disturbing the relation of parts; while the former operated in a system of fluxions where everything was in motion and nothing was inherently foreign, consequently the relation of matter, feeling, and thought was a perpetual interchange. Disease was an impediment to flow, not to mass. Scurvy was caused by the absence of the fluid particle responsible for human “swing,” the expanding curve of vitality and motion, without which the body sustained blockage, stagnation, and putrefaction.

In any discussion of homesickness, the foreign has to have some sort of relation to the familiar and domestic. If the Epicurean account of health, sensation, and perception, not to mention imagination, is the fruit of a perpetual commerce between atoms moving on the inside and those patrolling at large, then to be at home is to be always in passage to somewhere else, and to be lost or forlorn is to be stuck, like the Ancient Mariner, in a calm or a trance. In chapter 3, the word “situation,” which has already acquired some thicker definition in chapter 2, is developed a little further in order to show how, in the exigencies of scorbutic experience, being alone and far from home do not in themselves excite homesickness; but to be stuck inside a dream of home that corresponds to none that exists, or to go back home under the influence of such an illusion and to have it shattered, these conform to a definition of homesickness first offered by Johannes Hofer and recently refurbished by Helmut Illbruck to the effect that it arises from a lesion of the imagination resulting in a reverie entirely without a referent. So I agree with Kevvis Goodman, who has argued that nostalgia, like scurvy, is a disease of motion and displacement, the pathology of imperial expansion, in which home stands as the norm from which ambitious nations cause their servants to deviate. Her emphasis on volition as an oscillation between free will and unintended momentum is a valuable model for what I call, with respect specifically to scorbutic nostalgia, an ellipse of loss and satisfaction. If a degree of fluidity is to
survive the experience of being immobilized in a predicament or a fantasy, some kind of liaison has to be sustained between imagination and the objects of the senses. So when scorbutic voyagers find the familiar things they have been dreaming of, that connection is briefly confirmed, or corroborated, but never finally consummated, otherwise all movement would cease. There is no report of scorbutic landfall where pleasure is not rendered less than sheer by its opposite—confusion, apprehension, fear, discomfort, or terror. Take, for example, Anders Sparrman’s experience of shooting ducks in Dusky Bay in New Zealand, where the Resolution landed with almost everyone exhibiting signs of seriously low levels of ascorbate or of manifest scurvy: “The blood from these warm birds which were dying in my hands, running over my fingers, excited me to a degree I had never previously experienced…. This filled me with amazement, but the next moment I felt frightened” (Sparrman 1944: 49). The same oscillation between pleasure and horror is to be found in Cook’s reaction to ice on the rigging; or in J. R. Forster’s belief that the exquisite manifestations of phosphorescence were owing to putrescence; or in Robert Louis Stevenson’s coral islands, which he found were inhabited by fat, fleshy worms of a most unseemly pink hue. The most celebrated instance is provided by the Ancient Mariner’s sea snakes, which appear either as slimy monsters, offences to creation, or as elfin tracks of iridescence, irresistibly beautiful. Specifically, what is breaking down in cases such as these is any sense of situation as a definite relation between time and space, leaving room for an intuition of flows between opposite positions—whether these are of the subject and the object, disgust and delight, the familiar and the exotic, the real and the fictional, or the dangerous and the vulnerable—prompting what might best be termed a condition of sensory dazzlement, where two contrary impulses are acting in relation to each other, neither predominating.

The settlement of Australia is the subject of chapter 4, a notable example of a landfall that provided none of voluptuous satisfactions generally associated with the Indian Ocean or the South Seas, although many of those coming ashore were scurvied, especially after the arrival of the second fleet. As a joint experiment in penology and colonization, it was utterly novel, being as far from England as it was possible to get and consisting of unreconnoitred territory where no previous European settlement had been made. It was on all fronts a monstrous gamble that easily could have failed because scurvy had not been factored into any of the arrangements for making the trip. The first fleet was lucky in this respect with a smooth passage and good supplies of fresh food at the Cape, but subsequent transports arrived in Australia with many dead or dying from scurvy, owing partly to the poor condition of many of the convicts when they were first shipped, partly to overcrowding in wet
conditions, and partly, of course, to their diet, which was standard naval fare containing a reasonable amount of carbohydrate, protein, and fat, but no vitamins. This was a burden the first fleet also had to bear because, owing to the peculiarities of Port Jackson and its environs, it was impossible adequately to supplement their stocks of food with fresh greens. There were a few anti-scrotal herbs in the bush, but nowhere near enough to supply more than a thousand people, soon to be joined by hundreds more sick with scurvy. Besides, even these scant resources were hard to access because of difficult terrain and hostile Aborigines. Starving prisoners desperate to get hold of the first sign of a green leaf thwarted attempts to grow vegetables. I am not altogether convinced, therefore, by Joyce Chaplin’s claim for scrotal nostalgia as global “earthsickness,” an ecumenical desire for land of any sort as long as it is not sea, since the example of Botany Bay runs so counter to the assumption that land, any kind of land, provides a cure.

Those whom scurvy did not ruin were imperiled by a regime that became proportionately savage as food stocks were threatened, a situation the failure of the first storeship, the _Guardian_, which was badly damaged by an iceberg and turned back to the Cape, did not ease. The redemptive relation of scurvy to sin and expulsion explored by Milton was exemplified not only in the utopian pretensions of the enterprise and the reformative aims of its more idealist advocates, but also in the despair it provoked. Despatched to an antipodean Eden where a combination of exile and slave labor, lasting anywhere from seven to fourteen years and beyond, was meant to secure emancipation, scurvy acted as a constant temptation to theft and the repetition of the crime that was already being punished. For a while David Collins believed the devastation of market gardens and plantations of maize imperiled the viability of the colony. He thought this was owing to sheer anarchy and a proclivity to crime, but the thieves were people frantic for food with vitamins in it. Whether this induced a culture of recidivism, or whether the intolerable anguish of the subsequent punishments inflicted on these involuntary emigrants drove them beyond a limit at which social bonds made sense, some years later a government enquiry concluded that this great penological experiment had been a total failure and was now reduced to a scene of disorder and depravity without parallel in the civilized world.

Life in early Australia was like being stuck on a vast dismasted ship in the middle of the ocean. As the largest and best-documented example of so-called “land scurvy,” it provides a unique glimpse into what the culture of scurvy might amount to. Using the accounts of David Collins and Watkin Tench as mainstays, along with the 1837 Parliamentary Report on the colony and the work of the Port Jackson Painter as visual evidence, I try to make the
Dazzle and romance have much in common. Describing the situation of the first European inhabitants of Australia, Matthew Flinders explained the confusions of the landscape in negatives: “A history of this establishment at the extremity of the globe in a country where the astonished settler sees nothing, not even the grass under his feet, which is not different to whatever had before met his eye, could not but present objects of great interest to the European reader” (Flinders 1814: 1.xcv). What he supposes to be of interest is what one cannot possibly know as itself or compare with anything else. I have already suggested the scorbutic ingredient in voyages of discovery is inimical to the epic because it emphasizes the internal and external confusions that multiply when the boundary between the knowable and the unknown is crossed. Here is Henry James on romance contrasted with the real: “The real represents … the things we cannot possibly not know, sooner or later, in one way or another…. The romantic stands, on the other hand, for the things that … we never can directly know; the things that can reach us only through the beautiful circuit and subterfuge or our thought and desire.” Romance, he goes on, is experience liberated from “the inconvenience of a related, a measurable state, a state subject to all our vulgar communities” (James 1947: 31, 33). The loneliness of voyaging, the onset of scurvy, and the cognitive disturbance arising from the morbid irritability of the nerves and the senses, the failure of the tongue to express what it is like to be so proximate to things vibrating with sensational stimuli, and the strange pathological coalition of the beautiful and the horrible induced by such a chaos of impressions—dazzle in
short—are responsible for the translation of ships’ journals into fictions, such as Pedro Fernandez de Quiros’s account of the New Jerusalem he founded in Vanuatu, or “Hildebrand Bowman’s” sequel to the massacre of the crew of the Adventure’s cutter in New Zealand in 1773, or Jacques-Henri Bernardin de St. Pierre’s conversion of his scorbutic arrival at Mauritius into the love story of Paul et Virginie ([1788] 1907). Likewise, it is responsible for the customary opening of utopias, where voyagers make scorbutic landfalls at places unknown, such as in Bacon’s New Atlantis (1627), Henry Neville’s The Isle of Pines (1668), Margaret Cavendish’s Description of a New World, called the Blazing World (1666), and Jonathan Swift’s island of the horses (1726). At the furthest extreme of the real and known world, another is found to be adhering where values are reversed, history doesn’t work, things are so fertile in contradictions that they need never change, and the autonomy of the imagination is held forth as a kind of noble bastardy. This is the subject of the fifth and last chapter, where I try to strap the culture and aesthetics of scurvy to its poetics.

There is a final note (the Coda) in which my colleagues James May and Fiona Harrison, having assisted me so generously throughout this project, unite in spelling out the neurological basis of the claims I have been making. I hope the whole book will resituate the discussion of scurvy as something more serious in a maritime context of discovery than the astonishing revelation of the “real” and “true” heroic history of its cure.