

Review by **Mike Jay**

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Scurvy, we know today, has a single and simple cause: lack of vitamin C. But between the years 1500 and 1800, when an estimated two million sailors died from the disease, it seemed to defy all logic. Its symptoms were “a strange jumble,” as the Scottish physician Sir Gilbert Blane put it, that affected all the tissues and organs and culminated in a suffering beyond description. Victims were reduced to walking corpses, their ligaments cracking and bones turning black like those of the cursed sailors in scurvy’s great poetic evocation, Samuel Taylor Coleridge’s “Rime of the Ancient Mariner.” Many believed it must be several diseases manifesting at once; some theorized that it was the spirit of death itself.

Owing to a relatively recent genetic mutation, humans are among the few animals unable to synthesize vitamin C internally. Scurvy has been our constant companion, recorded as far back as ancient Egypt, but the long sea voyages of the Age of Discovery exposed the weakness as never before.

The conventional medical narrative holds that the mystery was solved by James Lind’s announcement, in his “Treatise of the Scurvy” (1753), that it could be cured by drinking lemon juice. But in “Scurvy: The Disease of Discovery,” Jonathan Lamb, a professor at Vanderbilt University, shows that the story is nowhere near so simple and that scurvy was a much stranger condition than we imagine, with effects on the mind that neuroscience is only now beginning to elucidate. The result is a book that renders a familiar subject as exotic and uncanny as the tropical shores that confronted sailors in the grip of scurvy’s delirium.

James Lind was not the first person to recommend the lemon-juice cure. Contemporaries of Francis Drake had discovered it 150 years before, but the secret was lost and found again many times over the centuries. Some citrus juices were much more effective than others, and their efficacy was reduced considerably when they were preserved by boiling. The British admiralty ignored Lind’s researches, and for his first voyage in 1768 Capt. Cook chose malt as an “antiscorbutic” over lemon juice. Though it contains no vitamin C, Cook credited malt with keeping scurvy at bay on his ships. The explanation was more likely his scrupulous onboard hygiene and frequent stops for fresh supplies.

Beyond the unpredictable effects of citrus juice, there were simply too many variables for a clear causal link to emerge. All manner of precautions and remedies were touted, together with theories that attributed the disease to anything from an excess of salt to digestive ailments, sea mists, tropical climates, spoiled food and oxygen depletion. Many believed

that the root cause was long sea voyages, and the only cure was setting foot on land. Returning sailors would bury their faces in freshly dug earth to absorb its virtues.

“One feels like shouting out down the years,” Mr. Lamb confesses, at the failures to identify a dietary deficiency. Infection or toxicity remained the preferred explanations until well into the 20th century. When scurvy struck Capt. Robert Scott’s Antarctic expedition of 1910-13, it was attributed to ptomaine poisoning from their canned supplies. It was only in 1932, when vitamin C was isolated and demonstrated to cure scurvy in guinea pigs, that the biological mechanism was confirmed.

Having disposed of modern-day hindsight, Mr. Lamb launches into terra incognita. As well as being necessary for healing wounds and replacing collagen, vitamin C is essential for the synthesis of serotonin and dopamine, neurotransmitters that affect mood, perception and sensation. Scurvy’s florid mental symptoms compounded its mysteries. “Scorbutic passion” caused sailors to weep uncontrollably or attempt to fling themselves overboard in the belief that the sea was an expanse of green meadows. Colors, smells and tastes became horribly distorted or unbearably intense. Nostalgic longing for home could be overwhelming, plunging crews en masse into the pits of despair. At other times they would be seized by “calenture,” a fatal delusion of pleasure like the siren songs that lured ancient Greek sailors to their doom.

The first sightings of distant lands were often colored by scorbutic passion. In 1606, the jungle on the South Pacific island he named Espiritu Santo appeared to the Portuguese navigator Pedro Fernández de Quiros and his scurvy-ridden crew to be filled with glinting feathers, dazzling sword blades and jeweled garments. When the French botanist Bernardin de St. Pierre, suffering from scurvy, landed on Mauritius in 1768, he was disgusted by the overpowering scents of the flowers and vegetation. The British naval officer James Colnett, sailing off the coast of Patagonia in 1795, was panic-stricken by the “shrieks and tones of lamentation” coming from a seal alongside the ship. In such cases, Mr. Lamb observes, “it is hard to say where the novelties of natural history end and the repugnance of an overactive sensibility begins.”

Altered perceptions and heightened emotions conflicted with the scientific imperative of dispassionate observation. Scurvy’s victims were untrustworthy witnesses: “People’s minds,” as one account put it, “. . . became as loose and unsteady as their teeth.” By distorting the senses, the disease created a world impossible to describe to those who had not experienced it. Georg Forster, the naturalist on Capt. Cook’s second voyage, was one of many who succumbed to scientific despair while stricken by the disease. Contemplating his

meager collection of specimens, Mr. Lamb writes, “he felt quite distinctly the shrinkage of his scientific self as his passions became increasingly ferocious and uncertain.”

The psychological effects of scurvy, Mr. Lamb contends, permeated the world of the Enlightenment. Their influence can be detected in scientific disputes about the relation of the senses to the intellect, in the lurid quality of tropical scene-painting, and in the pursuit of exquisite sensations in poetry. Mr. Lamb’s linkages become more diffuse and tenuous as he chases the shadows of scurvy ever further from their source, but he succeeds in infecting the certainties of the Age of Reason with a taint of sickly passion.

—Mr. Jay is the author of “This Way Madness Lies: The Asylum and Beyond.”