XXII. *The Method taken for preſerving the Health of the Crew of His Majeſty's Ship the* Reſolution *during her late Voyage round the World. By Captain* James Cook, *F. R. S. Addreſſed to Sir* John Pringle, *Bart. P. R. S.*

TO SIR JOHN PRINGLE, BART. P. R. S.

SIR,

Mile-end, March 5, 1776.

R. Mar. 7, 1776. AS many gentlemen have expreſſed ſome ſurprize at the uncommon good ſtate of health which the crew of the *Reſolution*, under my command, experienced during her late voyage; I take the liberty to communicate to you the methods that were taken to obtain that end. Much was owing to the extraordinary attention given by the Admiralty, in cauſing ſuch articles to be put on board, as either by experience or conjecture were judged to tend moſt to preſerve the health of ſeamen. I ſhall not treſpaſs upon your time in mentioning all thoſe articles, but confine myſelf to ſuch as were found the moſt uſeful.

We had on board a large quantity of Malt, of which was made ſweet-wort, and given (not only to thoſe men who had manifeſt ſymptoms of the ſcurvy, but to ſuch alſo as were, from circumſtances, judged to be moſt liable to that

that diſorder) from one to two or three pints in the day to each man, or in ſuch proportion as the ſurgeon thought neceſſary; which ſometimes amounted to three quarts in the twenty-four hours. This is without doubt one of the beſt antiſcorbutic ſea-medicines yet found out; and if given in time will, with proper attention to other things, I am perſuaded, prevent the ſcurvy from making any great progreſs for a conſiderable time: but I am not altogether of opinion, that it will cure it in an advanced ſtate at ſea.

Sour Krout, of which we had alſo a large proviſion, is not only a wholeſome vegetable food, but, in my judgment, highly antiſcorbutic, and ſpoils not by keeping. A pound of it was ſerved to each man, when at ſea, twice a week, or oftener when it was thought neceſſary.

Portable Soup or Broth, was another eſſential article, of which we had likewiſe a liberal ſupply. An ounce of this to each man, or ſuch other proportion as was thought neceſſary, was boiled with their peaſe three days in the week; and when we were in places where freſh vegetables could be procured, it was boiled with them and with wheat or oatmeal, every morning for breakfaſt, and alſo with dried peaſe and freſh vegetables for dinner. It enabled us to make ſeveral nouriſhing and wholeſome meſſes, and was the means of making the people eat a greater quantity of greens than they would have done otherwiſe.

Further, we were provided with Rob of lemons and oranges; which the ſurgeon found uſeful in ſeveral caſes.

Amongſt other articles of victualling we were furniſhed with ſugar in the room of oil, and with wheat inſtead of much oatmeal, and were certainly gainers by the exchange. Sugar, I imagine, is a very good antiſcorbutic; whereas oil, ſuch at leaſt as is uſually given to the navy I apprehend has the contrary effect. But the introduction of the moſt ſalutary articles, either as proviſion or medicines, will generally prove unſucceſsful, unleſs ſupported by certain rules of living.

On this principle, many years experience, together with ſome hints I had from Sir HUGH PALLISER, the Captains CAMPBELL, WALLIS, and other intelligent officers, enabled me to lay down a plan whereby all was to be conducted. The crew were at three watches, except upon ſome extraordinary occaſions. By this means they were not ſo much expoſed to the weather as if they had been at watch and watch: and they had generally dry cloaths to ſhift themſelves when they happened to get wet. Care was alſo taken to expoſe them as little as poſſible. Proper methods were employed to keep their perſons, hammocks, bedding, cloaths, &c. conſtantly clean and dry. Equal pains were taken to keep the ſhip clean and dry between decks. Once or twice a week ſhe was aired with fires; and when this could not be done, ſhe was ſmoaked with gunpowder moiſtened with vinegar or water. I had alſo frequently a fire made in an iron pot at the bottom of the well, which greatly purified the air in the lower parts of the ſhip. To this and cleanlineſs, as well in the ſhip as amongſt the people, too great attention

cannot be paid; the leaſt neglect occaſions a putrid, offenſive ſmell below, which nothing but fires will remove: and if theſe be not uſed in time, thoſe ſmells will be attended with bad conſequences. Proper care was taken of the ſhip's coppers, ſo that they were kept conſtantly clean. The fat, which boiled out of the ſalt beef and pork, I never ſuffered to be given to the people, as is cuſtomary; being of opinion that it promotes the ſcurvy. I never failed to take in water wherever it was to be procured, even when we did not ſeem to want it; becauſe I look upon freſh water from the ſhore to be much more wholeſome than that which has been kept ſome time on board. Of this eſſential article we were never at an allowance, but had always abundance for every neceſſary purpoſe. I am convinced, that with plenty of freſh water, and a cloſe attention to cleanlineſs, a ſhip's company will ſeldom be much afflicted with the ſcurvy, though they ſhould not be provided with any of the antiſcorbutics before mentioned. We came to few places where either the art of man or nature did not afford ſome ſort of refreſhment or other, either of the animal or vegetable kind. It was my firſt care to procure what could be met with of either by every means in my power, and to oblige our people to make uſe thereof, both by my example and authority; but the benefits ariſing from ſuch refreſhments ſoon became ſo obvious, that I had little occaſion to employ either the one or the other.

Theſe, SIR, were the methods, under the care of Providence, by which the *Reſolution* performed a voyage of

three years and eighteen days, through all the climates from 52° North to 71° South, with the loſs of one man only by diſeaſe, and who died of a complicated and lingering illneſs, without any mixture of ſcurvy. Two others were unfortunately drowned, and one killed by a fall; ſo that of the whole number with which I ſet out from England I loſt only four.

I have the honour to be, SIR, &c.

Extract of a Letter from Captain Cook *to Sir* John Pringle, *dated* Plymouth Sound, July 7, 1776.

I ENTIRELY agree with you, that the dearneſs of the Rob of lemons and of oranges will hinder them from being furniſhed in large quantities, but I do not think this ſo neceſſary; for though they may aſſiſt other things, I have no great opinion of them alone. Nor have I a higher opinion of vinegar: my people had it very ſparingly during the late voyage; and towards the latter part, none at all; and yet we experienced no ill effects from the want of it. The cuſtom of waſhing the inſide of the ſhip with vinegar I ſeldom obſerved, thinking, that fire and ſmoke anſwered the purpoſe much better.