THE CAPE PASSAGE: SOME OBSERVATIONS ON HEALTH HAZARDS ABOARD DUTCH EAST INDIAMEN OUTWARD-BOUND

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For the ordinary sailor in the days of company monopoly trade with the Far East a life afloat was arduous, often dangerous and generally lacking in creature comforts. The food was not always wholesome, the water-supply sometimes tainted and the crews' quarters dank, dark, cramped and noisome. Despite efforts when weather permitted to fumigate the ships and to swab the lower decks with vinegar, cleanliness was not a notable feature aboard the East Indiamen of any of the competing national companies. Erik Gøbel has recently given us a striking example from the records of the Danish Asiatic Company. When the vessel *Kronprinsessen af Danmark* was crossing the Indian Ocean on her uncompleted homeward run in 1753, the reward of a tot of brandy was offered to any man who collected 1 000 cockroaches. In thirty-eight days, 38 250 of these omnivorous insects were caught by diligent searchers.[1)]

There existed therefore a constant hazard to health on these long voyages, adding to the risks of injury and the perils of fire, storm, shipwreck, piracy and acts of war. Gøbel's useful article analyses the incidence of sickness and death aboard a representative selection of Danish vessels engaged in the China trade in the period 1732-1833 and his conclusions invite comparison with the voyages of ships of other nations trading in eastern waters. Briefly stated, we note that the highest annual death rate occurred between the Sunda Strait and Canton, with a marked increase in the incidence of sickness in that region on outward-bound vessels; that the lowest death rate is recorded for the passage between the Cape Verde Islands and the Sunda Strait; that deaths were less frequent on return voyages, although sickness was more prevalent after leaving the Far East; and that the stormy North Atlantic was responsible for a higher injury rate than less turbulent stretches of ocean. The East Indies clearly took a heavy toll and it is interesting to read that malaria was known to the Danes as "den batavianske feber". Return voyages would seem to illustrate at once the law of "the survival of the fittest" and a growing fatigue after many months at sea. The mortality rate aboard these Danish China ships at the end of the 18th century was five to ten times higher than obtained in the homeland, but the figures compare very favourably with those for deaths aboard the ships of competitors in the eastern trade. Some 9% of Danish crews died on voyages between 1732 and 1752, a percentage exceeded on Dutch, French and Swedish ships in comparable years, but possibly lower on those of the China ships of the London East India Company.[2)]

There were, it need hardly be emphasized, many ships of all nations which completed their voyages with little sickness and few fatalities, and some which reached port with a clean bill of health. The Dutch East Indiaman *Borssenburg*, which brought out a party of French settlers to the Cape in 1688, falls into the latter category.[3)] Crew

'Sygdom og død under hundrede ars Kinafart': *Handels- og Søfartsmuseets Arbog* (Henceforth *HSA*) 1979, pp. 75; 77.

2. 'Sygdom og død'; *HSA*, 1979, pp. 87-99; pp. 129-130 (English summary).
3. C.G. Botha: *The French refugees at the Cape* (3rd ed., Cape Town, 1970), pp. 7-8.

losses on Dutch vessels, however, became a serious problem as the 18th century advanced. Between 1710 and 1775, the death rate averaged 23%, while 43% of the sailors and soldiers on ten of the company's ships sailing for the Cape in 1782 died before the voyage was over. Reasonably full complements were only found for returning ships from 1743-1744 by recruiting Asian sailors and by 1792, Chinese, Javanese and Indian crew members were in the majority at the Cape of Good Hope.[4] Economic and social conditions in the United Provinces also adversely affected the recruitment of sailors and soldiers. The company cast a wider net, bringing into its service more foreigners, especially from war-ravaged Germany, and accepting men with no seafaring experience, often from the poorest section of the community. The policy was not without its effect upon shipboard health and hygiene: "Verhoogde recrutering bracht armer en lichamelijk zwakker volk aan boord. De kans op het uitbreken van ziektes steeg. Het was een vicieuze cirkel".[5]

The human tragedy of sickness and death at sea is brought home most forcibly by accounts of specific voyages. On 26 April 1696, the *Vosmaar* of the Dutch company's Zeeland chamber, under the command of Jacob Landsheer, sailed for the Indies. Aboard her were ten French refugees who hoped to join their families and compatriots at the Cape of Good Hope. On 27 June, in cold, wet weather, it was reported in the log: "Kregen dagelix veel volck inde kooij door sieckte". Two days later the first fatality occurred and in southern latitudes the toll mounted rapidly. When the ship reached the Cape on 22 October, more than 90 deaths had been recorded, including that of the chief surgeon, Daniël van Sluijs, and a larger number still had to be transported to the hospital. Of the prospective French settlers, several of them children, five never reached their destination: Marie and Susanne Lefebvre, Marie Taillefert, little Paul Bisseux and Pierre Huet.[6] An Amsterdam ship, the *Keetel*, took twice as long to reach Saldanha Bay early in 1738. Her "lange en fatigante reijs" cost the lives of 173 men of a crew of 253, and four months after leaving Texel her captain was hard put to it to find enough fit men among the living to sail her.[7] Nor were navigational problems confined to the Atlantic passage. On 18 August 1743 the *Casteel van Woerden* put to sea from the Cape and after "een seer fatale reijse" of almost fifteen months, during which she lost 250 men and was driven far off course, the handful of survivors managed to bring her into port at Colombo.[8] Conditions aboard ships like these beggar description.

The sick and the maimed who survived such voyages were hospitalized on disembarkation, but many must have succumbed in the weeks ahead, not necessarily as a result ot their shipboard experiences. The German official at the Cape, Otto Friedrich Mentzel, has recorded a major shortcoming in the hospital there, as he recalled it in the 1730's: "Patients suffering from different diseases lie close together, hence the air is

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4. C.R. Boxer: 'The Dutch East-Indiamen: their sailors, their navigators, and life on board, 1602-1795', *The Mariner's Mirror* (henceforth *MM*), XLIX(2), May 1963, p. 86.
5. J.R. Bruijn: 'De Personeelsbehoefte van de VOC overzee en aan boord, bezien in Asiatisch en Nederlands perspectief', *Bijdragen en Mededelingen betreffende de Geschiedenis der Nederlanden*, XCI(2), 1976, p. 245; pp. 231-248.
6. KA 4401b, Journaal *Vosmaar*, 1696 (Algemeen Rijksarchief, The Hague).
7. C 355, Attestatiën, 1738: 31, Ulrich Ecker, 20 March, pp. 165-166 (Cape Archives: and for all subsequent unp. sources); J. de Hullu, 'Ziekten en dokters op de schepen des Oost-Indische Compagnie', *Bijdragen tot de Taal-, Land- en Volkenkunde van Nederlandsch-Indië* (henceforth *BNI*), LXVII, 1913, p. 247.
8. C 530, Uitgaande brieven, 1745: Heren 17, Middelburg, 10 April, pp. 98-99.

fouled by various odours".[9] Only those with venereal diseases were isolated from the others in the ward known as the *poccage*.

Shipboard accidents clearly accounted for no more than a small proportion of the deaths occurring during voyages; the majority were accasioned by illness and disease. What were the major scourges? Writers have generally placed scurvy in the forefront. De Hullu, for example, prefaces his description of this deficiency disease in the following words: "De scheurbuik of het blauwschuit, thans zoo goed als alleen bij name bekend, maar oudtijds van alle scheepsziekten de veelvuldigst voorkomende, schijnt als het ware een kort begrip te zijn geweest van alle mogelijke kwalen". Gøbel suggests however that scurvy should take second place to infectious diseases as a cause of death, although the many unspecified sicknesses in the records consulted by him make it difficult to arrive at any firm conclusion.[11] Before discussing this question further, it is appropriate to examine the approach to the prevention of scurvy in the 18th century, in the course of which recognized antiscorbutics gained slow acceptance.

It is perhaps surprising that the conquest of scurvy was so long delayed, since the therapeutic properties of orange and lemon juice had been known as early as the 16th century and, with such other remedies as spoonwort (*cochlearia officinalis*), had been used irregularly on ships thereafter.[12] One reason was a deeply-rooted prejudice against acids, which were thought to thicken the blood.[13] The true path was long obscured by the brambles of ignorance and even in 1782 the British captain Sir Thomas Pasley was trying to prevent scurvy by keeping his men hard at work and to cure it by burying them up to the neck in boxes of earth.[14] Johannes Bachstrom in 1734 and the Scotsman James Lind in 1753 had already got to grips with the problem however. The navigator James Cook has been frequently and erroneously lauded as a pioneer in the use of antiscorbutic measures, but it was Lind's *Treatise on the scurvy* which really paved the way for the tardy introduction of lemon juice among British naval seamen in 1795.[15] But there were other ideas current which, although conducive to the better health of seamen generally, did nothing in themselves to diminish the risk of scurvy, the object of those who entertained them. They concerned the supply of fresh meat whenever possible and the reduced consumption of salt beef and pork, since salt inhibited digestion and was thought therefore to encourage scurvy. A British experiment in cutting down on salted meat cannot have gone unnoticed at the Cape. Hugh Palliser, future admiral and governor of Newfoundland, captained the *Sheerness,* a naval sixth rate sent out to India in 1748 to inform Boscawen's fleet of the armitice in the War of the Austrian Succession. The *Sheerness* spent some six weeks in Table Bay from 17 December 1749 before sailing for home[16] and in the course of a voyage of more than fourteen months during which the consumption of salt beef and

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9. *A Georgraphical and topographical description of the Cape of Good Hope*, I (trans. H.J. Mandelbrote), Van Riebeeck Soc., 4 (Cape Town, 1921), p.113.
10. 'Ziekten en dokters', *BNI*, LXVII, 1913, p. 245.
11. 'Sygdom og død'; *HSA*, 1979, pp. 88; 96; 129.
12. De Hulle: 'Ziekten en dokters', *BNI*, LXVII, 1913, p. 259; J.A. Nixon, 'Health and sickness', in C. Northcote Parkinson, ed.; *The Trade Winds: a study of British overseas trade during the French wars 1793-1815* (London, 1948), p. 123.
13. L. Dermigny: *La Chine et l'Occident: le commerce á Canton au XVIII^e siécle 1719-1833*, I (Paris, 1964), p. 269.
14. D.A. Baugh, *British naval administration in the age of Walpole* (Princeton, 1965), p. 380.
15. C. Lloyd: 'Cook and scurvy', *MM*, LXV(1), Feb. 1979, pp. 23-28; Dermingny: *La Chine et l'Occident*, I, pp. 269-270.
16. C. 620, Dag register (duplicate), 1746-1751: 17 Dec. 1749 and 28 January 1750, pp. 736; 770.

pork was considerably restricted, lost only one man, evidently from the results of treatment for a venereal complaint.[17] Such successes merely delayed the introduction of effective antiscorbutics, however.

The suggestion that excess salt caused scurvy appears in Dutch records for 1632, when stockfish was removed from the menu on the *Zutphen* because it was soaked and cooked in salt water.[18] An English prisoner-of-war, Edward Barlow, returning on the *Burcht van Leiden* in 1674, noted the prevalence of another complaint, dropsy, occasioned by the considerable intake of water and the consumption of watery rice.[19] The directors of the Dutch East India Company were not insensitive to the health hazards aboard their ships. Considerable attention was paid between 1690 and 1707 to the distillation of pure water,[20] without, understandably enough, any connection being perceived between the contaminated liquid and typhoid fever. Suggestions, however impracticable, for the better preservation of food and drink were followed up. The Amsterdam chemist, Jacobus Heezer, who came out as a comforter to the sick and enjoyed some prestige as physician-in-ordinary to the king of Kandy, was allowed to experiment with herbs as preservatives in 1744, but without success.[21] Real progress towards the amelioration of health conditions on Dutch ships was, however, greatly impeded by the decision of the directors to seek the advice of the celebrated dean of the medical faculty of the University of Leiden, Herman Boerhaave. His answer, supplied in 1736, did nothing to enchance his medical reputation, but so great was his repute that his ill-considered comments were long regarded as the final word on the subject of health at sea.[22]

Although the documentary resources available in South Africa do not permit so exhaustive an analysis of health conditions on Dutch East Indiamen as has been undertaken by Erik Gøbel with regard to the Danish Asiatic Company, there are nevertheless a number of surgeons' reports which throw some light on the subject, even though limited to the outward voyages from the North Sea to the Cape. Upwards of a hundred of these documents have been consulted for the years 1734-1747, an interesting period which not only coincided with s sharp rise from 9% to 13% in the annual death rate on Dutch East Indiamen, but also embraced the serious typhus epidemic of 1739-1741 in the British navy.[23] The two circumstances are perhaps not entirely unrelated, The reports are uniformly of voyages of longer duration and high incidence of sickness and death, representing perhaps 20% of all outward-bound Dutch East India Company shipping in the period.[24] They are not daily logs, as prescribed by the company in its instructions to surgeons of 1695 and of which Burrows cites an example for 1697,[25] but summaries compiled on arrival at the Cape in which the emphasis falls upon the

17. C. Lloyd, ed: *The Health of seamen: selections from the works of Dr. James Lind, Sir Gilbert Blane and Dr. Thomas Trotter*, Navy Records Soc., CVII (London, 1965), p. 40.
18. J. de Hullu: 'De Voeding op de schepen der Oost-Indische Compagnie', *BNI*, LXVII, 1913, p. 550.
19. Boxer: 'Dutch East-Indiamen', *MM*, XLIX(2), May 1963, p. 93.
20. De Hullu: 'Ziekten en dokters', *BNI*, LXVII, 1913, pp. 256-257.
21. P.H. Roessingh: 'The Water-supply aboard ships of the United East Indies Company', in M. Mollat, ed., *Sociétés et compagnies de commerce en Orient et dans l'Océan indien* (Paris, 1970), p. 634.
22. E.H. Burrows: *A History of medicine in South Africa up to the end of the nineteenth century* (Cape Town and Amsterdam, 1958), p. 26; Boxer, 'Dutch East-Indiamen', *MM*, XLIX(2), May 1963, pp. 97-98.
23. Baugh: *British naval administration*, pp. 179-185.
24. Based on statistics in C. Beyers: *Die Kaapse patriotte gedurende die laaste kwart van die agtiende eeu en die voortlewing van hul denkbeelde* (2nd ed., Pretoria, 1967), appendix G. pp. 333-334.
25. *History of medicine*, p. 25: Cornelis Gravenmoer of the *Donkervliet*.

identification of the various diseases encountered and the geographical region in which they were most prevalent, their probable cause and the number of men who died, or who were removed to the Cape hospital.

The reports were usually compiled by the chief surgeon aboard, who normally describes himself as the *opperchirurgijn*, or *oppermeester*. Izak Kolder of Amsterdam, however, serving on the *Heuvel* in 1741, preferred the older term *opperbarbier*, a description which says much for the standing in the medical profession at that time of the surgeon.[26] On occasion, second and third surgeons come into the picture, particularly when their superiors had died on the voyage. These men were assisted by sailors detailed off from the watches for nursing duties and in a spiritual sense by a comforter of the sick (*ziekentrooster*, or *krankenbezoeker*).[27] The surgeon on board ship was equally physician and apothecary; he was not particularly well-paid, receiving in some cases less than a third mate.[28] Many learned their trade in service, working their way up to the senior post in successive voyages and sometimes, as with Thomas Kuijl on the *Papenburg* in 1738, earning promotion to *oppermeester* in an acting capacity in the course of a voyage.[29] Surgeons were subject to examination, but the Middelburg physician Paulus de Wind, who had experience as an examiner, was not impressed by the quality of candidates. He noted in 1760 that very few had any Latin and that quite a number went to sea as third surgeons at the age of thirteen or fouteeen after four years of what must have been very elementary instruction. The system of promotion by practical experience resulted in many becoming chief surgeons "zonder ooit gronden van anatomie, chirurgie, pharmacie of medicine te hebben kunnen leggen".[30] Something of these strictures is reflected in the series of reports compiled at the Cape, although it must be conceded that their authors, overworked on board in trying conditions, probably had no time to keep adequate records. Nevertheless there is little attempt at diagnosis, few references to treatment are made and since most of the causes of disease and sickness are attributed to circumstances beyond the control of the authorities on board, it is seldom that any interest in preventive medicine is evinced.[31]

There are however some notable exceptions. Dirk Bellaart, *opperchirurgijn* of the *Amsteldam* in 1741, compiled a lengthy report in which he discussed febrile symtoms in some detail, gave an indication of the treatments he prescribed and noted the results of a cursory post-mortem, which did not however extend to the examination of internal organs.[32] Jan Krappell, chief surgeon of the *Oostcappelle* in 1747, was also among those who mentioned treatments.[33] The German surgeon George Wilhelm Rahsche, serving on the *Oud-Berkenrode* in the same year as Krappell, wrote his comprehensive report in Latin, as he had only an imperfect knowledge of Dutch. A literal translation was made at the Cape — not such a culturally deprived backwater! — and appended to the original.[34] Rahsche was one of several foreigners in the medical service of the Dutch East India Company;[35] Henderik (*sic*) Wasser of the *Ida* signed

26. C 358, Attestatiën, 1741: 69, n.d., pp. 269-270.
27. For the log of Jan van den Oever of Gorcum, sick comforter on the *Amasone*, see C.F.J. Muller: "n Blad uit die joernaal van 'n sieketrooster, 1709-1710', *Historia*, XXIII(2), Sept. 1978, pp. 90-98.
28. De Hullu: 'Ziekten en doktors', *BNI*, LXVII, 1913, p. 261.
29. C 355: 131, Simon Pierre Salies and Thomas Kuijl, 8 Nov., pp. 649-653.
30. De Hullu: 'Ziekten en dokters', *BNI*, LXVII, 1913, p. 261.
31. See also Burrows: *History of medicine*, p. 21. I am indebted to Laurianne Durand of Pretoria for a number of suggestions on the contents of these reports.
32. C 358: 3, 2 Feb., pp. 5-9.
33. C 364, Attestatiën, 1747: 24, 2 March, pp. 97-98.
34. C 364: 69-70, n.d., pp. 281-287.
35. Burrows (*History of medicine*, p. 20) mentions one in three for Middelburg.

himself "obermeister ob den schip" in 1746.[36] Latin phrases, not always correctly used, are to be found in many reports, but the simple classification mentioned by Burrows — *febris maligna* for a fatal disease and *febris benigna* for one with a more fortunate outcome — is infrequent.[38] Otto Lodewijk Matthé of the *Berkenroode* is perhaps an exception among chief surgeons to make such a distinction, although his report of 1740 adds a third and presumably benign sickness: catarrhal fever.[38] Jeronimus Coster on the *Casteel van Tilburgh* in 1738 speaks of "Gebris malligna (*sic*) en febris continue dewelke omtrent onder de Linie hebben begonnen", but he was only a third surgeon, having lost his superiors in the more virulent outbreak.[39]

In view of the high mortality rate on these ships it would not be surprising if surgeons, after reaching the top rung of the ladder, made only a single voyage. There are however several whose names appear more than once in the reports, among them Johan Paulus Herbst, chief surgeon on the *Oostrust* in 1735 and on the *Padmos* in 1741, and Willem Paauw, who served in the same capacity on the *Ruijter* in 1737 and aboard the *Leijduijn* four years later.[40]

The *Padmos* lost fifty-one men on her voyage to the Cape in 1741; six years earlier her captain, Willem de Wijs, recorded what he evidently considered to be a relatively uneventful voyage out of Rotterdam. There had been twelve deaths on that occasion: seven men had been lost "door ordinaire zee siekte", three had fallen overboard, one had jumped overboard and another had been executed![41] The "ordinary sea-sickness" was doubtless just that; in which case the medical branch aboard had enjoyed a reasonably trouble-free passage to the Cape. The situation was very different on those vessels for which surgeons' reports are available and whatever other ills beset the crews, there is one which is mentioned with unfailing regularity: scurvy.

Jan van Leeuwen, *opperchirurgijn* of the *Carssenhof* in 1735, spoke for many when he associated scurvy with an excessively long voyage and regretted that he could not provide the only remedies: a change of diet to fresh food and the restorative effect of breathing the wholesome air of land.[42] Like so many of his fellow-surgeons, Van Leeuwen was nearing the truth regarding dietary deficiency, but nowhere in these reports is there a specific reference to the curative properties of products we now know to be rich in vitamin C. There were also more fanciful explanations for the spread of the disease. Anthonij Oosthoek, chief surgeon of the *Padmos* on her run to the Cape in 1739, regarded scurvy as an infection, while the second surgeon on the *Wapen van Hoorn* two years later, Phillipus Wartenhorst, ascribed it not only to poor shipboard food, but also to certain undefined scorbutic humours.[43] Adam Nobel, senior surgeon on the *Langewijck* in 1738, noted its appearance among crew members recently recovered from fever and presumed they were too weak to resist its onset.[44] Lodewijk Pietersz, *oppermeester* of the *Hercules* in 1746, had evidently given the problem of scurvy much thought. "Dese op zee onherstelbaare scheurbuijk" was caused by the lack

36. C 363, Attestatiën, 1746: 3, 10 Jan., p. 29.
37. *History of medicine*, p. 23.
38. C 357, Attestatiën, 1740: 57, 28 May, pp. 257-258.
39. C 355: 6, 8 Feb., p. 33.
40. C 352, Attestatiën, 1735: 50, 13 April, pp. 201-202; C 354, Attestatiën, 1737: 119, 7 Nov., p. 585; C 358: 70, 15 June 1741, pp. 273-274; 72, 12 June 1741, p. 281.
41. C 352: 82, 30 August, pp. 329-330.
42. C 352: 119, 29 Nov., pp. 501-502.
43. C 356, Attestatiën, 1739: 95, 4 August, pp. 467-468; C 358: 4, 6 Feb., p. 9.
44. C 355: 47, 16 April, pp. 237-238.

of fresh food and by "het drinken van slegt en stinkend water". The result, "genoegsaam bekend", was a corruption of the blood. This was aggravated by the practice of lying down in the warm hold during cold weather. The blood thickened, circulation was impeded and the finishing touches to the process of corruption were put by exposure to the unhealthy air of the tropics.[45]

Gøbel's theory that scurvy was not a major cause of death is scarcely borne out by the facts recorded in these reports. The disease, in the absence of adequate antiscorbutics, followed an inexorable course and was too familiar a malady to be confused with others in the tables of mortality. Although its onset is sometimes mentioned, details of its symptoms are rarely discussed, although Hendrik Meijer, chief surgeon on the *Huijs de Perseijn*, gave them some attention in October 1747.[46]

From the many accounts which attribute death on board specifically to scurvy we select only three. On 17 November 1753, Jan Henricksen, *opperchirurgijn* on the *Abbekerk*, recalled the general lassitude in the later stages of a voyage of some five months, one of the signs "van een aannaderenden schorbut". By the time the ship reached the Cape, thirty-two deaths had occurred and many more were sick. Henricksen added that if the voyage had lasted another two weeks, the outlook would have been bleak indeed.[47] N. Kornmann, *oppermeester* of the *Pallas* in 1737, noted that latterly many of the pigs carried on the ship had died, that there was no more beer, wine or syrup — an interesting comment — and that the biscuit was mouldy, a frequent occurrence apparently on ships carrying timber for masts. He added: "Zijn de menschen zoodanig met de scheurbuijk beset geworden dat daardoor op de reijse 22 personen uijt het leven zijn gerukt". There were only seventeen fit men left when the ship put into False Bay, where three more deaths occurred.[48] Finally, Dirk Steels, surgeon on the Hoorn ship the *Brouwer*, announced in December 1747 that of the 89 deaths on the voyage, "het meeste door 't scorbut is veroorsaakt".[49] The evidence seems irrefutable. Scurvy was essentially a disease associated with the later stages of long voyages which men had endured on an inadequate diet. In this respect, the officers and passengers fared better than the crews.[50] It seems certain that the Cape of Good Hope was too distant a refreshment station from Europe to solve the health problems of slower ships and of those delayed by contrary winds, dead calms and stormy weather. An intermediate stop however, where fresh fruit might be obtained, would doubtless have had a beneficial effect with regard to scurvy, whatever other ills might result from such a call. Santiago in the Cape Verde archipelago often provided welcome relief on voyages to the Cape. Johannis de Weereldt, chief surgeon on the *Everswaart* in 1737, recorded a visit there and although scruvy subsequently broke out on this ship, it is not without significance that there were only four or five deaths from it.[51] The *Hoogersmilde* also called at Santiago in 1740 and her *opperchirurgijn* Johannes Bokkenberg noted that scurvy did not make its appearance until the vessel had reached the latitude of 32 degrees south.[52]

There was a definite "scurvy belt" on these voyages. The disease usually first

45. C 363: 14, 20 Feb., p. 65.
46. C 364: 133, 2 Oct., p. 587.
47. C 352: 118, pp. 497-498.
48. C 354: 106, 1 Sept., pp. 529-530.
49. C 364: 15 Dec., p. 703 (Unnumbered).
50. See Boxer: 'Dutch East-Indiamen', *MM*, XL(2), May 1963, p. 95.
51. C 354: 117, 5 Nov., p. 577.
52. C 357, Attestatiën, 1740: 110, 20 Oct., pp. 503-504.

manifested itself in the southern hemisphere and the average latitude for its onset was about 20 degrees south, thus a little above the Tropic of Capricorn. Scurvy was also sometimes encountered at the beginning of a voyage. Jan van Tilleputte, *oppermeester* of the *Claerebeek*, reported in August 1739 that the disease began to show itself during the four months and more that the vessel stood off Rammekens on the island of Walcheren awaiting a favourable wind. She finally sailed "met wel 20 zieken die alles het scheurbuijk hadden", caused in the surgeon's estimation by contact with dirty companions.[53] Gregorius Carlier, chief surgeon on the *Huijs te Marquette*, said at the Cape in April 1742 that many of the crew were scorbutic when they embarked in the United Provinces.[54]

Although climate is not necessarily related to the incidence of sickness and disease, these reports enable us to plot more precise sickness zones for the first months of outward-bound voyages in Dutch East Indiamen than was possible for their Danish counterparts. First comes the port of embarkation and its outer harbour, in cases where sailing was delayed. The second zone comprises the North Atlantic to the Tropic of Cancer, including European waters: the North Sea, the English Channel, the so-called Spanish Sea and, for vessels sailing *achter om*, the seas round Hitland — the Shetlands — and off the west coast of Ireland. Thirdly we have the tropics, including the Cape Verde Islands, and finally the South Atlantic approaches to the Cape of Good Hope. The central, tropical zone is rather more difficult to define exactly than the others, Excessive heat was sometimes encountered well before the Tropic of Cancer had been reached, while the ills associated with this kind of weather often abated in the latitude of the Abrolhos group off the Barzilian coast, 18 degrees south. Much depended on the season of the year. Sickness, too, often lingered on from zone to zone.

There are many references in these surgeons' reports to the poor physical condition of the ill-clad and ill-nourished recruits who joined the ships in Dutch ports, many of them, as the *opperchirurgijn* of the *Landscroon,* Hendrik Cannegieter, observed in 1734, quite unused to a life at sea. There were, in the words of Nobel of the *Langewijck* more than three years later, too many men "die nooijt het Indische vaarwater bevaaren hadde".[56] De Hulle has given us a graphic description of the unhappy lot of the soldiers and sailors awaiting a berth on a Dutch East Indiaman. Often shamelessly exploited by crimps, herded into insalubrious doss-houses and fed on the cheapest food, they came on board at last "met een ondermijnde gezondheid, verbijsterde zinnen en een verzwakte maag", falling ravenously on the ship's victuals "als uitgehongerde wolven".[57] It is small wonder that with the poor, the hungry and the disease-ridden crowded below decks, so many of these vessels became floating hospitals, particularly if a long delay was added at the port of departure to a protracted voyage. The fourteen to eighteen days in harbour mentioned by Mentzel were not infrequently exceeded.[58] Of the lower ranks on board, it was said in 1776: "Het is miraculeus als zij tot de Kaap in het leven blijven".[59] One ship, the *Diemermeer,* lay at anchor off the Dutch coast

53. C 356: 96, 3 Aug., pp. 471-472.
54. C 359, Attestatiën, 1742: 39, 12 April, p. 147.
55. C. 351, Attestatiën, 1734: 137, 13 Dec., pp. 591-592.
56. C 355: 47, 6 April 1738, p. 237.
57. 'Ziekten en dokters', *BNI,* LXVII, 1913, p. 250.
58. *Life at the Cape in mid-eighteenth century, being the biography of Rudolf Siegfried Allemann,* (trans, M. Greenlees), Van Riebeeck Soc., 2 (Cape Town, 1919), p. 32.
59. De Hullu: 'Ziekten en dokters', *BNI,* LXVII, 1913, p. 251: Hendrik Meijers.

from 20 October 1736 until the following March. Her surgeon, Gerlacus Wubbena, recording the high fever and pleurisy which broke out in those months, attributed the sickness rate to the extremely cold weather and also to "het schielijk drinken wanneer het volk besweet was". Thirty deaths occurred before the vessel even sailed.[60] Kornmann of the *Pallas* mentions in the following year that tertian fever of a benign nature made its appearance while the ship stood off Texel for more than four months. He noted that during this period the crew subsisted on salt meat and stockfish, since on the only two occasions when "fresh" mutton was sent out, the smell was apparent before the supplies were hoisted inboard from the lighter.[61] Carlier, serving on the *Beekvlied* as *oppermeester* in 1736, commented upon the malarial quartan fever and cases of severe ulceration he had to treat at Texel, the latter the result of poor nutrition and doubtless associated with scruvy;[62] six years later aboard the *Huijs te Marquette,* he added quotidian and tertian fevers, and rheumatic and pleuritic complaints to scurvy among the recently embarked crew members.[63] Venereal diseases, brought early to the Cape by sailors from Europe and by the early 18th century spreading from there along all the shipping lanes, were perhaps too common to be frequently mentioned. Carlier treated twenty-seven cases when he joined the *Huijs te Marquette* and there are further references to the problem on other voyages, including that of the *Nieuwerkerk* in 1742, with Jan Andreas Stier in charge of the sick.[64] Smallpox, another disease introduced into the Cape by sea in epidemic form in 1713 and 1755 with disastrous results,[65] came aboard the *Domburgh* before she left Zeeland, according to her chief surgeon Petrus Freijberger in March 1742. Gillis Boel, *opperchirurgijn* of the *Meijenberg* in 1738, informed the Cape authorities that smallpox had also raged on that vessel. Freijberger, it may be noted, was the only surgeon in these records to describe himself as a doctor of medicine.[66]

Respiratory diseases of all kinds are a feature of most of these reports when the voyages in European waters and the open North Atlantic are described. As Kornmann of the *Pallas* summed up this stage of the long haul to the Cape: "Naa 't uijtzeijlen van de Texelse reede zijnder van de pleuris en andere borst ziektens aangetast negen personen waarvan twee overleeden".[67] Those ships which took the northern route round Scotland suffered in greater measure and Jan van Camp, *oppermeester* of the *Rooswijk* in 1738, spoke feelingly of the effects on the crew of the excessive cold. the storms and the pervasive wetness on board.[68] Henricksen of the *Abbekerk* rightly ascribed much sickness of this kind to the "slegte uijtrusting van het volk als zijnde veele genoodsaakt geweest met hunne natte plunje bij gebrek van verschooning te gaan slaapen".[69]

Many of those who fell sick on ships long delayed off the Dutch coast made

60. C 354: 90, 20 July, 1737, pp. 457-458.
61. C 354: 106, 1 Sept., pp. 529-530.
62. C 353, Attestatiën, 1736: 137, 19 Oct., pp. 609-610.
63. C 356: 96, 3 Aug., pp. 471-472.
64. C 359: 122, 18 Sept., p. 501. Dermigny would seem to place syphilis after scurvy as the second great scourge of ocean voyages to distant ports (*La Chine et l'Occident*, I, p. 269).
65. R. Elphick, 'The Khoisan to c. 1770', in R. Elphick and H. Giliomee, eds, *The Shaping of South African society, 1652-1820* (Cape Town and London, 1979), pp. 22; 23.
66. C 355: 56, 29 May 1738, pp. 267-268; C 359: 23, 29 March 1742, pp. 89-90.
67. C 354: 106, 1 Sept. 1737, p. 529.
68. C 355: 66, 18 June, pp. 311-312.
69. C 352: 118, 17 Nov. 1735, p. 497.

remarkable recoveries once the vessels sailed. There were few men unfit for duty on the *Diemermeer*, for example, by the time she had reached the equator in 1737.[70] On the other hand, a call at an English port on the Channel coast could have disastrous results. A Joint report by the chief surgeon Elias Smit and his assistant recalled the fever which raged aboard the *Steenhoove* when she lay in Portsmouth harbour in February 1738.[71] Three years earlier Herbst of the *Oostrust* complained that the intemperance of the crew at Plymouth undid all the good work his cures for fever had effected earlier.[72] Over-indulgence in liquor added to the health hazards on these long voyages, both for individuals and for crews in general. Samuel Benoist, *opperchirurgijn* on the *Nieuw-Walcheren* which lost forty-nine men between November 1737 and February 1738, attributed the high level of sickness aboard in part to "het drinken van sterke dranken", coupled with insufficient sleep.[73] Stier of the *Nieuwerkerk* also complained in 1742 of the excessive consumption of brandy and gin on the voyage. He added another underlying cause of sickness: the terrors of men far from land.[742] They sought solace perhaps in alcohol and it is on record later in the century that disease was spread through the filthy habits of drunken sailors on ships where the sanitary arrangements were at best very primitive.[75] Drink could be the downfall of surgeons too. That long serving captain Willem de Wijs had to suspend his chief surgeon for intoxication and dereliction of duty when he commanded the company's warship the *Standvastigheijd* in 1744.[76]

Fevers often began early, but reached a peak in the tropics. Although the precise nature of the various diseases cannot always be determined, it would seem that epidemic louse-borne typhus took a heavy toll. This was doubtless the "febris putrida of rotte coortsen" spoken of in 1739 by Adrianus van Renen, *oppermeester* of the *Gaasperdam* and whose symptoms were recorded by Bellaart of the *Amsteldam* two years later.[77] Endemic flea-borne typhus may also have been prevalent, introduced by the parasites of the rats which infested the ships.

It was probably typhus which killed so many aboard the immigrant vessel *Vosmaar* in 1696; English East Indiamen reaching the Cape from Europe at that time lost many men and their captains suspected camp sickness, introduced by soldiers.[78] Typhus, known popularly as camp fever, jail fever and ship fever, has often been associated with the military personnel aboard Dutch East Indiamen and particularly with men who had seen wartime service in Germany. Soldiers, however, were clearly not the only guilty parties in the spread of typhus; recruits among the urban poor as ordinary seamen must also shoulder the blame. It was "the very filth of London", as the British admiral, Philip Cavendish, put it, which brought disease to the fleet of that country when it was mobilized in 1739 for the war with Spain.[79] The Dutch must also have recruited their share of "human flotsam" to man the ships trading with the Indies.

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70. C 354: 90, 20 July 1737, p. 457.
71. C 355: 88, 6 June 1738, pp. 441-442. More correctly, *Steenhoven*.
72. C 352: 50, 13 April 1735, p. 201.
73. C 355: 15, 1 March 1738, p. 93.
74. C 359: 122, 18 Sept., p. 501.
75. De Hullu: 'Ziekten en dokters', *BNI*, LXVII, 1913, p. 254: C.F. Sacket, 1771.
76. C 361, Attestatiën, 1744: 54, 30 March, pp. 221-223.
77. C 356: 94, 3 Aug. 1739, pp. 461-462; C 358: 3, 2 Feb. 1741, pp. 5-6.
78. H.C.V. Leibbrandt, comp.: *Precis of the archives of the Cape of Good Hope: letters despatched, 1696-1708* (Cape Town, 1869), p. 30.
79. Baugh: *British naval administration*, p. 179.

That there was a connection between lice and typhus had not then been established, but the verminous state of many ships' crews is indicated in a Dutch memorandum of 1775. Lice found their way into the clothing of the more privileged aboard, while surgeons would carry a brush to remove vermin from their garments after visiting the sick. The writer added: "Ik heb een sieke gezien, dewelke de luizen geheele gaten in het lijf gebeten hadden, dit gepaard met de ziekte beneemt den lust tot het leven, en die benomen lust tot het leven doet velen op de Oost-Indische schepen sterven".[80] Lack of sufficient drinking water and bad beer are frequent complaints by surgeons on Dutch East Indiamen and must have contributed greatly to the suffering of the sick, especially in the tropics. The result is a long catalogue of woes: burning skins, parched mouths, agonizing intestinal pains, delirium, frenzy and finally, in many cases, death.

To typhus must be added other ills. Dirk de Rover, indeed, chief surgeon on the *Padmos* in 1737, found the problem on identifying the various fevers he encountered between 6 degrees north and 14 to 15 degrees south quite beyond him,[81] while Cornelus Pamus, *oppermeester* of the *Neiuw-Walcheren* in 1747, spoke of all kinds of fevers brought on by "melangholijke humeuren".[82] Salies and Kuijl of the *Papenburg* in 1738 wrote one of the longest reports, but it incorporated no new approaches in medical science. Some of the men under their care developed what is described as choleric fever, the result, they said, of a superfluity of overheated bile, or phlegm; other fever sufferers vomited "heel groote worme", which the surgeons considered had multiplied in their patients' stomachs after they had eaten old cheese or mouldy bread.[83] A possible explanation is roundworm infestation.

Symptoms of disease and sickness were often enough described, among them inflamed throats and oedema, but the only infection which is clearly identified in many reports on the tropical stage of these voyages is dysentery, the *roode loop* or bloody flux which figures prominently in the literature of the time. It was not necessarily associated with an intermediate port of call, but De Weereldt of the *Everswaart* in 1737 noted its appearance after a visit to Santiago, where the crew had eaten a good deal of unripe fruit.[84] A connection between diarrhoea and imperfect sanitation seems evident.

The refreshment obtained in the Cape Verde Isalnds could result in a great improvement in health, as Pieter van Drielst, chief surgeon on the East Indiaman *Hilverbeek*, reported in 1738.[85] It is however quite possible that one of the unnamed fevers which occured after such a call might well have been typhoid. Those garrulous reporters on the *Papenburg*, Salies and Kuijl, noted that the water taken on at Santiago was black and murky, drawn from a muddy well after a long drought.[86] Bokkenberg of the *Hoogersmilde* attributed much sickness after a visit to Santiago in 1740 to sharply cold nights after hot sunny days and noted that all those who stayed on shore overnight to guard the tent and the water vats fell sick with a burning fever which, at its worst, resulted in "verlies van verstand". Several died and the chief surgeon found no outward signs of disease on their bodies.[87] It is possible that defective sanitation on shore lay at the root of the problem.

80. De Hullu: 'Ziekten en dokters', *BNI*, LXVII, 1913, pp. 254-255: 29 Aug. 1775.
81. C 354: 92, 17 Aug., p. 465.
82. C 364: 25, 3 March pp. 101-102.
83. C 355: 131, 8 Nov., pp. 650-651.
84. C 354: 117, 5 Nov., p. 577.
85. C 355: 78, 25 June, p. 401.
86. C 355: 131, 8 Nov. 1738, pp. 650-651.
87. C 357: 110, 20 Oct., p. 503.

Some ships like the *Hof Niet Altijd Winter*, which reached the Cape in 1741, were long delayed in the tropical heat of the Gulf of Guinea,[88] but once in the deep South Atlantic fevers generally abated and scurvy took over. Van Renen of the *Gaasperdam* specifically associates scurvy with the colder weather experienced as the Cape approached.[89] It is evident that most of those still sick when land was made were suffering from this disease. Jean Boquitteau, chief surgeon of the *Hoogersmilde* when she reached the Cape in 1744, tells us that four men died of scurvy within an hour of reaching harbour and another in the boat going ashore.[90] There are indications of the rapid improvements in health effected by a suitable diet once the men were on land. Van Drielst, who compiled his report as *oppermeester* of the *Batavier* in January 1741, remarked that well over forty scorbutic crew members were placed in a tent ashore after the ship had anchored in Saldanha Bay. All survived and in a very short time only nineteen had not fully recovered.[91]

Surgeons did what they could in difficult conditions and skippers often earned the praise of the medical branch for their special attentions to the sick. Pietersz. of the *Hercules*, for example, noted in 1746 that the captain never failed to comply with all his requests for wine, brandy and extra water to succour those in need.[92] A few of the surgeons have left us some idea of the treatments they favoured. The reduction of fever by blood-letting was practised by Krappell of the *Oostcappelle* and Pamus of the *Nieuw-Walcheren* in 1747. Krappell also used Peruvian bark (quinine) in the treatment of quartan fever, sudorifics to counter the quotidian variety, emetics as a cure for tertian fever and Spanish fly, the blister-beetle, to reduce the burning fevers of the tropics.[93] Bellaart of the *Amsteldam* used the purgative cream of tartar, ipecacuanha as an emetic and oil of cloves as a stimulant.[94] Many spoke in general terms of febrifuges, anodynes, absorbents, antitoxins or stomachics, but more specific remedies include tamarind, senna and hartshorn. There are, it may be added, no references in these pages to surgery at sea; these surgeons were essentially healers of the sick.

Factual reports cannot convey the full abomination of life for the sick aboard the ships of the period; for the sights; sounds and smells of a floating hospital the reader is referred to Tobias Smollett's novel, *Roderick Random*, in which the shipboard experiences are based upon the author's own early career as a surgeon's mate aboard the British warship the *Chichester* on the unhealthy West Indian station in 1740. That surgeons often suffered the fate of those in their care is not surprising and of the medical men who survived the voyage, more than one was sick on arrival at the Cape. Nathaniel Beali of the *Wapen van Hoorn* was unable to compile his own report in 1741,[95] while Gerrit Broekhuis, chief surgeon of the *Gooidschalksoord* in 1745, could not write at length on the voyage as he was still incapacitated after a passage which had claimed more than 140 lives and had left 106 men too ill to carry out their duties.[96] Nor were senior officers always immune. The captain of the *Nieuw-*

88. C 358: 45, 16 May, pp. 175-176: Jan Kok, chief surgeon.
89. C 356: 94, 3 Aug. 1739, pp. 461-462.
90. C 361: 16, 30 Jan., pp. 61-62.
91. C 358: 1, 7 Jan., pp. 1-2.
92. C 363: 14, 20 Feb., p. 65.
93. C 364: 24, 2 March, pp. 97-98; 3 March, pp. 101-102.
94. C 358: 3, 2 Feb., 1741, pp. 5-9.
95. C 358: 4, 6 Feb., p. 9.
96. C 362, Attestatiën, 1745: 142, 1 Nov., p. 601.

Walcheren, Jacob Hogermole, and his first lieutenant, Philip Watervliet, were incapable of continuing the voyage from the Cape to the Far East in 1747.[97]

But is was the men who were the most frequently affected and for many the settlement behind Table Bay offered a brief respite from the perils and discomforts of a life at sea. Some were to remain there on the garrison staff and not a few ultimately became free burghers, as was the case with Guillaume-Henri Bossau of Bayonne, ancestor of the Boshoffs of today, who reached the Cape in 1741 on the *Ruijven*, a vessel which lost sixty-three men on the voyage from fever and scurvy.[98] Despite the obvious risks, we have it on Mentzel's authority that for soldiers at least, service with the Dutch East India Company was in great demand.[99] Poverty and unemployment must have played a part here, as they did in the spread of disease on the ships. The socio-economic background of the company's recruits in the 18th century is of more than passing interest in the Cape context, as well as in that of the Netherlands.

97. C 532, Uitgaande brieven, 1747: Batavia, 6 March, pp. 84-85.
98. C 358: 27, 23 March, p. 103: Frans Pulhuijs, chief surgeon.
99. *Life at the Cape*, p. 17.