

BUCCANEERING DOCTORS

by

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The buccaneers who followed the seventeenth-century “Sweete Trade of Privateering” in the Indies are generally regarded as bold adventurers, impervious to hardship and meeting danger in “Harry Morgan’s Way” with amazing nonchalance.¹ To a certain extent this was true, but a closer examination of their way of life dispels any charge of complete foolhardiness. United in “The Confederacy of the Brethren of the Coast” with strict rules for mutual protection and division of the “prey” (spoils), they sailed under official letters of marque or commissions from local governors and invariably chose their own captains, quickly leaving any who, before an expedition, failed to make adequate provision or to include medical personnel.² William Dampier clearly expressed the anxiety felt on a dangerous return journey over the Isthmus of Darien, when their “chirurgion” was seriously incapacitated “Because lyable Ourselves every Moment to Misfortune and none to look after Us but Him”.³ There is evidence of doctors serving on privateering vessels from the early days of the Confederacy on Tortuga off north Hispaniola in 1630, indeed, the first buccaneering captain on record, Pierre le Grand, is noted as ordering his surgeon to perforate the hull of their boat before the famous attack on the Spanish flagship so that the crew had no option but to take the enemy craft. Late in the century there were two surgeons to a ship or else a surgeon and his mate: Dampier bemoans the death of “one of the surgeons . . . much lamented because we only had one more”, while mutinous crewmen at Minadano in 1687 who failed to enveigle the surgeon aboard, forcibly abducted “his Mate”, Coppinger.⁴

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Abbreviation: CSPAWI: Calendar of State papers America and West Indies, Series Colonial, London, HMSO.

¹ E. A. Cruickshank, *Life of Henry Morgan*, Toronto, Macmillan, 1935, p. 35, see also p. 121.

² Clinton V. Black, *Pirates of the West Indies*, Cambridge University Press, 1989, p. 53; John Ure, *Quest for Henry Morgan*, London, Constable, 1984, p. 93, see also p. 95; CSPAWI, vol. v (1880), ed. W. N. Sainsbury, no. 1146: Modyford to Arlington, 8 March 1666, “much zeal in his Majesty’s Service” professed by buccaneers.

³ William Dampier, *A new voyage round the world*, vol. I, London, James Knapton, 1699 (4th ed.), p. 15, cf. p. 505.

⁴ Percy G. Adams, *John Esquemeling: the buccaneers of America*, New York, Dover Publications, 1967, p. 54, Parts I–III contain the translation of Esquemeling’s book, Part IV is the narrative of Basil Ringrose (see

Like most skilled personnel, doctors were scarce in the Indies and their remuneration reflects this fact: a “competent salary for the surgeon and his chest of medicaments” was usually rated at 200–250 pieces of eight (a little above the “victualling allowance”) and, in addition, they received “the very equal dividend” given to all members of the fighting band of which they were a part, when not engaged in medical duties.⁵ Judging by the record of some retired buccaneering surgeons, the profession could bring substantial financial rewards: Colonel Robert Byndloss was a wealthy landowner and Member of the Jamaica Assembly by 1655, while George Holmes, although continuing to practise on the island, was rich enough to possess a ship which his captain took to join Morgan’s Panama Fleet.⁶ There were other benefits, any prisoners identified as doctors were never killed or imprisoned but required to exercise their skills for their captors. A French surgeon with a buccaneer-force shipwrecked near Porto Rico 1673, was “set at liberty to go freely up and down” in the Spanish settlement.⁷ Upon leaving privateering practice, a surgeon had no difficulty in finding a good placement. Esquemeling, after serving in Morgan’s Panama expedition, was appointed surgeon in Admiral Tromp’s fleet for the Anglo-Dutch War; the abducted surgeon’s mate eventually escaped and was welcomed in the Danish settlement of Trangambaer; and, on the strength of the reputation of buccaneering doctors, a Spanish-speaking Roman Catholic privateer, John Fitzgerald, within eighteen months of reaching Luconia (Manila), had found a wife with a good dowry and set himself up as a highly esteemed doctor, although his only qualifications were “his scanty natural stock of knowledge” and the salves which he kept always by him to treat his own “sore legs” (a common malady of the time).⁸

There were among the ranks of the privateers fugitive slaves, some of whom were native healers, a class famed for their knowledge of folk medicine and healing herbs. The black doctor called in by Sloane’s former patient, “Sir H. M.”, had probably served aboard, because he prescribed much the same treatment for dropsy as Dampier received from his ship’s surgeon.⁹ Possibly several of the well-established medical practitioners in Jamaica had earlier privateering connections, but the names of British buccaneering doctors on record in the period up to 1671 (the official end of British commissioned privateering), are Robert Byndloss, Richard Browne and Esquemeling. Byndloss had probably served with Henry Morgan as they were about the same age and remained lifelong friends, and by 1665 he was Morgan’s brother-in-law. In 1671 he

note 48 below). Dampier, *op. cit.*, note 3 above, p. 80, see also pp. 373–4, 91—Captain Eaton had 4 doctors aboard but this seems to have been exceptional.

⁵ Adams, *op. cit.*, note 4 above, pp. 59–60; a piece of 8 reales, a Spanish silver coin minted in South America, was equivalent in value to the old English crown; Dampier, *op. cit.*, note 3 above, p. 265, mentions a surgeon and companion wounded reconnoitring an Indian settlement at Massaclau.

⁶ Cruikshank, *op. cit.*, note 1 above, p. 65, see also pp. 213–14, 248.

⁷ Adams, *op. cit.*, note 4 above, p. 261—the French War against the Dutch West Indian colonies in 1673; Cruikshank, *op. cit.*, note 1 above, p. 73—the Spaniards remained short of doctors and provided only 1 to 400 men for the recapture of Old Providence Island in 1688.

⁸ Cruikshank, *op. cit.*, note 1 above, pp. 373–4; Dampier *op. cit.*, note 3 above, p. 507—Coppinger, pp. 388–98—Fitzgerald; *Culpeper’s complete herbal*, Ware, Omega Books, 1985 (reprint), pp. 60, 63, 72 and *passim*.

⁹ CSPAWI, vol. x (1896), ed. W. N. Sainsbury, no. 270, Vaughan to Coventry, 28 May 1677, “privateers—constantly recruited with runaway servants”, Sir Hans Sloane, *Voyage to the islands*, London, 1707, vol. I, pp. xcvi, xcix; Dampier, *op. cit.*, note 3 above, p. 276.

became Chief Justice of Port Royal, but five years later charges were laid against him for improper action in collecting the official dues from French privateers then in Jamaica.¹⁰ Governor Vaughan considered him “a very turbulent fellow—some years since . . . surgeon of a ship but can never be easy in any government”, and his conduct unworthy of membership of the Island Council for refusing in a rude and insolent way to submit a written answer to the charge until threatened with arrest. Morgan protested Byndloss’s innocence, saying that as a family man with one of the best estates on the island near Port Royal he was “an understanding man and would not hazard that estate”, and Mr Neville, a friend of the Earl of Carlisle, defended them both as “the two men who have the most prevalent interest in the country . . . Byndloss has the same generosity and frankness of conversation mixt with one of the most able understanding”.¹¹ Sir Thomas Lynch (former Lieutenant-Governor supplanted by Morgan), supported Vaughan, “Morgan was governed by his bro’r-in-law . . . a very ill man . . . they both have violent humours” and in 1683, as governor, he ousted Byndloss from all office on the grounds that he was “one of the worst men I know . . . he took a pirate’s false oath against me privately”. The acrimony continued into the following year with apparently more disrespectful behaviour to the Council when Byndloss was questioned about his petition to the King against his suspension from the Council of Jamaica.¹² In a letter dated 1687, he accused Morgan’s house-guest Colonel Barry, a very important islander, of smuggling slaves from an “interloper ship”, and, although he was forced to make the complaint official, Byndloss’s sudden death that year brought an end to the matter, and to Morgan’s acute embarrassment.¹³ Colonel Byndloss was a typical buccaneer, independent of spirit and impatient of authority; though courageous and loyal to Morgan, on occasions he foolishly goaded him into precipitate action. Privateers understood and esteemed him and, after their way of honouring distinguished persons, they named one of the Galapagos “Colonel Robert Bindloss Island”; his eldest son succeeded to Morgan’s fortune and name, and other descendants held high office in Jamaica.¹⁴ There is no account of Byndloss’s medical practice aboard or in Jamaica.

Richard Browne came to Port Royal in 1668 as medical officer on a fifth-rate naval frigate, the *Oxford*, with a letter of introduction from Lord Arlington to Governor Modyford. Two months later he was at Port Morant conducting an industrious correspondence with Secretary of State Williamson and possibly in temporary medical practice. The following year he sailed to join the Panama Fleet in the *Oxford*, now

¹⁰ CSPAWI, vol. v (1880), ed. W. N. Sainsbury, no. 1085, Modyford to Arlington, 16 November 1665, and vol. vii (1889), no. 543, Minutes of the Council of Jamaica, St Jago, 31 May 1671.

¹¹ CSPAWI, vol. ix (1893), ed. W. N. Sainsbury, no. 916, Vaughan to Lord Anglesey, 3 May 1676, and no. 998, Minutes of the Council of Jamaica, 4 July 1676, and no. 1129v, Morgan to Coventry (undated) received 2 September 1676; Edward Long, *History of Jamaica*, London, printed for T. Lowndes, 1774, vol. I, p. 597, see also p. 599; Cruickshank, *op. cit.*, note 1 above, pp. 238–9, see also pp. 242, 249.

¹² CSPAWI, vol. x (1896), ed. W. N. Sainsbury, no. 307, ‘Reflections on the state of Jamaica’ by Sir Thomas Lynch, 20 June 1677, and vol. xi (1898), ed. J. W. Fortescue, no. 1311, 16 October 1683, see also no. 1348, 2 November 1683, no. 1715 and no. 1779, 28 June 1684, Minutes of the Council of Jamaica; Cruickshank, *op. cit.*, see note 1 above, p. 248, see also p. 370.

¹³ CSPAWI, vol. xii (1900), ed. J. W. Fortescue, no. 1171, Statement of Colonel Samuel Barry, 3 March 1687, and no. 1301, Robert Byndloss to the Lords of Trade, 12 August 1687.

¹⁴ London, BL Sloane MS 45; Will of Sir Henry Morgan, Jamaica Archives, Spanish Town, Lib. of Wills 6, fol. 8; entered 14 September 1688.

Morgan's flagship, and, when its magazine exploded at the Isle à Vache, he "clambered on to a floating fragment" and managed to survive.¹⁵ Browne was aboard the new flagship gathering supplies but, after eighteen months "with no 'purchase' [spoils] . . . under a sluggish Commander" in Campeachy Bay, he left for the Cayman Islands until recalled by the Governor to be "Surgeon General to the fleet with 1500 men for some notable design on land".¹⁶ His enthusiasm for the expedition and adulation of Morgan were very evident: "Admiral Morgan . . . and his old privateers . . . know every creek and the Spanish mode of fighting".¹⁷ After the division of the Panama spoils the situation turned sour, with Browne estimating the "prey" at £70,000 and Morgan at £30,000. His correspondence now described the "complaints by wronged seamen" against their commanders and clearly showed his chagrin at not being allowed to accompany Morgan, "with other people's money in his pocket", to London to answer charges brought by the Spanish ambassador.¹⁸ In spite of his anger, he seems to have been honest in his comments about the campaign in general and absolved Morgan from the charge of cruelty on the field. Unfortunately, he does not appear to have burdened his aristocratic acquaintances with any account of his medical work in the West Indies or to have left any writings to fill this gap. A few personal details can be gleaned from his correspondence. Browne and his wife had influential patrons, such as John Knight, Sergeant Surgeon to the King, and more particularly, Sir Joseph Williamson who intervened to secure the lucrative post of "Clerk to the market at Port Royal" as well as "other signal favours" for Browne as compensation for his pecuniary disappointment at Panama. There is an extant biography of Richard Browne, apothecary of Oakham, whose dates—1654–1694—would fit but there is no indication of time spent in the Indies except that he wrote *A general history of earthquakes* in 1694 after the Jamaican disaster. Browne came from Oakham, was educated at Queen's college, Oxford, and was a graduate of Leyden, and in 1676 a Licentiate of the College of Physicians.¹⁹

The most famous buccaneering doctor of this period was Alexandre Olivier Esquemeling/Oexmelin, alias Henrik Barentzoon Smeeks (1643/?5–1721) of Zwollen in Overijssel. He wrote a small book in Dutch, *Die Americaensche Zee-Rovers* (published in 1678 by Janten Hoorn of Amsterdam), which achieved instant and continuing success, prompting biographers in France to claim him to be of French nationality on evidence at times conflicting with his own narrative.²⁰ Educated in an

¹⁵ Cruikshank, op. cit., note 1 above, pp. 98–9, see also pp. 100, 104–5; CSPAWI, vol. v (1880), ed. W. N. Sainsbury, no. 1892, 17 December 1668, Port Morant and vol. ix, Addenda (1893), no. 1207, 20 January 1669, Port Royal, Rich. Browne to Sir Joseph Williamson.

¹⁶ CSPAWI, vol. vii (1889), ed. W. N. Sainsbury, no. 227, 7 August 1670, Port Royal, Rich. Browne to Sir Joseph Williamson; Cruikshank, op. cit., note 1 above, pp. 104–5.

¹⁷ CSPAWI, vol. vii (1889), ed. W. N. Sainsbury, no. 293, 12 October 1670, at Hispaniola, Browne to Sec. Lord Arlington.

¹⁸ CSPAWI, vol. vii (1889), ed. W. N. Sainsbury, no. 608, 21 August 1671, and no. 798, 6 April 1672, Jamaica, Richard Browne to Sir Joseph Williamson; Cruikshank, op. cit., note 1 above, p. 196, see also p. 219.

¹⁹ *DNB*, vol. III, (1908), p. 55. Munk's *Roll of the Coll. of Phys.*, 1878, i, p. 391.

²⁰ Esquemeling, formerly Oexmelin in England, e.g. in "Letter", Charles to Lord Hatton 1687, *Hatton Papers*, 1601–1704, London, Camden Society, 1878; also in France, e.g. in *Nouvelle biographie générale*, ed. Dr Hoefer, Paris, 1864, vol. 38, p. 544; and in *Dictionnaire de biographie française*, ed. Roman d'Amat, Paris, 1976, vol. 13, p. 332, listing "Exquemelin" notes "Les bibliographes de la Bibl. Nat. l'appellent

orphanage, Esquemeling entered the service of the Dutch East India Company as a cabin boy in 1657. He became apprenticed to a barber-surgeon in Java, and returned to Holland in 1665.²¹ One year later, in the service of the French West India company, he was sold at Tortuga as an indentured servant to a brutal French buccaneer (Lieutenant-Governor, so Esquemeling claimed) when the French Company was dissolved. The surgeon who redeemed him for seventy pieces of eight, restored him to health and gave him a year's apprenticeship in the practice on condition he repaid one hundred pieces of eight when circumstances allowed.²² After the Brethren of the Coast had welcomed him into their Confederacy by "common consent both of the superior and vulgar sort", he served with French buccaneers before joining the Panama Fleet and augmenting the clamour against Morgan as "the dividend was made of all the spoil".²³ He sailed to Jamaica after this campaign by way of the coast of Costa Rica where he met "Indios bravos", then to Holland in 1672 to be a surgeon in Admiral Tromp's fleet, and in 1678 he was serving in a ship owned by the Levant Company. By 1680 he had given up the sea and was Municipal Apothecary at Zwolle, a post he held until 1721.²⁴

It is Esquemeling who provides the authentic detail of the care provided for sick or wounded buccaneers in the period up to, and a little beyond, the Panama expedition. Morgan's concern for his men was evident. He is said to have taken on board a supply of oranges when preparing for any enterprise. Before the Panama campaign he personally inspected every ship to see that it was well-equipped and clean, and during the tremendous march across the Isthmus, when resources were scanty due to the Spanish scorched earth policy, the sick were the first recipients of any food or shelter found.²⁵ The seriously incapacitated, who did not recover speedily, were sent back to the safety of ships left hidden off the coast for this purpose or, if they were too far inland, they were returned to already secured towns, some of which, such as Maracaibo, Porto Bello or Panama City, had hospitals.²⁶ Otherwise, suitable buildings would be adapted, as at Chagres (on the Panama expedition) where the seventy wounded were "carried to a church belonging to the Castle, of which they had made a hospital and where they also shut up the women", presumably to help in the nursing as these places were kept manned with doctors and were available to treat any casualties among the returning fighting men.²⁷ Because of the stifling heat and limited facilities the injured fared badly, and Morgan, arriving back at Chagres, found "the greatest number of the

Oexmelin". Cruikshank, *op. cit.*, note 1 above, p. 392, refers to Oexmelin as being mentioned in Michaud's *Biographie universelle*.

²¹ Cruikshank, *op. cit.*, note 1 above, pp. 373–4.

²² Adams, *op. cit.*, note 4 above, pp. x–xi.

²³ Adams, *op. cit.*, note 4 above, p. 15, see also p. 237.

²⁴ Adams, *op. cit.*, note 4 above, pp. 239–46; Cruikshank, *op. cit.*, note 1 above, p. 374, quotes a letter from Baron P. E. Mulert of Ammen about this appointment.

²⁵ Adams, *op. cit.*, note 4 above, p. 188; Cruikshank, *op. cit.*, note 1 above, pp. 165, 177.

²⁶ Adams, *op. cit.*, note 4 above, p. 87, "one hospital" at Maracaibo and p. 224, a hospital at Panama City; Lionel Wafer, *A new voyage and description of the Isthmus of America*, L. Elliot Joyce (ed.), Oxford, printed for the Hakluyt Society, 1934, p. 38, note 1, mentions the famous San Juan de Dios Hospital at Porto Bello; Dampier, *op. cit.*, note 3 above, p. 223, describes the hospital at Realejo/Rio Lexa with a "fine garden belonging to it"; Cruikshank, *op. cit.*, note 1, above, p. 28, Mings destroyed the hospital at Santiago (Cuba).

²⁷ Adams, *op. cit.*, note 4 above, p. 203.

wounded were dead through the wounds they had received". Among the casualties was Captain John Bradley who had survived for ten days with "both legs . . . mangled by cannon shot".²⁸ There is no indication of the type of treatment given, but further on the way to Panama, Esquemeling mentions that at Quebrada Obscura, after an Indian attack, ten wounded men were "dressed and plastered up".²⁹ It appears that enemy casualties received little attention. Esquemeling stated that after the capture of Porto Bello, "All the wounded [prisoners] were put into a certain apartment [*sic*] by itself, to the intent their own complaints might be the cure of their own diseases; for no other was afforded them".³⁰ In the treatment of serious wounds excessive bleeding was a problem. Esquemeling describes later a buccaneer on the Isle of Pines "so weakened by loss of blood that he lay as if dead", and it is noteworthy how interested Esquemeling was to see a little while before in the Bay of Bleevelt, monkeys running to one of their number shot by privateers to "lay their hands on the wound to hinder blood from issuing forth . . . to gather moss that grows upon trees and thrust it into the wound and thereby stop the blood" and to collect "such or such herbs and chewing them in their mouth apply them after the manner of a poultice or cataplasm".³¹ Esquemeling either did not know the "herbs" or wished to keep them for a secret nostrum; possibly included were the leaves of the of the wild pepper "matico", called after a Spanish sailor who had found them styptic. Both poultices and plasters had been in use since classical times for soothing pain and promoting healing in all stages of inflammation; cataplasms consisted of medicaments spread on animal skin, poultices were of meal/bread on a linen base immersed in boiling water and applied as hot as could be borne. Linen was also useful for cold compresses and dressings for wounds or sores, especially the burns resulting from the "stinkpots", Spanish firejars, in which resin added to the gunpowder caused burning fragments to adhere to the skin with results somewhat like napalm wounds.³²

The too frequent avoidable injury caused Esquemeling great annoyance. In the attack on Tobago Castle 1676, fireballs thrown by the buccaneer army of de Estres landed near the magazine, "on this path was much powder scattered . . . by the negligence of those that carried it . . . [and so] the whole castle was destroyed". This was rather reminiscent of the explosion on the *Oxford* attributed to the French prisoners aboard, but Esquemeling castigated the pipe-smoking privateers drinking "many healths" and discharging "many guns as the common sign of mirth among seamen".³³ He warned also against the "torments" of the region:

Insects: "mosquitos or gnats, blood-suckers, big as horseflies", "red gnats" (*bête rouge*) whose sharp bite caused ulcers as "the face swells and is rendered hideous"; flies

²⁸ Adams, *op. cit.*, note 4 above, p. 237; CSPAWI, vol. vii (1889), ed. W. N. Sainsbury, no. 504, Morgan to Modyford, 2 April 1671; Cruikshank, *op. cit.*, note 1 above, pp. 170–2.

²⁹ Adams, *op. cit.*, note 4 above, p. 203, see also p. 215.

³⁰ Adams, *op. cit.*, note 4 above, p. 146; Ure, *op. cit.*, note 2 above, p. 27, both sides at Porto Bello suffered fevers and foot rot.

³¹ Adams, *op. cit.*, note 4 above, p. 256, describes a buccaneer after an attack by a crocodile; on p. 246 he relates the behaviour of the monkeys.

³² Adams, *op. cit.*, note 4 above, p. 201; Cruikshank, *op. cit.*, note 1 above, p. 171.

³³ Adams, *op. cit.*, note 4 above, p. 145, see also pp. 151–2, 272; Cruikshank, *op. cit.*, note 1 above, pp. 105, 152; the Teignmouth Museum has an example of a "fireball"/grenade from the French attack on the town in 1690. Accidents were not unusual in the seventeenth century with powder stored in open casks.

Buccaneering Doctors

small as a grain of sand silently penetrating the finest cloth (“hunters cover themselves with hogs grease to avoid their stings” and “burn tobacco leaves to smoke them out”); tarantulas with “four black teeth like a rabbit” whose sharp bite “causes some inflammation and swelling” but the “symptoms disappear of their own accord” without “any medicament for their care”, unlike the bites of the spiders on the Isle of Ruba (twelve miles from Curaçoa) “so pernicious that if any man is bitten by them he dies mad. And the manner of recovering such persons is to tie them very fast both hands and feet . . . for the space of four and twenty hours without eating or drinking the least thing imaginable”.³⁴

Reptiles, crabs and vermin: vipers on Ruba; on Hispaniola, land and sea crabs (which, if over-indulged in, occasioned dizziness and blindness for a quarter of an hour); and vermin: rats were a perennial nuisance in the maize stores.³⁵

Poisonous trees on Hispaniola: the wine palm fruit if eaten produced “huge and extreme throat pains and malignant quinsies”; the genipa tree (resembling the cherry) its fruit “full of prickles . . . under a thin membrane” and if not removed before eating caused “great obstruction and gripings of the belly”, and the dread manchineel (*hippomane mancinella*/dwarf apple-tree) whose acid, poisonous fruit made the eater change colour and die “raving mad from thirst”, while the caustic sap on contact with the skin raised “red blisters like deep scalds from hot water”. Esquemeling cut a branch to serve as a fan with the result that his “face swelled up next day . . . covered in blisters as if burnt and he was blind for three days”.³⁶

As well as these hazards, buccaneers were at risk from the diseases which bred in the unhealthy regions they visited; even in evacuated towns they often found the sick had been left behind, possibly with intent as a source of infection, like the “poor distressed old man . . . alone in Maracaibo”. Morgan’s men stayed fifteen days in Porto Bello “with its malignant pools”, not only, as reported, did “sickness break out among our troops of which we lost half”, but the “plague” was conveyed to Jamaica, killing Governor Modyford’s wife.³⁷ Morgan himself was so ill with fever after Panama that he could not accompany Modyford to London at the King’s behest. Esquemeling makes it clear that men who could endure thirst, hunger and exposure, marching “up to their middles in water for the space of half or whole miles together while prisoners with them died”, were made susceptible to illness by the privateering way of life.³⁸

³⁴ Adams, op. cit., note 4 above, p. 28—flies; pp. 31, 156—spiders; cf. Raleigh’s cure for curare poisoning—to drink nothing before the wound is dressed or “soone upon it—[otherwise] there is no way but present death”, Timothy Severin, *Golden Antilles*, London, Hamish Hamilton, 1970, pp. 66–7.

³⁵ Adams, op. cit., note 4 above, p. 156—vipers; p. 9—crabs; CSPAWI, vol. v, op. cit., note 2 above, no. 1142i, March 1666, Modyford to Albemarle, enclosed was the Narration of Capts. Henry Morgan, Jackson and Morris describing Segovia (north Nicaragua) “plenty of food and was free from vermin”.

³⁶ Adams, op. cit., note 4 above, pp. 14, 25, 27, 29; Esquemeling was familiar with scalds from the food cauldrons kept on the boil all day aboard, cf. Teignmouth Museum and Historical Society, *Wreck on Church Rock Teignmouth*, 1988, pp. 18, 21–2, describes two round bottomed, bronze cauldrons with angular lug handles, 2 feet in diameter by 30 inches high, one containing animal, fish and bird bones, the other, pitch for caulking from a late sixteenth-century vessel wrecked off the south Devon coast.

³⁷ Adams, op. cit., note 4 above, p. 166; CSPAWI, vol. vii, op. cit., note 10 above, no. 1899, Statement of John Doglar, 7–17 January 1669, and vol. v, op. cit., note 2 above, no. 1838, Information of Admiral Henry Morgan and his officers, Port Royal, September 1668.

³⁸ Adams, op. cit., note 4 above, p. 165. Prisoners possibly succumbed to heat exhaustion through exertion in excessive temperatures, or, if in a weakened condition, to waterborne infections and infestation by leeches or the ova of intestinal parasites.

Their staple diet was “flesh” in large quantities, well-salted. They drank “brandy as liberally as the Spaniards do clear spring water” and with their “debauchery quickly wasted in the taverns all they had gained”. “Death suddenly surprised” Mansvelt (Morgan’s predecessor) in 1662 while strenuously gathering recruits to safeguard Old Providence.³⁹ On long expeditions there was often a reversal of circumstances when instead of a surfeit, privateers suffered prolonged lack of food. French buccaneers under L’Ollonais at Cape Gracias à Dios (east Nicaragua) “perished through faintness and other diseases contracted by hunger” consuming “their own shoes” and “sheaths of swords” as they searched for Indians to kill and eat.⁴⁰ Esquemeling told the same story about Morgan’s men on the Isthmus, elaborating on how leather could be made edible. The first day after leaving Chagres they had no food, “only a pipe of tobacco”, then, a little later at a village called Cruz, they ate a few stray dogs and cats together with a leather sack and the few crumbs of bread inside, washing it down with “16 jars of Peru wine”. Inevitably they fell ill “and believed that they had been poisoned” as the “sickness lasted all that day and night”. Esquemeling’s diagnosis was “huge want of sustenance . . . and the manifold sorts of trash which they had eaten”⁴¹ Presumably time was the healer as no medicine is mentioned and although Esquemeling lists the healing herbs and trees of Tortuga and Hispaniola, he omits their medicinal use on the grounds that their virtues were very well known:

Lignum sanctum or *guaiacum* (*lignum vitae/guaiacum officinale*): also found on Savona Isle; its resin was used to treat rheumatism and inflamed tonsils, as today in some throat lozenges.

Gummi elemi tree: the gum “used in our apothecary shops” to add fragrance to ointments.

Radix chinae, Chinese ginger: the “colic root” mixed with purges to prevent griping, used to flavour medicine and given for relief of flatulence. Esquemeling called the West Indian variety “very white and soft . . . inferior to the plant from other parts” a reference to the aromatic root of the Asian lesser galangal, a mild ginger, from Ge in Canton.

Aloes and *Lignum Aloes*: “one of the infinite number of other medicinal herbs” found in the region; the dried juice (*aloe vera*) is a simple purge generally combined with other substances to avoid griping, used to treat dropsy (removing fluid) and in apoplexy to prevent straining at stool.

Cassia lignea (*quassia picroena/quassia amara*): its bark, wood and root were used in various preparations, internally as a bitter tonic, in infusions to expel thread worms, and externally as an insecticide.

Esquemeling also mentions the mapou tree along with “several others” (unnamed) as medicinal.⁴² His acquaintance with all these shows the activity of the Spanish physicians and apothecaries in building up a thriving export industry. Monardes

³⁹ Adams, op. cit., note 4 above, p. 40, see also pp. 71, 72, 123.

⁴⁰ Adams, op. cit., note 4 above, pp. 117–18.

⁴¹ Adams, op. cit., note 4 above, pp. 206–12.

⁴² Adams, op. cit., note 4 above, pp. 7–8, 26.

stated “not only Spain is provided with this product [*cassia fistola*] but all of Europe and nearly the whole world”.⁴³

Even at this early stage, Esquemeling appears to lean more towards the apothecary’s role which he ultimately assumed than to that of the surgeon. He only once mentions an instrument, and then in passing, while describing “an arrow used by Indios bravos” which had “at its other end” little pebbles in “a certain case or box like the case of a pair of tweezers”; from the dimensions he gives the arrow/spear (8 foot long and as thick as a man’s thumb) and his illustration (if to scale), the box would be about the length and width of a modern A4 sheet of paper.⁴⁴ Forceps would have been essential for removing splinters and shrapnel and, although he does not refer to it, a knife/lancet would have proved a useful accessory. Phlebotomy was very popular in the seventeenth century—the Governor of Panama had been “blooded three times for an erysipelas in his right leg” when Morgan attacked the city.⁴⁵ On first coming to Tortuga, Esquemeling survived “a certain disease called Coma, suffered . . . by servants . . . total privation of all their senses” brought on by hard usage. His recovery from this “dangerous fit of sickness” was accomplished by rest, good food, adequate clothing and accommodation, and this seems to have been the type of treatment provided in the temporary hospitals for the diseases of these “rugged and well seasoned” patients.⁴⁶ In the preparation of the dressings, plasters/cataplasms and poultices, which he used to tend injuries and wounds on the march, essential equipment would have been a pestle and mortar, a spatula for spreading/stirring (possibly doubling as a flat probe), and the kettle, carried by buccaneers for making chocolate, to provide the hot water for poultices, and softening or melting medicaments.⁴⁷

The next first-hand accounts of privateering medicine come from the Journals of Basil Ringrose, William Dampier and Lionel Wafer, participants in two expeditions: that of the seven captains “Coxon, Sawkins, Sharp and others”, namely Cook, Harris, Alleston and Macket, and Captain Cook’s enterprise in 1683. The seven captains left London in 1679 to join up with French vessels near the Gulf of Darien for “pillage and plunder in those parts”.⁴⁸ Crossing the Isthmus, they attacked Santa Maria, fought a naval battle in Panama Bay, sailed north and assaulted Puebla Nueva, south to La Serena (Chile) and failed in an attempt on Arica. At the Isla de Plata, a group, including Wafer and Dampier, left to return to the Caribbean via the

⁴³ M. Fernández-Carrión and J. L. Valverde, “Research note on the Spanish-American drug trade”, *Pharm. in Hist.*, 1988, 30: 1, p. 32, n. 18 (Nicolás Monardes); Sydenham’s researches into the use of chinchona bark (quinine) for ague were famous.

⁴⁴ Adams, *op. cit.*, note 4 above, p. 247.

⁴⁵ Adams, *op. cit.*, note 4 above, p. 95: Spanish guns “loaded—with pieces of iron”. Splinters in English oak ships caused the greatest number of casualties, but crews would not use oak ships, although more splinter-proof, believing the wood caused wounds to fester. Cruikshank, *op. cit.*, note 1 above, p. 170.

⁴⁶ Adams, *op. cit.*, note 4 above, pp. 14–15, see also 49–50; Cruikshank, *op. cit.*, note 1 above, pp. 148–9, quotes Modyford; “well seasoned” i.e. completely acclimatized, having long since survived “the Seasoning” a so-called disease believed to attack all newcomers to the region, cf. Sloane, *op. cit.*, note 9 above, p. xcvi.

⁴⁷ Adams, *op. cit.*, note 4 above, p. 47.

⁴⁸ Adams, *op. cit.*, note 4 above, p. 275; Ringrose, *The dangerous voyages and bold assaults of Captain Barth. Sharp*, begins on p. 275.

Isthmus. Ringrose continued cruising the coasts with the main party and taking prizes, including the famous *San Rosario*, until rounding the Horn, they made for Antigua where the crew dispersed in 1682 with money to spend at a common feast or drinking bout while Ringrose made for England. Captain Cook set out from the Isle of Ash for the South Sea in 1683 and *en route* joined up with captains Swan and Eaton. Dampier and Wafer came aboard in Chesapeake Bay, then Cook made for the Cape Verde Islands where they took prizes, a Dutch cargo including “limmon” and a Danish ship to which they transferred for the voyage to Patagonia. Near the Falklands they encountered Swan’s ship with Ringrose on board as super-cargo, and a little later met Eaton. After separations through bad weather and various re-encounters, Davis (Cook’s successor) and Swan combined with French privateers for an attempt on the Spanish Treasure Fleet, and then plundered Leon and Realejo before finally parting company. Davis cruised the coasts of Peru and Chile, rounded the Horn in autumn 1687 and returned to the Caribbean. Swan, with Dampier now aboard, sailed the Central American coasts until 1686, but, when a party of his men, including Ringrose, was ambushed and killed ashore, he made for the East Indies. At Mindanao the crew mutinied and set sail leaving Swan and the ship’s surgeon to die later in a native ambush. The ship, in the hands of a diminishing and disorderly band of seamen, finally foundered in Augustin Bay, Madagascar.

Although little information is available about Basil Ringrose before 1680, he seems to have had earlier buccaneering connections. Sharp often gave him command of a small company and he was an excellent navigator, well-known for his courage and great physical strength. His account covers only the first expedition reiterating the trials of a journey over the Isthmus and the arrival near Panama, “in a very unfit condition”, for the hard-won battle of Perico where Ringrose, despatched to assess the situation, found the enemy crews killed or seriously incapacitated, some with severe powder burns. After he “compassionated their misery”, the wounded buccaneers, including Captain Harris “shot through both his legs”, were housed on the Spanish flagship until a more suitable vessel was converted to a “hospital” (still far from ideal with worms almost an inch long in the beds) and all recovered apart from Captain Harris.⁴⁹ On Cayboa Island the “mançanilla tree” caused Ringrose “to break out all over . . . into red spots” (not blisters like Esquemeling) so that he was not well for a week. Then their pilot died of a “calenture or malignant fever after three days of sickness . . . two days senseless” and when they returned to the Isle of Plate in July their necks peeled in the hot sun and Ringrose’s lips were very badly burnt.⁵⁰ Before they had left the Gulf of Panama, drunken crewmen attacking Tavoga Island caused a dangerous fire; later, during a sea engagement, a privateer was injured by a companion’s negligent handling of a pistol, provisions ran short and scurvy broke out. It is little wonder the Spanish captain, a prisoner seven months aboard, was “taken very frantic” and on the following day continued only “indifferent well”—Ringrose, who gave the reason as “too much hardship and melancholy”, reflected privateers’ low opinion of Spanish powers of endurance and did not mention any

⁴⁹ Adams, *op. cit.*, note 4 above, p. 279, see also pp. 283–4 291–3, 307–12.

⁵⁰ Adams, *op. cit.*, note 4 above, p. 321, see also pp. 330, 341.

treatment for the serious burns on both hands the captain had suffered since the battle of Perico.⁵¹ Eleven days after leaving La Serena in Coquimbo Bay, a buccaneer died of a “surfeit” attributed to over-indulgence in alcohol ashore which produced a “malignant fever and hiccough” (possibly a waterborne infection as the sluice-gates had been opened there); a little while later a ship’s master died of “dropsy”.⁵² During the retreat from Arica, the surgeons tending the wounded in a hospital compound were so drunk they refused to leave the city and they were captured by the Spaniards. All but a Mr Bullock were sent to Panama where it seems, they were welcomed, especially by the women.⁵³ Early in 1681 Ringrose could not keep up his journal for a few weeks because of illness, and in the autumn he was writing of the distemper which “hung upon” him still. Then followed entries that he was “very much tormented with the gripes”—an incident from the preceding summer at Golfo Dulce probably had some bearing upon his later symptoms. The crew had been cleaning out the hold when they “fell totally blind with the filth and nastiness” and, although they recovered in the fresh air, one privateer was “ill ever since” and died six months later. His death construed as manzanilla poisoning.⁵⁴ On the voyage back around the Horn Ringrose penned a sad note, “In the afternoon . . . our Chief Surgeon cut off the foot of a negro boy which was perished with cold”, and two days later, “Yesterday died the boy whose leg was cut off”. The death occurred at a time when daily rations were down to “one cake of boiled bread” and one measure of water, in living conditions, at times, extremely cramped, nearly 200 persons on one ship.⁵⁵

Ringrose has been described as “a young doctor from Port Royal” but his Journal gives little indication of this, although he does make one important observation about the Indians of Iquique Isle: “they eat much and often a sort of leaves . . . the taste much like our bay-leaves”, a reference to the shrub *erythroxylin coca* whose leaves are still chewed by the silver-miners of Potosi for its pungent taste and action as a nerve-stimulant, being the source of the alkaloid cocaine.⁵⁶ Ringrose was a man of education, able to converse with Spaniards in Latin and rescue his companions from a tricky situation; he merited Dampier’s label “ingenious”, able to turn his hand to several trades, so perhaps at some time he had served as surgeon’s mate.⁵⁷

A monument in East Coker (Somerset) addressing Captain William Dampier as “Circumnavigator, Buccaneer, Scientist” records both Nelson’s and Humboldt’s tributes to his accuracy and closeness of observation, attributes which make his

⁵¹ Adams, *op. cit.*, note 4 above, p. 315, see also pp. 347, 379; cf. Wafer, *op. cit.*, note 26 above, Preface to 2nd ed. 1701, p. lxix, on the Spaniards: “it would require some years to innure [*sic*] them to the Hardships and Fatigues of War”.

⁵² Adams, *op. cit.*, note 4 above, p. 392, see also p. 398.

⁵³ Adams, *op. cit.*, note 4 above, p. 412, see also p. 449.

⁵⁴ Adams, *op. cit.*, note 4 above, p. 414, see also pp. 435–8, 470–1, 475, 494.

⁵⁵ Adams, *op. cit.*, note 4 above, p. 351, see also pp. 361, 486. Conditions for surgery were very grim with little space and less hygiene, anaesthetics *per se* were non-existent and the patient suffered considerable shock in spite of the administration of analgesics such as alcohol, laudanum or opium.

⁵⁶ Adams, *op. cit.*, note 4 above, pp. 406–7 and footnote; Rosita Forbes, *Sir Henry Morgan*, London, Cassell, 1948, p. 211; Dampier, *op. cit.*, note 3 above, pp. 271–2.

⁵⁷ Dampier, *op. cit.*, note 3 above, p. 271.

account of the expeditions valuable, although he was not a medical man. In 1679 he was about to return to his wife (a relation of the Duchess of Grafton) with the deeds of a small estate in Dorset which he had just purchased, when he suddenly left Port Royal and joined Sharp. His account of the first expedition detailed the harrowing return across the Isthmus, which rendered some of the company “weak and sickly”, and the Darien healers who cured the surgeon’s burns “with certain herbs” chewed to a paste and applied on a plantain leaf (reminiscent of Esquemeling’s description of the monkeys’ preparation of a poultice).⁵⁸ Dampier gave further warning with regard to the manchineel tree, that even animals which had consumed its fruit were not safe to eat. It was best to be guided by birds and eat the same fruit as they. He also supplied the useful information that buccaneers had dug wells on the Isle of Aves for safe drinking-water and that Cape Blanco (Gulf of Nicoya), a low, dry and healthy place, produced *lignum vitae* and a considerable quantity of guano lizards for invalid broth.⁵⁹

At the start of the second expedition, when driven off course to the coast of Guinea, they were obliged to stay at a town south of Sierra Leone. Later in the voyage, many of the crew went down with “Fevers”, two died, including one of their surgeons and they were forced to set up a sickbay at Juan Fernández Island, off the coast of Chile, using tents made from spare sails or shelters of branches and foliage, for a full sixteen days’ stay.⁶⁰ One of Eaton’s four doctors remained to tend the sick, feeding them goat (fresh not salted) and “several herbs which grew on the Island and in the Brooks”, as apparently there were among the fever sufferers patients with “Diseases chiefly Scorbutic”. Although no mention is made of Wafer, he was Cook’s surgeon aboard and it is highly probable he was also on the island gaining useful experience with Eaton’s doctor.⁶¹ Several others of the crew, infected with the “sickness” there, fell ill at Trujillo. Indeed Captain Cook had to be brought ashore for treatment at the second Galapagos Island where he remained in his tent for two weeks, and on the way to Realejo, although his condition had seemed stable, about three leagues off Cape Blanco he suddenly died. Dampier made the strange observation that it was “usual with sick men” leaving the sea-air “to die off as soon as ever they come within view of Land”.⁶²

Following the raid on Leon and Realejo, another serious attack of fever occurred, the buccanners declaring that the infected houses or polluted water had caused them “to fall down apace” and to lose half their comrades (clearly they recalled the European plague passed by physical contact with even a victim’s possessions). But in this instance, both their arrival in the hot season near the swampy breeding-place of mosquitoes and the incubation period would be compatible with an attack of yellow fever. Wafer, tending the desperately ill crew in the other ship, gave a different diagnosis, “Spotted Fever”.⁶³ Swan and the invalids were brought ashore at Guatulco,

⁵⁸ Dampier, op. cit., note 3 above, pp. 14, 19.

⁵⁹ Dampier, op. cit., note 3 above, p. 39, see also pp. 49, 51, 57.

⁶⁰ Dampier, op. cit., note 3 above, pp. 79–80.

⁶¹ Dampier, op. cit., note 3 above, p. 91.

⁶² Dampier, op. cit., note 3 above, p. 93–4, see also pp. 98, 109, 113.

⁶³ Dampier, op. cit., note 3 above, pp. 221–3 (these pages in this edition are incorrectly numbered).

the best harbour in Mexico, by the surgeon while Captain Townley went with the canoes to fetch “refreshment” for their convalescence, so that by the tenth day they were all “pretty well over the fever”.⁶⁴ Cruising to Cape Corrientes from Mexico, Dampier himself was ill “of a fever and Ague . . . that afterwards turned into a Dropsie . . . a Generall Distemper on this coast”, which killed many of his crewmates in spite of the surgeons’ “greatest skill”. This was the “violent tertian or quartan” which Sydenham, like Celsus before him, had observed to produce “accidents of sundrey Kindes as jaundice dropsies”.⁶⁵ It was a distemper he found hard to shake off without treatment. He was laid down on a beach (in the Marias Islands), covered in hot sand up to his head for about half an hour, then carried into a tent and left to perspire—the profuse sweating aroused “did him much good” as he grew well soon after, short rations completed the cure.⁶⁶

After arriving in Mindanao, Dampier described “a kind of leprosie” which was very common there and in Guam. The symptoms were a dry scurf which spread over the body causing “great itching” so that the sufferer frequently “scrubbed and scratched” lifting the skin “in small whitish flakes like fish scales when raised on end with a knife”; the skin became extremely “rough” and in some cases “broad white spots” were visible in several places. Dampier had examined patients who were cured (no longer scratching) and their skin was smooth; he had also looked at white spots which he was told “were from this Distemper”. Patients were not isolated and the islanders did not “make any great matter of it”, although the buccaneers avoided contact. Dampier saw no treatment being given so could not tell if they had a cure for the disease or if went away of itself, and he does not mention the possibility of venereal infection of which he would surely have been aware as it was common among European seafarers.⁶⁷ He noted the islanders were also troubled by smallpox (the “Generall Distemper” brought by the Spaniards to the Indies and Americas) and that their “ordinary Distempers were Fevers, Agues, Fluxes, with Gripeing in their Guts”.⁶⁸

Escaping from the mutineers in an open boat, Dampier, “chilled to the bone” by three days of torrential rain, arrived in Sumatra suffering “severe fever” and, lacking medical help, tried to bleed himself—an accepted treatment for pneumonia almost up to the present century. Proceeding to Achin, he relapsed into “fever” and was persuaded to take three large doses of “Purging Physic” from a highly recommended Malayan doctor, which took away the fever for a week but rendered Dampier nearly suicidal from continuous diarrhoea and the fact that the fever returned for another

⁶⁴ Dampier, *op. cit.*, note 3 above, p. 230, see also pp. 232–3, 236–7.

⁶⁵ Dampier, *op. cit.*, note 3 above, pp. 255–6; BL Ms Locke c 29. ff. 25–28, “Febres Intermittentes”, Kenneth Dewhurst, *Dr Thomas Sydenham, 1624–1689*, Publications of the Wellcome Historical Medical Library, Historical Monograph Series, vol. 10, London, 1966, p. 133; Celsus, *de Medicina*, III, 21, 1–2.

⁶⁶ Dampier, *op. cit.*, note 3 above, p. 276, see also pp. 68, 282; food was restricted during actual treatment.

⁶⁷ Dampier, *op. cit.*, note 3 above, p. 297, see also p. 334; Teignmouth Museum and Historical Society, *op. cit.*, note 36 above, p. 24 describes mercury globules from original encrustation in a late sixteenth-century wreck; Dr Cooper commented upon its use aboard for syphilis; James Yonge of Plymouth Naval Hospital received £120 p.a. for treating syphilis and travelled to his London clinic in the “flying coach”—Maurice Ashley, *Life in Stuart England*, London, B. T. Batsford, 1967, p. 52, see also pp. 57–8, 162.

⁶⁸ José G. Rigau-Pérez, “Smallpox epidemics”, *J. Hist. Med. Allied Sciences*, 1982, 37: 424–7.

year accompanied by “flux”.⁶⁹ On his homeward journey in an English trading-ship Dampier encountered a mysterious malady which affected almost everyone aboard and “stole so insensibly upon us . . . we could not say we were sick, feeling little or no pain”. Indeed, the thirty men who died would not stay in their cabins or hammocks until forced to lie down through exhaustion, and then “they made their wills and piked off in two or three days”. From the symptoms’ gradual onset, extreme exhaustion at physical exertion and severe depression, added to the almost magical effect of fruit high in Vitamin C (tamarinds) given to the survivors by the captain, it must have been a very serious attack of scurvy.⁷⁰ Before finally reaching England they called in at “Santa Hellena Island” (St Helena), famous for its facilities for curing sick seamen, who after long voyages were “troubled more or less with Scorbutic Distempers”, but after being bathed with delicate herbs to “supple their joints” and fed fruit, herbs and fresh food, in one week, men carried ashore in hammocks had been “able to leap and dance”.⁷¹

Dampier included advice on health matters. He had found great benefit from washing morning and evening in a hot climate, especially when suffering from flux. Other useful tips were that the trunk, loggerhead and hawksbill turtles, which feed on moss from rocks, provoke vomiting and diarrhoea if eaten; old betel nuts cause giddiness and too much penguin fruit produces “heat or tickling in the fundament”.⁷² He described some native remedies, praising especially the healers of Mindanao, where “a great many drugs and medicinal herbs” were grown, but detailing only three: sago, dried “like little seeds or comfits”, exported for the treatment of flux and taken in milk; “smaller plantains” unique to the Island again good for flux; and betel nuts (which the natives chewed incessantly), “wholesome for the stomach” and excellent for the gums.⁷³ On Celebes he found a “certain vine”, about 12 feet high, with very green leaves, broad, round and thick, growing about 5 feet from the top; he had heard about this plant from a traveller, who had been given the “receipt” for “old ulcers” in the Isthmus, and all Dampier’s company pounded the leaves and boiled them in hog’s lard creating “an excellent salve”.⁷⁴ On the coast of Canton, Dampier discovered Chinese drugs (not named), among them China Root which he had seen in Jamaica and the Bay of Honduras. In line with the more exotic remedies of the time he quoted a “receipt” from an “Almanac made in Mexico . . . for treating Fever and Ague turning to Dropsie . . . The stone or cod of an alligator . . . pulverised and drunk in water”, this remained untried as they could not find one.⁷⁵

Mr Coppinger, surgeon’s mate on Swan’s ship, is first mentioned as purchasing from natives off the South American coast “ambergrise”, but in Dampier’s opinion it was suspect compared with some owned by another surgeon, Mr Hill. At Mindanao, Coppinger, like Dampier “not privy” to the mutiny, was forced to sail with “this mad

⁶⁹ Dampier, *op. cit.*, note 3 above, pp. 501–3.

⁷⁰ Dampier, *op. cit.*, note 3 above, p. 449, see also p. 542.

⁷¹ Dampier, *op. cit.*, note 3 above, pp. 547–8.

⁷² Dampier, *op.*, note 3 above, p. 330, see also pp. 103, 263, 319.

⁷³ Dampier, *op. cit.*, note 3 above, p. 334, see also pp. 311, 316, 319.

⁷⁴ Dampier, *op. cit.*, note 3 above, p. 449.

⁷⁵ Dampier, *op. cit.*, note 3 above, p. 256.

Buccaneering Doctors

crew”, so they joined forces, planning to escape.⁷⁶ Coppinger slipped away at Coromandel and made for Luconia where he joined up with some old shipmates, including John Fitzgerald, and procured a native craft to sail to the Danish colony of Trangambaer. There he was well received and set himself up as a surgeon.⁷⁷ Both he and Dampier were Westcountrymen and met later in England. The Coppinger clan, Danish in origin, settled in Ireland and north Devon where local records note: “Cruel Coppinger”, an eighteenth-century “Fair Trader” (i.e. pirate/smuggler) and former Royal Navy surgeon, married to an heiress at Hartland.⁷⁸ Mr Coppinger doubtless gained valuable experience tending the many patients on the second expedition and he had sufficient knowledge of anatomy to perform post-mortem examinations which had been requested by two crewmen when they fell mortally sick after leaving Mindanao. They wished to prove that, like their sixteen companions who died on the island, they had been killed by the natives with a “slow, lingering poison”. He found the dead men’s livers “black, light and dry like pieces of cork”, but how much of this cirrhosis was due to alcohol-abuse Dampier did not relate.⁷⁹

Lionel Wafer also served in both expeditions, but his account deals chiefly with their journeys over the Isthmus and descriptions of its inhabitants, flora and fauna. Most of the information about his life is gathered from his writings, from which he emerges as a cheerful, likeable young man, very proud of his medical prowess. He stated that he was familiar with the Scottish Highlands and knew the Gaelic language; on the Isthmus he was fascinated by the similarity between the Cuna method of reckoning numbers and the Celtic.⁸⁰ His family was of Huguenot descent and it has been suggested that his father was a soldier. He was an adventurous lad, at sea in 1677, “very young”, “Loblolly boy”, surgeon’s assistant, on an East Indiaman. Almost immediately on his return two years later he embarked as surgeon’s mate on an official letter-carrier to the West Indies to see his brother (apparently his only relation) who was employed on Modyford’s plantation near Port Royal and who set Lionel up in a house where for several months he practised surgery.⁸¹ Surprisingly, he left a potentially lucrative practice to accompany Cook and another privateer, ostensibly to Cartagena for logwood, but in reality to join the forces at the Bastimentos where he first met Dampier.⁸² His journal described the journey over the Isthmus breaking off at the taking of Santa Maria because Ringrose and Dampier had covered the narrative. He made it clear that he was not among the drunken surgeons at Arica but with the ships, and that he sided with Dampier when the company divided for the return across the Isthmus.⁸³

He took up the story again on the fifth day of their march (May 1681) when the “accident befel” him as he sat beside a companion who, carelessly “drying of

⁷⁶ Dampier, *op. cit.*, note 3 above, p. 73, see also pp. 373, 402.

⁷⁷ Dampier, *op. cit.*, note 3 above, p. 483, see also p. 507.

⁷⁸ Dampier, *op. cit.*, note 3 above, p. 388; records in Appledore Maritime Museum.

⁷⁹ Dampier, *op. cit.*, note 3 above, p. 398, Swan’s surgeon was killed with him in an ambush at Mindanao.

⁸⁰ Wafer, *op. cit.*, note 26 above, pp. xiii–xiv, see also pp. 108–9.

⁸¹ Wafer, *op. cit.*, note 26 above, p. xv, see also pp. 1–3.

⁸² Wafer, *op. cit.*, note 26 above, p. xvii, see also p. 3; BL Sloane Ms 49, John Cox Statement, their objective “to take Portavello”.

⁸³ Wafer, *op. cit.*, note 26 above, p. xxi, see also pp. 3–4, 121.

Gunpowder in a Silver Plate”, caused an explosion which burnt Wafer’s knee so that “the Bone was left bare . . . and [his] Thigh burnt for a great way above”. In Dampier’s account Wafer was drying the powder when a man passed smoking.⁸⁴ Wafer applied to the injury “such Remedies as [he] had in [his] Knapsack” and magnanimously omitted to say that when Captain Coxon and his surgeon left after the battle of Perico they stealthily took the best of the “medicines” with them. His attempt “to jog on” was abandoned when the slaves, including his “particular attendant” who carried the “Medicines”, deserted taking the only means of dressing his “Sore”. He was obliged to stay in an Indian village with a couple of companions, including Richard Gopson who served an apprenticeship with a London druggist and loved to translate his Greek New Testament “extempore”.⁸⁵ The Indians applied to Wafer’s knee “herbs . . . chew’d in their Mouths to the consistency of a paste” laid on a “Plantain Leaf” and within twenty days by the use of this “Poultess . . . applied fresh everyday” he was cured, apart from a weakness in the knee which remained for some time, and a “Benumbedness” which did not leave him.⁸⁶ After an unsuccessful attempt to return to the main party, “Hunger and weariness” forced them to enter an Indian plantation where, as Wafer fell into a “swoon” they were allowed to rest before being conducted to the Chief’s house. This gave Wafer the opportunity to observe native medical practice and to demonstrate his own skill. One of the Chieftain’s wives, being “indisposed”, was to be “bled”, seated naked on a stone in the river while a warrior with a small bow shot at speed into her whole body arrows specially gaged to penetrate no deeper than “we generally thrust our Lancets” and if a vein was hit, “which is full of wind” causing the blood to spurt out slightly, there was general rejoicing at the success. When Wafer declared he had a better, less painful way, he was asked to demonstrate, and binding up the arm with a piece of bark, he breached a vein so that blood streamed out and, in spite of threats to have “his heart’s blood”, he continued to draw about “12 ounces”, advising rest till the next day, by when the fever had abated and the patient did not have another “Fit”. Wafer was honoured as “Superiour” doctor and “lived in great splendour” being carried in a hammock to administer “Physick and Phlebotomy” as required. He explained that, although he had lost the bulk of his “Salves and Plaisters” in his stolen knapsack, he still had a “Box of Instruments and a few medicaments wrapt in an Oil Cloth” which he had kept as usual in his pocket.⁸⁷

Wafer returned to the buccaneers’ ship adorned like a native and was not recognized for over an hour, but it took him a month to remove all the paint and his skin came off with it. He tried unsuccessfully to remove a kind of tattoo with his lancet from the cheek of a fellow crewman with “much scarifying and fetching off a great part of the skin”.⁸⁸ Wafer resumed his account of the second expedition with the illness which struck down Davis’s crew after leaving Realejo when the sick were tended

⁸⁴ Wafer, *op. cit.*, note 26 above, p. 4; Dampier, *op. cit.*, note 3 above, p. 14.

⁸⁵ Wafer, *op. cit.*, note 26 above, p. 5; BL Sloane Ms 49, John Cox Statement: Coxon and surgeon “left without regard for the poore wounded men”.

⁸⁶ Wafer, *op. cit.*, note 26 above, p. 6.

⁸⁷ Wafer, *op. cit.*, note 26 above, pp. 7-19; the native procedure was potentially dangerous although on this occasion the arrow caused only a little blood to spurt out from an artery.

⁸⁸ Wafer, *op. cit.*, note 26 above, p. 27, see also p. 83.

for several weeks in huts built on an island in the Gulf of Amapala (Honduras). Wafer, who visited them every day, escaped the infection which he diagnosed as “Spotted Fever” (probably tick typhus producing a high mortality rate in adults and slow convalescence).⁸⁹ He was with the party on the mainland in search of “refreshment” for the patients, when they followed a river of hot water to its source steaming out of a hill and reeking of sulphur; immediately, the men suffering from the itch bathed and were well soon afterwards.⁹⁰ On the Island of Mocha, Wafer took thirteen Bezoar stones of different shapes, “ragged . . . some long like coral”, from the maw of a dead llama and by long keeping they turned from green to ash colour; these were highly esteemed as the “Sovereign Cure” and, being very expensive, only a few scrapings were used at a time, powdered and taken in wine.⁹¹

On the return visit to Arica, he saw a mule caravan unloading in a warehouse “full of Jesuits’ Bark” which the Spaniard in charge said he had brought from a lake far inland, describing the trees of its origin as a dwarf variety of freshwater mangrove. Thereupon Wafer, who had studied mangroves throughout the whole region, convinced that the Jesuits’ Bark came from trees “of the Mangrove kind”, took several bundles of it and, by use in Virginia later, proved it to be “the right sort”. This was an astringent bark (*rhizophora* mangle) still used in native medicine but not related to the cinchona (great madder genus) which is not found north of Colombia.⁹² The buccaneers also got among the “prey” many fruits including “good Oranges of the China sort”. Later, cruising off Peru, they made a not so welcome discovery at Huarmey, an ancient Chimu cemetery, where the bodies were now exposed but perfectly preserved by the hot dry sand which had protected them. Wafer was fascinated, and brought away the body of a boy, “dry and light as a . . . piece of Cork”, only to feel later “great vexation . . . at the foolish conceit of the crew” who threw it overboard believing a corpse would affect the accuracy of the compass.⁹³ On his homeward journey around the Horn, suffering the usual shortage of supplies, Wafer saw “several Islands of Ice”. Arriving safely in Virginia he was arrested for piracy in 1688, his possessions not being recovered until 1693 after his return to England when the Queen deducted £300 to build a College in Virginia.⁹⁴ Wafer was consulted by the Company of Scotland about a secret venture in the Isthmus, and this hole-and-corner affair, which made him the paltry sum of £20, caused his investigation by the Lords of Trade who also questioned Dampier, receiving only the wry comment that he did not think Mr Wafer capable of doing the Scots any great service.⁹⁵

⁸⁹ Wafer, op. cit., note 26 above, p. 112; 130 men were sick “many of whom died”.

⁹⁰ Wafer, op. cit., note 26 above, p. 113. Consequina Volcano was near on the Gulf of Fonseca; crewmen would know the value of sulphur springs for healing the skin from similar springs in Jamaica.

⁹¹ Spaniards did a brisk trade in Bezoars from American ruminants, competing with former monopoly held by Asia.

⁹² Wafer, op. cit., note 26 above, p. 61 and note.

⁹³ Wafer, op. cit., note 26 above, p. 61; Wafer suggests the oranges were eaten raw but perhaps the juice was added to alcoholic drinks. Contemporary Europeans feared uncooked fruit, although Lady Sedley’s cure for scurvy prescribed “12 lemons sliced thin, meat and rhine”—William Brockbank, ‘Sovereign remedies’, *Med. Hist.*, 1964, 8: p. 11; Wafer, op. cit., note 26 above, pp. 122–3. According to local legend, the Indians committed suicide to escape the Spaniards. Sailors, especially those from the West Country, had great fear of an unburied body which was believed to become a haunting fiend.

⁹⁴ Wafer, op. cit., note 26 above, p. 124, see also pp. 127–8; Introduction pp. xlix–l.

⁹⁵ Wafer, op. cit., note 26 above, pp. 1–iv.

Wafer's book appeared in 1699 and was dedicated to the Duke of Leeds. From then until 1704, he was in London attending to the publication of the second edition (dedicated to the Duke of Marlborough) which received the support of the Royal Society. His expressed aim was not to give an account of the expeditions but to select "things as I took more particular notice of and thought worth remarking".⁹⁶ "Paracoods" (barracouda of the *Sphyraenidae* genus) were poisonous, several men had suffered loss of hair and nails, and some had died after eating them, but there was an antidote, the dried backbone of the fish pulverized and taken in any "Liquor", the only side effects being "Nummedness in the limbs" for a time afterwards. Dampier had identified the catfish fin as so poisonous that great pain, swelling and even the loss of a hand resulted from a wound for which there was no cure.⁹⁷ Wafer had experimented several times on his own naked body with two types of bee, one short and red, the other long and dark, to prove they did not sting, but some insects were troublesome: biting flies and crabs of the mangrove swamps, wasps, "moskitoes", large hillock-building ants and "Soldier insects" (a kind of snail) which if they had fed on manchineel-apples made his companions "very sick" after a meal of them, although they soon got better "without further damage". He had found that these latter insects produced an oil, yellow as wax, "of the consistency of Palm, a most Sovereign Remedy for any sprain or contusion".⁹⁸ Wafer returned to the manchineel tree itself, the fruit was poisonous but "perhaps not mortally", also (in agreement with Esquemeling) the sap raised blisters on the skin of craftsmen who used it for carving, and he had seen the same effect on a Frenchman as a result of his lying under the tree during a rain storm, "blistered . . . as if . . . bestrewed with cantharides", his life was saved with difficulty, but "scars as from smallpox remained". *Cantharides vescicatoria*, the Spanish fly, a beetle dried and prepared in a paste, was used externally as a counter-irritant for severe pain and inflammation.⁹⁹ The bitter fruit of the calabash tree and of certain gourds, both of which when dried make containers, were useful medicinally. The calabash was "good in Tertian's", also as a "Decoction in a Clyster . . . an admiral Specifick in Tortion of the Guts or Dry Gripes", while gourds, growing "creeping along the Ground or climbing up Trees", were excellent for treating "Passio Iliaca, Tertian's, Costiveness etc. . . . in a Clyster".¹⁰⁰

Wafer noted that capsicums were grown in every native plantation for the kitchen and as a fumigant to ward off "Poni", the disease-bearing Spirit. The other important fumigant was tobacco prepared as follows: the leaves were rolled into a thick cigar 2–3 feet long, then lighted by a boy who had first dampened it just above the glowing end, to prevent "wasting too fast", and put the cigar into his mouth blowing the smoke through it at a company of Indian men, in turn, as they sat cupping their hands around their mouths and noses "sniffing it up greedily . . . as long as they are able to

⁹⁶ Wafer, op. cit., note 26 above, pp. lv-lviii, 112. His book was published in Dutch in 1700, French in 1706, Spanish in 1707, German in 1714.

⁹⁷ Wafer, op. cit., note 26 above, pp. 74–5; Dampier, op. cit., note 3 above, p. 149. Captain Minchin lost the use of his hand when injured by a catfish.

⁹⁸ Wafer, op. cit., note 26 above, p. 73, see also pp. 66–7.

⁹⁹ Wafer, op. cit., note 26 above, pp. 56–7; Choco Indians used and traded this sap for stupefying, not killing, fish and animals in the chase, so probably the quantity used decided its malignity.

¹⁰⁰ Wafer, op. cit., note 26 above, pp. 57–8.

hold their Breath . . . seeming to Bless themselves . . . with the Refreshment it gives them". The medicine men of the San Blas Indians continued to use tobacco and other aromatic herbs to make patients drowsy or comatose and to induce heavy sweating.¹⁰¹ Wafer noted that the Indians, who habitually ate headlice caught when combing their hair, would not eat monkey. He discovered why after finding a mass of worms some "7–8 feet long" in the "Bowels" of one of these dead animals.¹⁰² Another feature of the Indians' toilette was the habit of oiling both their skin and hair which Wafer presumed was a beauty aid to keep them "smooth and sleek" but also thought it "preserved the skin from parching and prevented too much Perspiration". Dampier made similar remarks about the "Hottentots" of the Cape who "rubbed in any grease . . . to fence their half naked bodies from the air by stopping up the pores".¹⁰³

As well as commenting on the flora and fauna, Wafer briefly described the towns of the Americas. Panama, although "very sickly", was "very healthy in comparison of Portobel" but visitors from more salubrious places such as "Parts of Peru . . . who grew indisposed . . . are forced to cut off their Hair" (Dampier had noted this in his own description of Panama, probably it was an attempt to avoid tick typhus). The town of Santa Maria was especially malign with "Dwellings . . . in a standing Puddle" so that "stinking Mud infects the Air".¹⁰⁴ Dampier's more expansive comments on infected air are comparable. At Mindanao "thick and unwholesome air" in the rainy season occasioned "fevers and distempers", while in the Americas "very wet and foggy air" gave rise to "Fevers, violent Head-aches, Pains in the Bowels and Fluxes", "noisom smells created a very sickly place" and wherever gold was found was "very unhealthy".¹⁰⁵ Esquemeling attributed the deaths of L'Ollonais' men wounded at Maracaibo, to "Fevers and Accidents" induced by the "Constitution of the Air", and the demise of Morgan's men at Porto Bello as much to "the unhealthiness of the Air . . . occasioned by certain vapours . . . exhaled by the mountains", as to "extravagant debaucheries".¹⁰⁶ Usually "sweet clear air" was considered beneficial, but Wafer and his guides on the heights of the Isthmus suffered "a strange giddiness" (mountain sickness) which he blamed upon the altitude and "the clearness of the Air". During the voyage home from the second expedition, he fainted while climbing a high peak in Chile and, again, it was due to the air combined with "want of water".¹⁰⁷

Buccaneering doctors appear to have adhered as strongly to the Hippocratic dictum of bad air being the actual cause of disease as their contemporaries in Europe. They could also bleed and purge as capably but more moderately, as a rule, than the wealthy Drs Hamey, father and son, of London, whose reputation had been built upon

¹⁰¹ Wafer, *op. cit.*, note 26 above, pp. 92 and note, see also p. 63 and note.

¹⁰² Wafer *op. cit.*, note 26 above, p. 46, also pp. 79, 102—the natives and their dogs were unskilled hunters, often catching nothing, so any protein was valuable; on p. 66 Wafer stated that worms occurred "in the rainy Season".

¹⁰³ Wafer, *op. cit.*, note 26 above, p. 80; Dampier, *op. cit.*, note 3 above, p. 537.

¹⁰⁴ Wafer, *op. cit.*, note 26 above, p. 48, see also p. 44; Dampier, *op. cit.*, note 3 above, p. 186.

¹⁰⁵ Dampier, *op. cit.*, note 3 above p. 298, see also pp. 113, 153, 223; Wafer, *op. cit.*, note 26 above, p. 50 noted the sulphureous smell in the air after thunderstorms on the Isthmus.

¹⁰⁶ Adams, *op. cit.*, note 4 above, p. 96, also pp. 41, 147.

¹⁰⁷ Dampier, *op. cit.*, note 3 above, p. 63; Wafer, *op. cit.*, note 26 above, p. 23, see also pp. 119–21.

venesection and purging to the point of the patient's exhaustion.¹⁰⁸ Although the agues, fluxes, dropsies, varied types of fever and scurvy which they had to treat required greater skill than they possessed as ships' surgeons, by employing the cures at their disposal they evidently brought comfort to their fellow buccaneers. Bearing in mind the fact that "Yellow Jack" had established itself as the "Barbados Distemper" which reduced the population by 14,000 between 1643–55 and that malaria was endemic in Jamaica, the achievements of these ships' surgeons appear to compare quite favourably with those of the practising doctors ashore.¹⁰⁹ Some practices borrowed from the Spaniards perhaps helped to keep the privateers healthy, for example rubbing up the beans for their chocolate-drink in water "to remove the oil which would fill them too full of blood" if taken in large amounts, or more especially the care the Spaniards took over the quality of drinking water having invented a water-cooling apparatus to produce a refreshing liquid with medicinal properties. In all the narratives quoted, there are found frequent references to "good water", "fresh water . . . from the rock", "spring water", "sweet water" etc., and Dampier, returning home in an English trading-ship, expressed undisguised horror at the water served to the crew "exceedingly black more like ink" and so hot "he could scarcely hold the cup when the ration was poured"; its resemblance to the swamp water which he had seen killing hundreds of fish in the Bay of Campeachy suggested to him contamination, possibly from the cargo of pepper also stored in the hold, and, although the discoloration on this occasion proved harmless, he seized the opportunity to request the owners of the factory at Ben Couli to pipe spring water to the beach to save future "poore Mariners' Lives".¹¹⁰ The stamina of the buccaneers and their efforts to keep their vessels "scrubb'd and cleaned" must have also aided their general well-being, and there is evidence that at least some survived to a ripe old age, which may reflect favourably on the medical expertise of their doctors. Dampier gives a thumbnail sketch of one of his companions, "a stout, old Grey-headed Man, aged about 84 Years who had served under Oliver . . . after which he was at Jamaica and had followed Privateering ever since . . . he would venture as far as the best of us . . . and swore he would never take Quarter".¹¹¹

¹⁰⁸ Kenneth F. Kiple and Virginia Himmelsteib King, *Another dimension to the black diaspora*, Cambridge University Press, 1981, p. 58; Ashley, *op. cit.*, note 67 above, pp. 53–4.

¹⁰⁹ Kenneth F. Kiple, *The Caribbean slave*, Cambridge University Press, 1984, p. 179, also p. 164. Malaria was also rife in Cuba and the Lesser Antilles.

¹¹⁰ Dampier, *op. cit.*, note 3 above, p. 60. A water-cooler was a simple apparatus consisting of limestone jars set in storage vessels; as the water in the jars seeped through the limestone absorbing some of the calcium it evaporated and was cooled, the resultant liquid was collected in the storage vessels. This was recommended as a drink especially for pregnant women (artefacts displayed in Columbus Museum, Discovery Bay, Jamaica). Dampier, *op. cit.*, note 3 above, pp. 525–6; the heat of the water was due to the temperature in the hold and "if water is stored in oak barrels with iron fastenings it is quite usual for a harmless black deposit to form where the oak meets the iron" (Curator of Exeter Maritime Museum).

¹¹¹ Dampier, *op. cit.*, note 3 above, p. 138, see also p. 219.