

'FULL FATHOM FIVE': DEATHS OF ELIZABETHAN SEAMEN*

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In the Tudor period English seamen began to undertake long-distance voyages, but very little has been previously known about their consequent shipboard lives — and deaths. The earliest regular voyages to newly-discovered regions by English ships were not to America but to Africa, to Guinea, and only came about in the 1550s and 1560s. The present paper limits itself to discussing these and later sixteenth-century voyages to Guinea. A Canadian colleague and myself published in 1992 the wills of some 80 seamen and a few traders who died on the mid-century voyages, and these wills are my first source for this paper. To our surprise, we found that every seaman who found himself so ill that he expected to die made a will, or rather, had a will made for him. Some wills were lost when ships went down, but otherwise wills were brought back to England by survivors and taken to probate in London — hence our records. The wills name many other seamen, and with other sources we were able to do calculations about mortality.

On the first voyage in 1553 at least half the seamen died; on the second voyage probably only about one fifth. On half a dozen later voyages for which mortality can be reasonably assessed, the rate rose and fell but probably averaged about a quarter. As a will of 1558 realistically predicted:

I am appoynted to goe into the land of Geney, being a large and dangerous Journey, having no certentie of my lif nor sure comyng home.

The outward journey to Guinea was quick, the homeward journey slow, and the ships, trading in most instances for gold and pepper — not yet normally for slaves — stayed on the Guinea coast for at least several weeks, sometimes for three months. Few men died on the outward journey, some died on the coast, most on the return journey:

... we were within 120 leagues of England ... and at the same time, in our ships we had not above sixe marriners, and sixe merchants in health ... [a 1558 account]

The wills tell us a lot about the living conditions of the sailors, their attitudes, and their families and female acquaintances (most seamen were young, unmarried men), but nothing directly about the causes of death. Despite the mortality, we know of men who went to Guinea several times. As well as ordinary seamen, ship's officers died — and so too did some of the surgeons. For, again to our surprise, we found that every ship appears to have carried a surgeon, the first one recorded a Frenchman, the remainder English. This corrects the view of earlier writers, notably Keevil, whose references to these voyages require other corrections.

* Based on a paper delivered to the Liverpool Medical History Society on 30 November 1995

Apart from the wills we have, as sources on Tudor voyages to Guinea, accounts of a number of the voyages, the first published by Eden in 1555, the remainder by Hakluyt in 1589 and 1598. The accounts are sometimes logs or journals of voyages, sometimes more detailed accounts of trading written as reports to the promoters back home. The accounts do not record most of the deaths but they do contain informative glimpses of ill-health and death aboard. Particularly useful are the journals of two chaplains who travelled on a 1582-3 voyage which after spending three months at one point on the coast, repairing the ships and seeking refreshments, sailed on to Brazil before returning — I shall mention chaplains Madox and Walker. Both chaplains died.

The ships sailed to various localities on the Guinea coast, but mostly to Gold Coast, occasionally to Sierra Leone and Benin. The journey to Gold Coast was 3,500 nautical miles, that to Benin some 4,000, representing, in the mid-century period, the longest regular voyages by English ships. The total journey time, there and back, was from six to eight months. Benin was the most dangerous destination. Parties of seamen and traders went up-river to Benin city and most died there:

... many of our men dyed ... I sent up Samuel Dunne, and the Chirurgeon with him to our men that were above, to let them blood, if it were thought needeful... by the time our men which remaynd were come aboorde, wee had so many sicke, and dead of our company, that wee looked all for the same happe ...

[a 1589 account]

The ships lay off in streams of the Niger Delta, among the muddy and mosquito-ridden swamps inhabited in part by the recently news-manipulating Andoni. So many of the crews died that ships were abandoned. Although Gold Coast was not as dangerous, perhaps because the ships moved along the coast and the English spent less time ashore, deaths occurred before they left and not only all the way home but even after arrival in the home port.

What did the seamen die of? There are references to the normal disorder of long-distance voyaging, scurvy:

Our legs now us deceive / swolne every joint withall, / With this disease which, by your leave, / the Scurvie men doe call.

[Roben Baker, 1565]

The history of scurvy and its eventual conquest with lime juice is a historical commonplace. What is curious in these episodes is that citrus fruits were available in Guinea, indeed there is some evidence that the Portuguese had planted groves of lemons in Sierra Leone, conceivably for the use of the crews of their ships. Whether these were modern lemons or limes is not clear, however, the terms being then interchangeable. In 1582 chaplain Walker recorded that at Sierra Leone the men with scurvy were required to wash their mouths with lemon juice. And a will of 1566 records the earliest reference to oranges aboard an English vessel.

Returning ships often ran low on food and water (and presumably on beer which was drunk outwards). Yet foods were obtainable in Guinea, as for that matter was palm wine. The trouble seems to have been the Englishman's palate. The yam, a starchy tuber,

was not acceptable because England had not yet experienced the potato. Meat could be from despised animals — goats, dogs, snails. Above all, the sailors feared tropical fruits:

In the meane season, our men partly having no rule of themselves, but eating without measure of the fruites of the countrey, and drinking the wine of the Palme trees and in such extreame heate running continually into the water, not used before to such sudden and vehement alterations ... were thereby broughte into swellings and agues [which] caused them to die sometimes three, sometimes foure or five in a day.

[a 1554 account]

Those seamen who knew no better jumped ashore and consumed quantities of the first fruits they came on — and invariably were either poisoned or got diarrhoea:

This night I was very sicke, (and so were all they that were on shoare with mee,) with eating of a fruite of the Countrey, which wee founde on trees like nuttes ... wee vomitted and scoured upon it without reason.

[a 1582 account]

So Englishmen tended to steer clear of tropical fruits — even, it appears, the harmless banana, which, picked green, might have kept on board ship. But as far as I know, on this matter the English were no more ignorant and prejudiced than sailors of most other nations; different in their attitudes, perhaps, were the Portuguese who had had a century of experience in Guinea before the English arrived.

Another recorded disorder was 'calenture' (a term from the Spanish but still to be found in OED). Often the afflicted seaman thought he saw, instead of blue sea, green fields — 'babbling of green fields' he jumped overboard and was drowned. This outcome was also described by a Frenchman and so was presumably international. Clearly it was a delusionary state induced by fever, or possibly in some instances heat stroke. But chaplain Walker in the 1580s used the term to mean simply a fever, without this particular delusion.

Although we cannot assess the relative incidence, it seems likely that the major cause of this shipboard mortality was 'burning fevers', and that the disorder was mainly or wholly malaria, that is, malignant falciparum malaria, the vector being *Anopheles gambiae*.

William Markham ... died today of a burning fever. Exhausted through dysentery beyond his strength, he was never afterwards sound or out of danger. Bad beer also aggravated this evil.

[original in Latin, a 1582 account]

The English certainly aimed to be on the coast only during the dry season, when, as it happens, mosquitoes are relatively quiescent, but regularly they were delayed and encountered the rains. No account actually mentioned mosquitoes, perhaps because they resemble gnats, common in England and largely harmless. Men who went ashore would be very soon bitten, and shipboard they would be safe when on the coast only if the ships lay well out. Contacts with Africans, trading with whom was the object of the exercise, were made daily ashore, and for lustful sailors perhaps nightly. Occasionally a few

Africans stayed aboard the ships for days, and a handful were brought to England for training as agent-interpreters. Probably all the Africans encountered carried the parasite but being themselves the survivors of infection immediately after birth were sufficiently immunised to suffer bouts only to the extent of the English suffering from the common cold. An incubation period of 10-14 days from being bitten must have meant that some seamen became fever-ridden only after leaving the coast, and the delay helped to conceal the cause.

The English explanations of the fevers continued to be repeated for centuries. Overheating then dipping in waters, sleeping on deck (as many had to), bad beer, and even too much fish. The chief surgeon on the 1582 voyage made the following report on his return:

... dyvers of our men fell sudenly sike and such as had thinne and drye bodies were infectede with whott buming & pestifures fevers, but the other sortt which had grose and thike bodies wer molested with the skyrvey. Of the firste dyed eight and of the skyrvey two, and three of a surfett. All the rest throwe gods providence letting blude & purginge were all recovered for that tyme. ... [Later,] ... almost all our men fell sycke with great payne in their heades, stomakes, neckes, shortnes of brethe & heavenes of their wholle bodies: which syckness I gather came partly by the changeinge of the clymat & partly throwe there owne disorder of insatiable feding on freshe fyshe, much drinking cold water & lying in the ayer on the hatches in the night season. But god be thanked after purging and letting of blud not one that perished of that syknes ...

Nevertheless, during the rest of the voyage many men died.

As far as we can tell (not all the wills are dated), men died shortly after making their wills, except for a few who lingered for long periods. Judging by the experience of much later European missionaries in the 'White Man's Grave', it is likely that many men died from their first and first-experienced bout of malaria, and thus died on the coast or shortly after the ships left. However, it was sometimes said that a rush of deaths occurred when the ships moved out of the tropics, which would be several weeks after leaving:

There died of our men ... about twentie and foure, whereof many died at their returne into the clyme of the colde regions ...

[a 1555 account]

If this was really the case, it is difficult to say whether it was the result of the length of the homeward voyage increasing the risk of scurvy and other normal disorders, or whether the individuals in question were later victims of recurrent fevers or those who failed to recover totally from an earlier attack. That some malaria relapses are due to cold is still commonly supposed. Probably in many instances there was a combination of weakening disorders which would have puzzled even a modern medical man to know which single one to put on a death certificate. Nevertheless, I do not doubt the overriding influence of tropical diseases in inflating the particular mortality. It would help if it could be shown that mortality was lower on non-tropical voyages of equal length, but unfortunately we have no figures.

Apparently each ship had a surgeon, but we know about the surgeons almost wholly from wills, their own or those of seamen who made them bequests:

... item unto Roger Gennell surgen one black flute and unto his man Richard dawesson ii s. vi d.

[a 1562

will]

Since some wills were lost and some may yet be untraced, we cannot be sure that a surgeon to whom a bequest was made actually survived the voyage. Bequests presumably indicated some appreciation of services, but those surgeons to whom no bequests were made may have been by the date of the relevant wills actually dead. I have not yet been able to discover anything about the earlier careers of those we know to have died, or the earlier and later careers of those who appear to have survived, with one exception in each category. One man who died took up his post shortly after being arraigned in a court for participation in piracy, at least indicating that he had sailed before.

But not all the surgeons were obscure men. The 1582 voyage, admittedly an ambitious expedition a cut above the common trading voyage to Guinea, had as its chief surgeon a man well-known to medical historians, John Bannister, who had already published on medical matters; he survived to be thought highly-of in the profession and by the Queen, and to leave writings in six volumes. The second surgeon on the expedition, about whom Bannister spoke disparagingly, also survived and did well, subsequently becoming Warden of the Barber-Surgeons. We have more details about these men when voyaging because chaplain Madox, a waspish character, disagreed theologically with Bannister and so continually belittled him in his journal, in respect of his character and general activity shipboard, although not in detail in respect of his medicine.

The wills make it clear that the surgeons attended on all the sick, for better or worse physically, although no doubt for better psychologically. Like the seamen they were employed by the promoters, and probably only paid at the end of the voyage, if they survived (a sort of payment by results). But there is evidence in the wills that some at least were also paid by the seamen, possibly for special services, and there is once even a suggestion of a fixed monthly fee, no doubt hopefully being operated as an incentive to the surgeon to keep his patient alive.

Fortunately the accounts of the voyages (particularly those of the chaplains) provide rather more detail about ill-health aboard. Some laymen prescribed for themselves, as one would expect. A Portuguese pilot had in his sea chest 'such provision of cold stilled waters and suckets as he had provided for his health' (a 1554 account). (I rashly assume 'suckets' to be pastilles you suck). He died, however. For sea sickness, chaplain Madox prescribed herbal remedies:

All this whyl I was seasike, and no mervel having changed at once both ayr, exercyse and diet. Rumatique I was and exceding costyve, and trobled with hartburning which be appendixes of the sea, wherfore I cold advice hym thatt is to appoynt such a viag that he have of violet flowrs, borage flowrs, and such lyke which he may gether in Yngland, caphers made to cumfort hym, and barberis sed, and rosemary and tyme to make a lytle broth in a yerthen pipkin. Thes things are far more holsom than al the suckets and paltry confections.

[a 1582 account]

Relating a case-history, chaplain Madox claimed a curious remedy:

One of the sailors ... who had been gravely injured in the back by the fall of a cask before he left... daily worsened and weakened, and could not even put food in his mouth ... When we reached Guinea, he strenuously insists that he be allowed to spend a night on shore. This was granted. There he spent almost no night in which he was not bathed by an endless rain and lay in clothes no less soaked ... Moreover, attacked by swarms of ants during the day ... Four months after he was injured he had so wasted away that by this time we had assigned the man to death. Now, however, having regained his health ... he was ready to perform all duties manfully ... not the least cause of this I believe was that the poison dispersed through all his limbs was sucked out from his body by the ants, and that the pores of his body opened by their heat exhaled the noxious and pestilent humours.

[original in Latin, a 1582 account]

The sick were not entirely dependent on the surgeons. Wills often contain bequests to fellow seamen who 'took pains' with them, which we take to mean, nursed them when ill.

In his will, one surgeon bequeathed his 'case of instruments' and a pair of scissors, passing them on to a 'surgeon's boy' (each surgeon apparently had an assistant):

...I will my wief ... Anne Jackson ... to have ... my wages with three poundes of money which is due to me for my stuf that I have spent ayding the company ...I give to the french sworgone boye ... my casse of instrymetes and a payre of Siessers ... And I give to Anne Jackson my Tablett and ayngellday ...

[a 1554 will]

The 'tablett and ayngellday' are items which baffle us: were they instrument or *materia medica*, or non-medical items? However, the amnamentarium undoubtedly included instruments for bleeding patients. As one might expect bleeding and purging were common treatments. In the case of chaplain Madox on 10 December he recorded in his journal:

When I realised that my blood was boiling with excessive heat, partly by reason of the air which had become inordinately hot and partly because of the victuals which consisted of dry and salty foods and abundant drink, I prevailed upon the surgeon to open the vein in my left arm and let out 10 ounces of blood, but myn arm hath byn stif ever syth.

[original mainly in Latin, a 1582 account]

The last phrase, added in English apparently at a later date, is perhaps ominous. The surgeon was most probably Bannister; the treatment may or may not have contributed to Madox's death two months later.

Chaplain Walker's illness, eventually terminal, is recorded in some detail. He spent some time ashore at Sierra Leone. Bled on 6 October, on 9 November he fell 'sycke of a burninge Calenture ... I sweatt and bumed extremely' and was bled again the next day.

The following week he was visited by the commander of the expedition, by his fellow chaplain, and by the chief surgeon (who perhaps again bled him). He made his will and his journal makes it clear that he was convinced that he was dying. In fact he slowly improved, and by the time the ships reached Brazil, was out of bed, though very weak. He did not die until 5 February, some three months after his first collapse. Unfortunately no details are known of his last days or final onset of illness.

From a court case about one of the wills, we learn that many shipmates gathered around the dying man, partly as witnesses to the will the scribe was taking down from dictation. Since most of the seamen were illiterate, wills were written by a literate shipmate, often a man who specialised in this and was paid a fee or given a bequest. In none of the recorded instances was a will made or witnessed for another by a surgeon. One will described the dying man's clothes: he bequeathed 'the jerkin on my back and the breeches on my legs'. At sea a corpse was thrown overboard. Many of the wills, in their religious invocation, use the phrase 'buried in the earth'. Occasionally a corpse was indeed buried ashore but it is clear that in most instances the phrase was a formula borrowed too closely from land usage. The Prayer Book service for burial at sea only appeared in 1662 — what Christian words were said in Elizabethan times as bodies were dumped does not appear to be known. Shakespeare made the best of death afloat, invoking a tropical sea:

Full fathom five thy father lies / Of his bones are coral made / Those are pearls that were his eyes / Nothing of him that doth fade. / But doth suffer a sea-change / Into something rich and strange.

Once written, wills were entrusted to executors, if these were seamen aboard, as was generally the case; if executors in turn died, wills were passed down a chain of survivors. When ships arrived home, the executors raced up to London to seek probate, partly no doubt to claim their own bequests. Although opportunities for fiddling existed, we think that, on the whole, seamen played fair to their dead colleagues. Certainly some widows and some other legatees collected. But unmarried seamen frequently bequeathed the clothes in their chests or on their back, or other personal articles, to shipboard colleagues, and subsequent bequeathals of some of these goods prove that they were distributed immediately after death, a sensible if irregular proceeding. Similarly we note that the probate courts were relaxed in relation to seamen's wills and accepted a large number that were drawn up in slipshod and therefore improper form. In certain circumstances, perhaps when a man died intestate (as could happen if he fell overboard or was the victim of an accident aboard), his goods were sold 'at the mast' and the proceeds held for a relative ashore.

To finish with a Liverpool instance. The 1558 ships contained four seamen from Liverpool. The will of Nicholas Bray who died in February 1559 bequeathed a small quantity of Guinea gold to his widow. His wife seems to have come South to attend the probate. But sometime during the same year the Liverpool Town Books disclose a family disaster. The wife took in washing, a practice no doubt necessary while her husband was away at sea and not yet paid, and took in washing from an Irishman travelling from Manchester. This brought plague into the house and into Liverpool. Some of the family died; whether Mrs Bray survived to collect the Guinea gold is unclear. This anecdote

serves to remind us that mortality in those days was high by our standards not only at sea but also on land. And we may note, in conclusion, that the mortality of Elizabethan seamen voyaging to Guinea foreshadowed the better-known mortality of later centuries, of both crew and captives in Guinea slave ships.

NOTE

This is a version of a talk given on 30 November 1995 and represents on-going research on the Guinea voyages and a fuller study in preparation on the health of the crews on these voyages. The sources mentioned above are as follows:

Richard Eden, *The Decades of the newe worlde ...* (London: 1555).

Richard Hakluyt, *Principall Navigations ...* (London: 1589, enlarged 1598-1600).

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P.E.H. Hair, 'The first Liverpool men in West Africa', *Transactions of the Historic Society of Lancashire and Cheshire*, 70 (1988), 149-53.

J.J. Keevil, *Medicine and the Navy 1200-1900*, vol. 1 (Edinburgh: 1957), chapter 2.