

**An examination of the chief causes of disease at sea in the era of the Tudors and Stewarts, and of the measures taken against it.**

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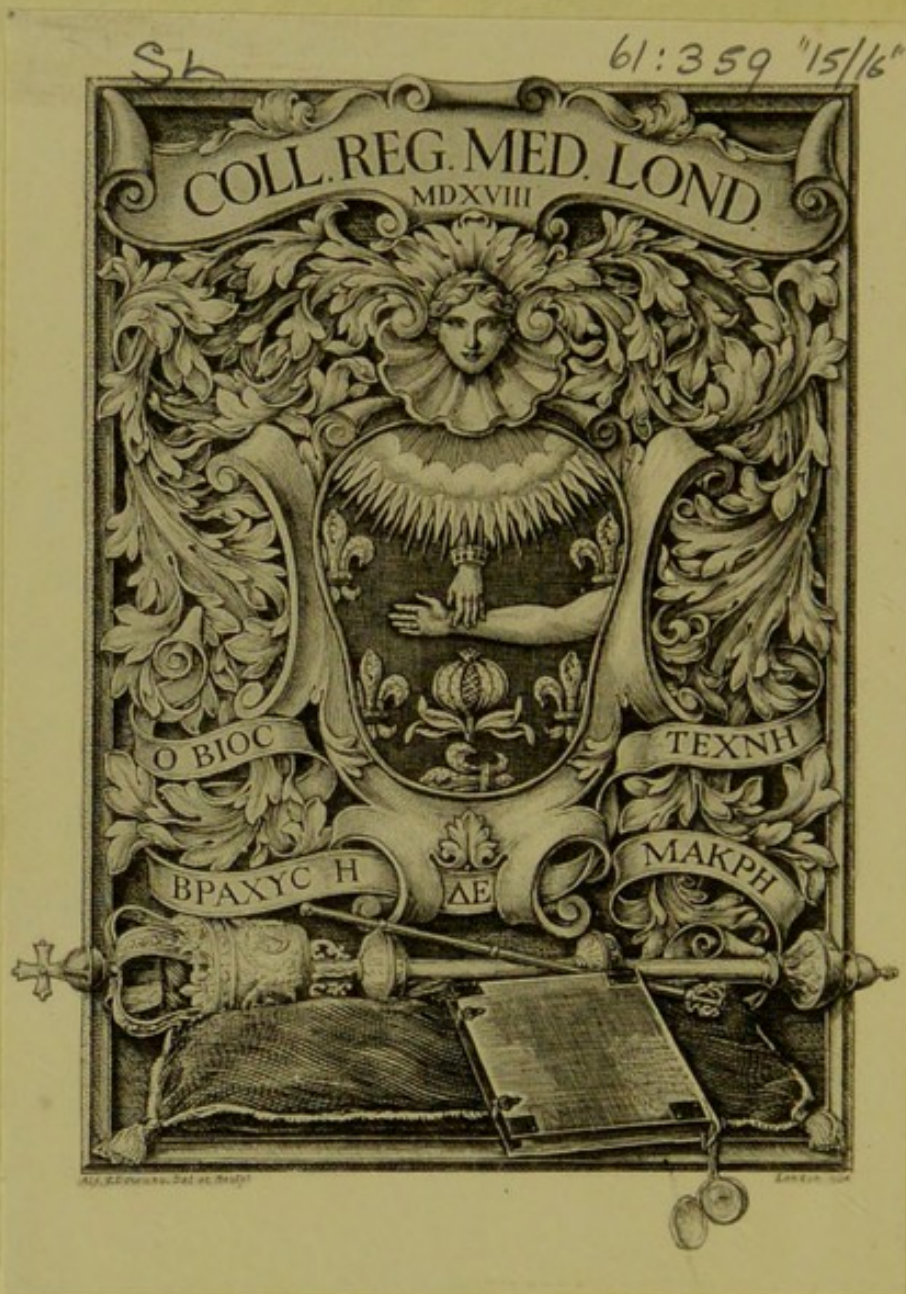




CAUSES OF DISEASE AT SEA - MOORE

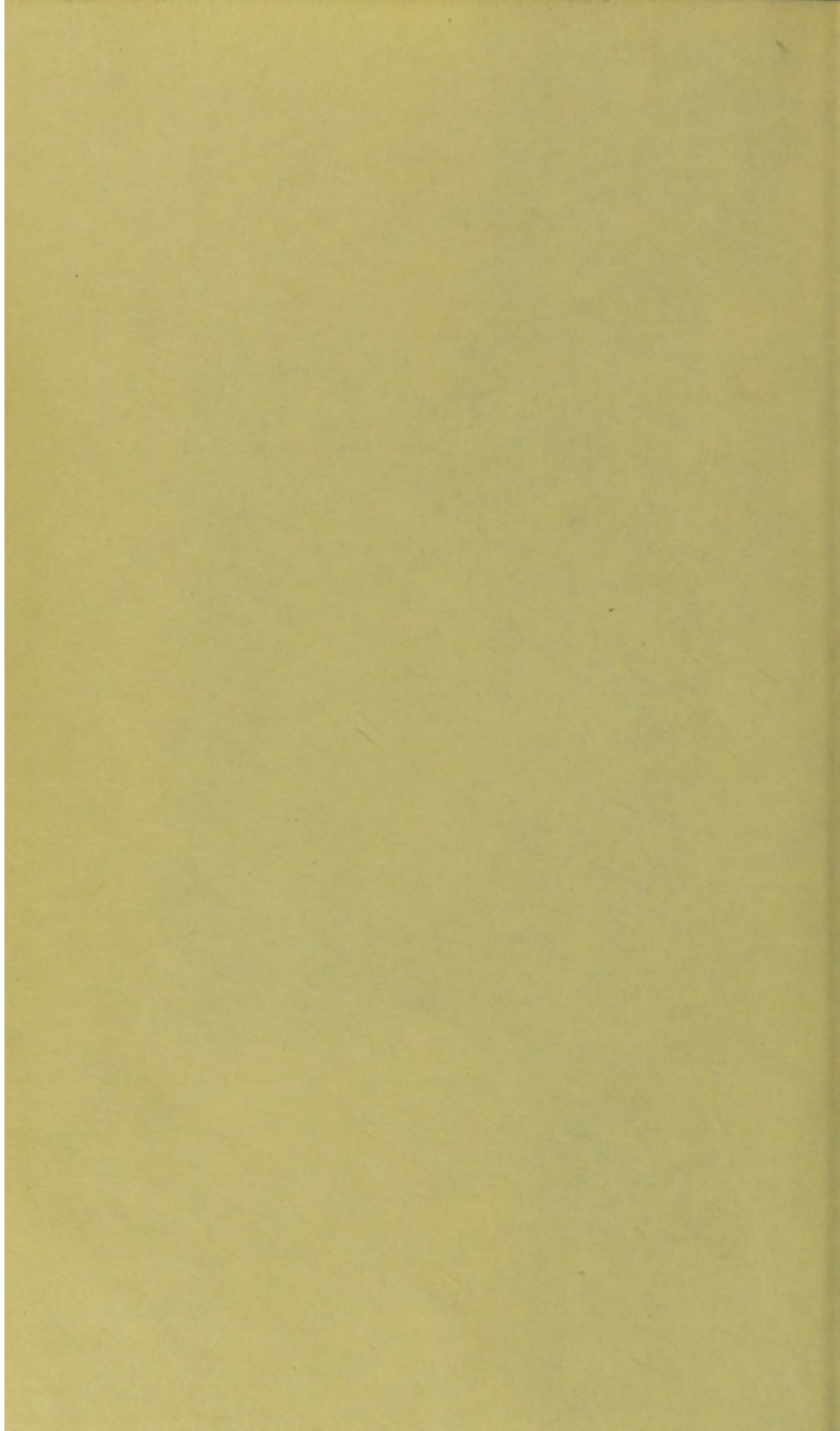
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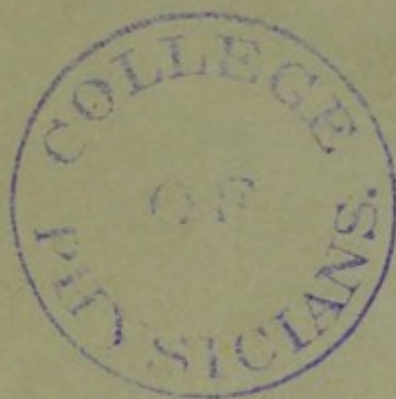
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EXAMINATION OF THE CHIEF  
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THE ERA OF THE TUDORS  
AND STEWARTS, AND OF  
THE MEASURES TAKEN  
AGAINST IT.

A THESIS FOR THE DEGREE OF M.B. (CANTAB.)

BY

ALAN MOORE, M.B.



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*Custodit vitam qui custodit sanitatem  
sed prior est sanitas quam sit curatio morbi.*

INTRODUCTION.

The sea is nowadays crossed in such safety by most landsmen that the old terror it inspired is being forgotten. In ancient times, and until comparatively recently, this was not so, as the wording of an ordinary insurance paper is witness: "Touching the Adventures & Perils which we the Assurers are contented to bear & do take upon us in this Voyage, they are of the Seas, Men-of-War, Fire, Enemies, Pirates, Rovers, Thieves, Jettisons, Letters of Mart & Counter Mart, Surprisals, Takings at Sea, Arrests, Restraints & Detainments of all Kings, Princes, & People, of what Nation, Condition, or Quality soever, Barratry of the Master & Mariners, & of all other Perils, Losses & Misfortunes."

The stories of old voyages are full of shipwreck and disaster. Ulysses reaching home without his ship, the sole survivor of his company, has for ages stood as a type. The voyage and shipwreck of St. Paul bring vividly before us the necessity for Robur et aes triplex round the breast of many successors to the first mariner. And to the dangers of the sea was to be added the violence of the enemy. For many centuries laws ceased to be active at low-water mark; fighting might be



expected upon any voyage, and fighting of a fiercer sort than was commonly met with ashore.

“If that he faught, & hadde the higher hand  
By water he sent hem home to every land,”

wrote Chaucer of his shipman; and that this treatment of the vanquished was not considered contrary to the laws of war at sea is borne out by more than one letter written at the time of the Armada.<sup>1</sup>

The writer of the “Complaynt of Scotland,” published in 1549, describes a sea fight that he saw while taking a walk by the shore, as though it were something that might be seen on any summer’s day.

It is however probable that in early times, before the discovery of the New World, disease in the common meaning of the word was not much more rife afloat than on shore, for the reason that long ocean voyages were seldom undertaken, and though journeys were slow and long distances were covered, yet frequent calls could be made at various ports affording change of scene and diet. Chaucer may be quoted again: the shipman

“knew wel alle the havens as they were  
fro gotland to the cape of finisterre,  
and every creek in Bretagne & in Spaine.”

It was when large fleets remained collected for a long time, and when ocean voyages and long sojourns in distant parts were made, that epidemic disease became the greatest danger that the mariner had to face.

There is one disorder, a *dis-ease* in the most literal sense of the term, which, though a constant source of wit, yet deserves mention. Sea sickness was probably found in the *Argo*, and is, I believe, not unknown on board the *Iusitania* nor in the King’s ships. References to this malady are less common in old records than one might expect, for though the sufferings of the soldier or sailor might pass unnoticed, the discomfort of a man of rank would be a matter of concern. It is therefore worth quoting from a poem, of which the MS. is in the Trinity College library, because, though belonging to the reign of Henry VI., and being therefore before the period to be considered in this paper, it accurately describes many of the symptoms of an affliction which belongs to no era. It throws, too, an interesting light on the internal economy of a fifteenth-

<sup>1</sup> The Spanish Armada, N.R.S., 1894.



century passenger ship. The poem for want of a title is usually called "The Pilgrims' Sea Voyage."<sup>1</sup>

"ffor when they have take the see  
at Sandwyche or at Wynchylsee  
at Brystow, or where that hit bee  
theyr hertes begyn to fayle."

The first symptom is usually apprehension.

"Bestowe the boote, bote swayne anon  
that our pylgryms may pley theron  
for som ar lyk to cowgh and grone  
or hit be full mydnyght."

The notion of vomiting into the long-boat does not seem cleanly to us nowadays.

"Hale the bowelyne now vere the shete  
cooke make redy anoon our mete  
our pylgryms have no lust to ete  
I pray god yeve hem rest.

"Thys mene whyle the pylgryms ly  
and have theyr bowlys fast theym by  
and cry after hote malvesy  
thow helpe for to restore.

"And som wold have a saltyd tost  
ffor they myght ete neyther sode ne rost  
a man myght sone pay for theyr cost  
as for oo day or twayne  
Some layde theyr bookys on ther kne  
and rad so long they myght nat se  
allas myne hede wolfe cleve on thre  
thus seyth another certayne."

The poem describes how the carpenter put up rough cabins, probably berths, here and there, just as was the custom in emigrant ships shortly before sailing in the first half of the nineteenth century, but we are told it was as well to try and sleep on deck:

"For when that we shall go to bedde  
the pumpe was nygh oure beddes hede  
a man were as good to be dede  
as smell thereof the stynk."

If some one would seriously inquire into the causes of sea sickness he might greatly benefit mankind. At present there seem to be only two sure remedies: to stay afloat, or to stop on shore.

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With the discovery of America began the era of long voyages. Large crews were carried, and the causes of disease were not

<sup>1</sup> It has been printed by the N.R.S. Naval Songs and Ballads.



understood; small wonder then that epidemics were bred, and carried off many, just as ten years ago in South Africa typhoid fever swept through our army. A good example of an epidemic is recorded in Hakluyt's Voyages.<sup>1</sup>

In April of 1534, Jacques Cartier sailed from St. Malo with two ships of 60 tons burthen apiece, having in each some 60 men. After a good passage of 20 days they arrived at Newfoundland. They spent three months in discovering the coast, and in September reached St. Malo again after a healthy and successful voyage.

The following year in "the middle of May," Jacques Cartier again sailed for Newfoundland with three ships: "The great *Hermine*, being in burden about a hundreth, or a hundreth & twenty tunne," the little *Hermine* of 60, and the *Hermerillon* of 40 tons. The crews seem to have been smaller than in the previous adventure, for later on their numbers are given as 110. After exploring the coast, in September 1535, they established a fort to protect their ships at the "port of the Holy Crosse."

"In the moneth of December, we understood that the pestilence was come among the people of Stadacona, in such sort, that before we knew of it, according to their confession, there were dead above 50: whereupon we charged them neither to come neere our Fort, nor about our ships or us. And albeit we had driven them from us, the said unknowen sicknes began to spread itselke amongst us after the strangest sort that ever was eyther heard of or seene, insomuch as some did lose all their strength, and could not stand on their feete, then did their legges swel, their sinnowes shrink as blacke as any cole. Others also had all their skins spotted with spots of blood of a purple colour: then did it ascend up to their ankels, knees, thighes, shoulders, armes, and necke: their mouth became stincking, their gummes so rotten, that all the flesh did fall off, even to the rootes of the teeth, which did also almost all fall out. With such infection did this sicknesse spread it selfe in our three ships, that about the middle of February, of a hundreth and tenne persons that we were, there were not ten whole, so that one could not helpe the other, a most horrible and pitifull case. . . . There were alreadie eight dead, and more then fifty sicke, and as we thought, past all hope of recovery. Our Captaine seeing this our misery" ordered various pious exercises and made a vow of pilgrimage, should he reach France in safety. "That day Philip Rougement . . . died, being 22 yeeres old, and because the sicknesse was to us unknowen, our Captaine caused him to be ripped to see if by

<sup>1</sup> Maclehose's Edition: 1904, vol. viii.



any meenes possible we might know what it was . . . he was found to have his heart white, but rotten, and more than a quart of red water about it: his liver was indifferent faire, but his lungs blacke and mortified, his blood was altogether shrunk about the heart, so that when he was opened great quantitie of rotten blood issued out from about his heart: his milt toward the backe was somewhat perished, rough as if it had bene rubbed against a stone. Moreover, because one of his thighs was very blacke without, it was opened, but within it was whole and sound: . . . In such sort did the sicknesse continue and encrease, that there were not above three sound men in the ships, and none was able to go under hatches to draw drinke for himselfe, nor for his fellowes." The Captain remained whole, perhaps because he had better victuals than most of the company. He, and such as could, used stratagems to prevent the natives from discovering their plight. In this miserable condition they remained through the winter, which was severe. Between November and March five-and-twenty of their best men died, "and all the rest were so sicke, that we thought they should never recover againe, only three or foure excepted." One day the Captain, walking out considering what to do, fell in with a native whom he knew to have been similarly afflicted, sound and whole. Of this man he learnt the remedy: to make a decoction of the leaves and bark of a certain tree, "then to drinke of the sayd decoction every other day, and to put the dregs of it upon his legs that is sicke: more over, they told us, that the vertue of that tree was, to heale any other disease: the tree is in their language called Ameda or Hanneda, this is thought to be the Sassafras tree."

The men were at first unwilling to try the new remedy, until one or two tried it and made such rapid recoveries that the others did so too, "and presently recovered their health, and were delivered of that sicknes, & what other disease soever, in such sorte, that there were some had bene diseased and troubled with the French Pockes foure or five yeres, and with this drinke were cleane healed."

The men were soon ready to shed blood to get the medicine, and "a tree as big as any Oake in France was spoiled and lopped bare, and occupied all in five or sixe daies, and it wrought so wel, that if all the phisicians of Mountpelier and Lovaine had bene there with all the drugs of Alexandria, they would not have done so much in one yere, as that tree did in sixe dayes, for it did so prevaile, that as many used of it, by the grace of God recovered their health."

There are several difficulties arising from this story. If the



disease was scurvy, as the symptoms seem to show, it is remarkable that the Captain did not recognise it, for in 1535 scurvy was common enough on land. It is just possible that the disease was not found in St. Malo, where a supply of fresh fish might have prevented its outbreak; but even so, Jacques Cartier, as a travelled man, can hardly be supposed not to have seen cases somewhere or other. Still more strange is the rapidity of the patients' recovery, for one of the characteristics of the treatment of scurvy is the slowness of the complete cure. In 1865 there were two cases, both of male patients, in St. Bartholomew's Hospital, and the mean time of their stay in hospital was 84 days. In 1866 there was one case, in which the patient was discharged cured in 60 days. It may have been that the sassafras in reality only completed a cure begun by a change of diet not recorded. Or it may be that what the Captain considered a cure was not what would satisfy a physician or perhaps the patients themselves. It seems, however, that some improvement in cases of scurvy is very rapid. Dana, in his "Two Years before the Mast," tells how, when homeward bound, the scurvy broke out, two men getting it very badly. Fortunately an English ship supplied them with potatoes and onions. Of the two patients "one of them was able to eat, and he soon brought himself to by gnawing upon raw potatoes; but the other by this time was hardly able to open his mouth; and the cook took the potatoes raw, pounded them in a mortar, and gave him the juice to drink. This he swallowed, by the teaspoonful at a time, and rinsed it about his gums and throat. The strong earthy taste and smell of this extract of the raw potatoe at first produced a shuddering through his whole frame, and after drinking it, an acute pain, which ran through all parts of his body; but knowing, by this, that it was taking strong hold, he persevered, drinking a spoonful every hour or so, and holding it a long time in his mouth; until, by the effect of this drink, and of his own restored hope (for he had nearly given up in despair), he became so well as to be able to move about, and open his mouth enough to eat the raw potatoes and onions pounded into a soft pulp. This course soon restored his appetite and strength; and in ten days after we spoke the *Solon*" (the ship referred to), "so rapid was his recovery, that, from lying helpless and almost hopeless in his berth, he was at the mast-head, furling a royal."

The curing of the French pox may be put down to incorrect diagnosis. If tradition is right, in 1535 the disease had been known only some 40 years, and it was not till more than 400 had passed that its true cause was understood.



A man entering upon a voyage of discovery ran risks unknown at the present time save in war or flying.

On April 16, 1542, John Francis de la Roche<sup>1</sup> sailed from Rochelle with three ships, in which were 200 persons, men, women, and children, for Newfoundland, which was reached on June 7, after a tedious voyage. Near the Isle of Orleans they built a fort, and in the autumn sent two ships home. Those who remained found themselves on short commons. Their diet, however, was varied, and consisted of bread, beef, bacon, and beans, with green or dry cod three days a week, and also porpoise, and a fish with flesh "somewhat redde like a salmon," brought them by the natives. Herein was no cause for scurvy, but for some reason "In the ende many of our people fell sicke of a certaine disease in their legges, reynes, and stomacke, so that they seemed to be deprived of all their lymmes, and there dyed thereof about fiftie." That a quarter of all who entered upon the adventure died without more comment than a record of the fact shows that it was not considered extraordinary.

A like acceptance, forty years later, of what to us seems a terrible mortality is recorded of one of Sir Francis Drake's expeditions.<sup>2</sup> In 1585, after putting out from St. Jago, he was in his company so troubled with sickness "as in fewe dayes there were dead above two or three hundred men"—a vague enumeration.

Till 1545, says Mr. Oppenheim, there is no record of exceptional disease in fleets.<sup>3</sup> In that year we were at war with France, and the fleet was assembled in the Channel. On August 1, Lisle wrote to Suffolk from Plymouth.<sup>4</sup> ". . . Ferder I have thought yt mete tadvertys your lordship that this daye uppon our new survey and new musters taken in this flete yt doth apere that there ys a great desease ffalln emonges the soldyers & maryners all most in every schipp in soche sorte that yf the same shold contynew which god for byde we shold have nede to be newly Refreshed with men | the disease ys swellinge in theyre hedes & faces and in theyre legges | and dyvers of theym with the blodye fflyxe | the certeynte of all that are fallen thus sike within thies thre or iiij dayes | your grace shalbe advertysed to morro one tyme of the daye | ffor as yet we have nat gon thorro the hole musters nor the survey all so we are about to make a perfyte survey of the state of every schipp ffor vitayles | the which beinge knowne I wyll come and wayte uppon your grace therwith my selfe . . . scribed in the

<sup>1</sup> *Hakluyt's Voyages*, Maclehose's Edition: 1904, vol. viii. p. 283.

<sup>2</sup> *Ibid.*, vol. x. p. 109.

<sup>3</sup> Oppenheim: *History of the Administration of the R.N.*, 1509 to 1660.

<sup>4</sup> *Letters and Papers: Henry VIII.*, vol. xx. part ii. 5. Contractions are expanded and abbreviations filled up.



Hary the ffyrste of Auguste. your graces assured to Comand John Lisle."

The *Hary* was the famous *Henry grace de Dieu*. We need not be surprised at the severity of epidemics at that time when we find that the only remedy proposed by the Duke of Suffolk was to get fresh men in the room of those who died. He wrote,<sup>1</sup> "Yf it be so that men fall so syk in our flete there is no remedy as far as I can perceyve but that we must take order to take upp men here next adjoyning to furnishe the shippes with fresh men both for Maryners & souldyers." Wiser counsels, however, prevailed, and on August 2, Suffolk, Lisle, and St. John wrote to the king:<sup>2</sup> "Please it your grace to be advertysed that sithens your majesties departure from portsmouth many of your Hieghnes Maryners and souldiors have fallen sick and many of them not able to contynue the sees which we thinke groweth by the greate hete and the corrupcion of ther victuall by reason of the disorder in the provision and straye and warme lying in the Shippes," to remedy which they propose as far as may be to provide fresh victual.

The symptoms described are meagre, and the disease may well have been dysentery and scurvy, as Mr. Oppenheim suggests. If so, the reasons given in the above letter for its outbreak were probably the true ones, and the means of putting an end to it had they been vigorous might have been successful. As it was, a letter from Lisle to Paget, dated August 28, reveals a sorry state of neglect and weariness.<sup>3</sup> "Furder more you shall understand, that the menne in this armye decayeth veray sore, and those that be hole be veraye unsightlye having not a ragg to hang uppon ther backes, wherefore I thyncke of necessitie they must have newe Cootes as other souldiers have, orrelles theis wooll be an uncomly sight. Yt was tyme for me to retourne hethur for if I had taried any longer away, there wold have been but letill order in this armye | the souldiers waxe werye of their Capitaignes, the Capitaygnes waxe werye of ther souldiers, and the matter is because they be both werye of the Shippes." No wonder.

So far, though they lay stress on the severity of the disease, the above letters record no deaths. The war continued, and in the field thus prepared the plague broke out and carried away thousands. On September 11, Lisle, St. John, and Sir Thomas Seymour wrote to the King:<sup>4</sup>

"Pleaseth it your Majestie to be advertised that synce the Arrivall here of us the lord Admyrall and Sir Thomas Semour

<sup>1</sup> Letters and Papers: Henry VIII., vol. xx. part ii. 3.

<sup>2</sup> Ibid., 13.

<sup>3</sup> Ibid., 238.

<sup>4</sup> Ibid., 346.



we have conferred with my lord chamberlein upon the state of your majesties armye here and also with Sir Thomas Clere John Wynter and others of the councell of thadmiraltie concernyng the same, by whome we do perceyve that the plage rayneth sore in this said armye and that dyvers of those shippes whiche your majestie appointed for to kepe the seas with me Sir Thomas Seymour are infected as it may appere by the margine of a boke of the said shippes names being noted with a pricke against every of the said shippes which booke herewith your majestie shall receyve And forasmoche as it is thought that the same ships so being enfecte wyll not be mete to send fourthe at this present for that few or none will willinglie enter into them And also we think that none of these maryners be meate to be placed into other shippes we there fore most humblie desire to knoe your majesties pleasour in that behalf And as touching the musters whiche should have ben taken before me the lord chamberlein and others of the admiraltie of all the souldiours upon the shore we have respected the same tyll this tyme for lacke of money that now is arrived here. And forasmoche as the plague begynneth to be universall within this armye we have thought mete to mustre onelye the soldiours of those shippes which be not infect and therupon to make our booke of the hole nombre being clene and shall take the best ordre we can so to preserve them. Albeit ther is no suerty therin for that thei falle sicke nightly and some have dyed before me the lord chamberleyn and the admiraltie when thei have comen to receyve ther mony full of the markes. We verylie thinke that the musters of clene men will amount to a fewe in respect of those which your majesties pleasour is to have to Calice and whether the same commyng out of this infection shall be mete to joyne with the rest of your majesties armye at Calice we reserve it to your highnes great wisdom. . . ."

Ships marked as infected are—

	Tons.	Men.
The Pavoncy . . . .	450*	300
The mary hamburgh . . . .	400	250
The lesse galey . . . .	450	240
The pellycone . . . .	300	200
The Salamander . . . .	250	200
The unycorne . . . .	240	160
The swallowe . . . .	240	160
The ffawcone Lisle . . . .	200	140
The evangelist Jno. . . .	180†	120
The phenix . . . .	80	80
The George of Totnes . . . .	40	32

\* iijcl in the original.

† ciijxx in the original.



The numbers of the crews of the infected ships amount to 1882, and it may well be that nearly all died. On September 14 it was reported that there could be found "no mo remayning in healthe upon that musters but 8488."<sup>1</sup> According to Mr. Oppenheim there were 12,000 effective men on September 4, so that in less than ten days more than 3000 were laid low, and they still fell "daylie sicke."<sup>2</sup> "And of the garrison in the Yle of Wight can not be had above 500 men, and of the garrison in Portsmothe ther can be no men taken, thei be so infecte with agues and sicknes."

The fleet was soon after broken up, and in 1546 the war came to an end.

It is striking that in the foregoing letters there is no mention of any medical aid. Perhaps it was realised that the medicine of the period would have been powerless. Yet how much might have been done by cleanliness, good food, and careful segregation.

In 1557 came that war in which we lost Calais. Disease appeared and carried away large numbers. On September 1, 1558, Sir William Wynter wrote:

"Wens Daye the iij of august, having the wynd all Sutherly my Lord did waye his ancker in conquiet road and the admyrall of the flemings allso and did all to gether mack towardes portsmothe ffor the reffreshing of the shippes both of drynke and watter . . . ther fell sicke a sodden sicknes among our men that I thincke the Licke was never syne . . . halfe the men wer throwen down sick at once. . . ."<sup>3</sup> No other symptoms are recorded, but it is worth noting that the letter mentions no deaths. If the disease had been confined within one ship it might be thought, from its suddenness, that perhaps bad provisions were the cause, but it was general throughout the fleet.

The same year Queen Mary died, and the year following the war came to an end.

Little progress was made in combating epidemics, which seem to have been thought inevitable upon distant expeditions or when fleets were required to defend the country. Everything favoured disease; the ships were crowded, ventilation and sanitation were not understood, and to be verminous was little thought of. Provisions, consisting mainly of salt beef and beer, were poor in quality, and on extraordinary service commonly insufficient. Water was carried, of course, but a

<sup>1</sup> State Papers: Ed. 1830. This quotation is not taken from the original MS.

<sup>2</sup> Ibid.

<sup>3</sup> Domestic, Mary, xiii. 64.



crew was considered in extremities that had to drink it, as Sir William Wynter's letter illustrates. He that reads the records of this period, and of many years later, gradually realises, generally by chance allusion, the horrible state of life afloat. Urine kept in tubs to quench fire,<sup>1</sup> one man or two to clean the ship:<sup>2</sup> such pieces of information lift a corner of the curtain that hides the squalor of those days.

In 1588 great naval preparation was afoot to resist the intended Spanish invasion. That the Armada was coming was well known, but the lesson that scanty provisions open the way to disease had not been learnt by those who could have prevented want, and before the fighting in the Channel began our men were already dying. On July 13 Howard wrote to Walsyngham:<sup>3</sup>

"... there was never such summer seen here on the sea." The weather was very bad. "God of his mercy keep us from sickness, for we fear that more than any hurt that the Spaniards will do (this fleet) if the advertisements be true. Well, Sir, I would her Majesty did know of the care and pains that is taken here of all men for her service. We must now man ourselves again, for we have cast many overboard, and a number in great extremity which we discharged. I (have) sent with all expedition a prest for more men."

We are not told the symptoms, so cannot tell whether this was the same with that dreadful pestilence which later broke out in our fleet. What that disease was is still a matter for dispute. It was an opinion of the time that the badness of the beer was the cause of it. This does not seem a likely explanation for such mortality as then existed. It has been thought to have been the plague or typhus, but if it had been either of these diseases in their usual forms, as Mr. Oppenheim observes with force, Howard and his captains could hardly have failed to recognise it. It may have been a mixture of diseases. Typhus can hardly have been absent, nor scurvy; was there the plague as well? Diseases vary in severity, and the extreme fatality may have prevented a diagnosis being made. It is a pity that more symptoms are not recorded. On August 10, Howard wrote to Burghley:<sup>4</sup>

"MY GOOD LORD,—Sickness and mortality begins wonderfully to grow amongst us, and it is a most pitiful sight to see, here,

<sup>1</sup> Mr. W. G. Perrin, the Admiralty Librarian, kindly furnished me with a copy of an eighteenth-century MS. edition of a MS. in the Pepysian Library, written by James Humphreys in 1568, which records this practice.

<sup>2</sup> *Accidence for Young Seamen*, 1626. Captain John Smith.

<sup>3</sup> *Spanish Armada*, vol. i. p. 258. Published for the N.R.S., 1894. In these volumes the spelling is modernised.

<sup>4</sup> *Spanish Armada*, vol. ii. p. 96.



at Margate how the men having no place to receive them into die in the streets. . . . It would grieve any man's heart to see them that have served so valiantly, die so miserably.

"The Elizabeth Jones, which hath done as well as ever any ship did in any service, hath had a great infection in her from the beginning, so as of the 500 men which she carried out, by the time we had been in Plymouth three weeks or a month, there were dead of them 200 and above; so as I was driven to set all the rest of her men ashore, to take out her ballast, and to make fires in her of wet broom, three or four days together; and so hoped thereby to have cleansed her of her infection, and thereupon got new men, very tall and able as ever I saw, and put them into her. Now the infection is broken out in greater extremity than ever it did before, and (the men) die and sicken faster than ever they did; so as I am driven of force to send her to Chatham. We all think and judge that the infection remaineth in the pitch. Sir Roger Townshend of all the men he brought out with him hath but one left alive; and my son Southwell likewise hath many dead.

"It is like enough that the like infection will grow throughout the most part of our fleet; for they have been so long at sea and have so little shift of apparel and so few places to provide them of such wants, and no money wherewith to buy it, for some have been—yea the most part—these eight months at sea."

He goes on to say that it would be a good thing to spend liberally upon new clothes and that the sick should be discharged and fresh men got.

Dismal as the picture is, and unavailing though the efforts at disinfection were, the letter records a real attempt to get at the root of the evil. It also runs contrary with the notion that the disease was the plague, for if the ship was thoroughly fumigated, and the removal of the ballast shows that thoroughness was aimed at, the rats can hardly have escaped, and their destruction, had there been plague, would at least have stayed the disease. The men, presumably, were not disinfected, and brought their vermin back with them. The mortality still grew, and on August 22 Howard wrote to the Queen<sup>1</sup> from Dover.

" . . . My most gracious Lady, with great grief I must write unto you in what state I find your fleet in here. The infection is grown very great and in many ships, and now very dangerous; and those that come in fresh are soonest infected; they sicken the one day and die the next. It is a thing that ever followeth

<sup>1</sup> Spanish Armada, ii. 138.



such great services, and I doubt not but with good care and God's goodness . . . it will quench again." He goes on to say that advices had been sent to the Privy Council as to what best to do. He consulted with the most experienced captains, "who declared unto me the state of the fleet, which with sorrow and grief I must deliver unto your Lordships.<sup>1</sup> As I left some of the ships infected at my coming up (he had been to London since writing from Margate on the 10th), so I do find by their reports that have looked deeply into it that the most part of the fleet is grievously infected, and (men) die daily, falling sick in the ships by numbers, and that the ships of themselves be so infectious, and so corrupted, as it is thought to be a very plague; and we find that the fresh men that we draw into our ships are infected one day and die the next, so as many of the ships have hardly men enough to weigh their anchors. . . ." They proposed to divide the fleet and to station one part in the Downs and the other in Margate Roads, and to get the sick ashore and supply fresh victual to the best of their ability.

One of their troubles was that the men's pay was not forthcoming. This may seem of small moment in considering an epidemic, but the despondency which the delay in payment caused must have assisted the disease by making to droop the wonderful spirit and courage with which the men had endured the pestilence and the less deadly Spanish shot.

On September 4, Hawkyns writing to Burghley from the Downs<sup>2</sup> still complained that the companies fell sick daily, and advised a thorough overhaul of the ships.

After this the State papers record no more of this epidemic, for the Spaniards were beaten and the country was safe. "Flavit Deus" wrote the English with proud humility: the Spaniards might have retorted that if they had been scattered by the winds, the angel of death had breathed very terribly upon the host of their enemies.

It might be thought that the mortality was due to the fraud of contractors whereby the men never got victuals intended for them, and so in part it may have been in the case of purely naval operations; but when men like Sir Francis Drake were fitting out expeditions, fraud cannot have been easy, and yet provisions ran short, and men died in vast numbers, showing that the real root of the evil was that commanders had not yet learnt how to guard the health of their crews in long adventures. Nevertheless experience was gained, though it was many

<sup>1</sup> Howard to the Council. *Ibid.*, p. 139.

<sup>2</sup> *Ibid.*, p. 212.



years before the teachings of that experience were acted upon.

During the following reign it is pretty safe to say that no progress was made in improving the health of the Navy. If the State papers have fewer records of sickness it is because the Navy was little used. Had it been necessary to assemble a great fleet, disease would have broken out as of old. As it was, Edward Christian, captain of H.M.S. *Bonadventure*, wrote to the Commissioners of the Navy from Margate Roads on August 4, 1623,<sup>1</sup> ". . . I have not whearof to write, but of the weake, and I may truely saye Miserable estate of this shippe. Maye your Honnour please to be assured that of 160 men theare is but 70 persons of all sortes that at present is either fitt or able to do the Least Labour in the shippe of all the whole Company When they are at the best there is not 20 helme men, and but three that can heave a leade, I cannot Immagine howe she cam to be soe ill Manned. And the Infecion amongst us, is most fearfull, sodainely taken with amasednes and distraction whearof six are decayed and Many at present as Made as any in Bedlam, what corse to take with them I know not, but to quitt the shipp of them, as soone as possible." He continues that he will be diligent in pressing fresh men, without which the ship is not fit to go to sea. On August 6, Lord Treasurer Middlesex wrote to Secretary Conway in much the same strain. ". . . by these lettres, His Majesty will perceave, how grievouslie she is infected & therby how unfitt for such a voyage" (*i.e.* to Spain). "The shifting of men by prest's at sea being not possible to cleere the shipp so thoroughly of infection, as is requisite she should be for such an employment, in respect of the great danger of her infecting the rest. Therefore you may please to know His Majesty's pleasure, whether . . . this infecte shipp shall come in, & her men be discharged; that the shipp may be clensed & made sweete & wholsome for future imployment. . . . This in mine opinion wilbe the best way."

In 1625 a fleet was got together for the expedition to Cadiz, and the usual scarcity of victuals and other provision prevailed, with the result that the equally usual disease played havoc with the crews and soldiers. The expedition deservedly failed, and the ships came home in a lamentable state. In a letter written from the *Anne Royall*,<sup>3</sup> formerly the *Ark Royall*, flagship against the Armada, a number of complaints are formulated.

<sup>1</sup> Kal. of State Papers: Domestic. James I., vol. cl. 20.

<sup>2</sup> *Ibid.*, 31.

<sup>3</sup> Dom., Charles I., ix. 39.



The landsmen with which the ships had partly been manned were useless, and killed more of their own side than of the enemy.

"secondlie ; they fall sick everie daie, and so doe our Sea Men so fast, that their Officers complaine, they have not able men enough sufficient for their watches ; in most of the Fleete, and in the Convertine of the Kinges, Captain Porter tells mee, he is not able to make 15 in a watch, to trimme the sailes. . . . sixthlie ; our water almost spent, and our victuall beginning to grow short."

Interesting and pathetic is a vigorous letter of December 11 from Sir Michaell Geere, Captain of the *St. George*, to his son William, written from Ventry, into which he had been driven by stress of weather and shortness of hands: <sup>1</sup> " . . . we are beaten uppon this Coaste, moste of all our sales blowne, a way all Ratten [       ],<sup>2</sup> no Candels in the Ship, littell drynk & that stinking wattar . . . 100 sicke men. 59 deade twoo Masters mates 3 of my men, and [       ]<sup>3</sup> 10 men abele to do anny service if we had not gott in here we had perisht in the sea . . . our fleshe, cut at halfe the Kinges allowance & that so stinkes, which is amongst us, no dogg of parris Garden I think will eate it." Everything was rotten ; one of their suits of sails had been the *Triumph's* in 1588. Sir Michaell speaks of the good qualities of the ship, but she was so ill found that they durst not carry enough sail.

On December 29 Sir William St. Leger wrote of the state of the troops in the ships at Plymouth: <sup>4</sup> " . . . it is not well possible to remove them untill they have recovered there streanth, and they be new clothed for the state they stand in is now most miserable they stinke as they goe, the poore rags they have are rotten, and redy to fall of if they be touched." Officers also were infected, and all were in extremity, "the souldiers sike and naked and the officers moneyles & friendles."

On January 13, 16<sup>25</sup>/<sub>26</sub>, Thomas Philpot, captain of a ship in Milford Haven, wrote to Sir James Perrott that they could not do certain repairs.<sup>5</sup> "Our Carpenteres beinge all extremelie sicke even unto deathe and our Company so weake through like sicknes & diseases as we have not sound men enoughe to man our Longe boate." He inquired if he should land his

<sup>1</sup> Dom., Charles I., ix. 49.

<sup>2</sup> Word illegible.

<sup>3</sup> A word I cannot read, perhaps "not" or "but."

<sup>4</sup> Dom., Charles I., xii. 81.

<sup>5</sup> Dom., Charles I., xviii. 63.



sick and press fresh men, then comes the inevitable complaint of the victual, "we have 300 Cod ffishe which is a greate proportion of our provision that is so Corrupt & badd as the very savor thereof Contagious," and "The cause that our men declyne soe fast is want of Clothinge as well as holsome victualls."

On January 17 Pennington wrote from Plymouth to Buckingham of the grievous state of affairs; after enumerating the chief needs of the ships he requests,<sup>1</sup> "a strict command for a press for the greatest part of the sea men are sick & dead; so that few of them have sufficient sound men to bring their shippes about." Pennington, as his letters show, was humane, and sympathised with the suffering he could not alleviate, and it is characteristic of his age that he put the wants of the ships before the wants of the men. It may be that he was keeping the worst till the last that it might impress itself the more on Buckingham's mind, but there is an evil tendency in the human mind to put things before the men that use them. "We've got the ships: We've got the men" ran the popular song of thirty years ago, inverting what should have been the true order.

On January 17 he wrote to Nicholas:<sup>2</sup> "There dyed 1250 or more . . . for there is a misserable infection among them, and they dye verie fast."

Next came the preparations for the Rhé expedition, with a repetition, or rather a continuation, of the same horrors. On March 8, Sir Thomas Love wrote to Buckingham<sup>3</sup> that victuals were almost, and beer quite spent, that the ships were ill found, that the men were dying daily, and that those left alive were mutinous. Little seems to have been done, though the Commissioners of the Navy wrote<sup>4</sup> to Buckingham advising that the *Garland* should be docked because the leakage of beer into the ballast had caused a great infection and mortality. Sir Thomas Love wrote again<sup>5</sup> from Deal saying that the ships which had come from Ireland were unservicable, their victuals exhausted, and the men dying daily.

On March 18 we find an actual mention of the word plague, which, Pennington wrote, was rife at Plymouth.<sup>6</sup> The Mayor of the town also wrote to the Council saying that the sickness was increasing, and that soldiers were wandering about and spreading infection through the country.<sup>7</sup> A month later, on April 11, Pennington again wrote to Buckingham that the disease was increasing, and that 14 or 15 died a day, that the

<sup>1</sup> Dom., Charles I., xviii. 75.

<sup>3</sup> Kal. of State Papers.

<sup>5</sup> Ibid.

<sup>2</sup> Ibid., 76.

<sup>4</sup> Ibid.

<sup>7</sup> Ibid.

<sup>6</sup> Ibid.



men greatly desired their pay, and that it was lamentable to see and to hear them.<sup>1</sup>

Relief, however, does not seem to have been forthcoming. The picture of misery revealed is appalling, and it is easy to understand how disease must have raged among the poor men so cruelly treated.

Next year things were as bad. On May 27, 1627, Sir Henry Mervyn wrote to Buckingham from the *Happy Entrance* in Margate Road.<sup>2</sup> "Next my desire is to acquaint your grace with the lamentable state and condition of our Mariners who by reason of want of necessarie clothing are become lothsome to them selves, and so nastifely<sup>3</sup> sicke and ill disposd in state of healthe that they are not onely unfitt to labour, but to live withall. . . ." He asked that some money might be sent to save them from perishing. The end was not yet, for the Rochelle expedition was being prepared. One more quotation will suffice; a letter from Mervyn to Nicholas, dated December 23, 1627, from Plymouth:<sup>4</sup> ". . . I protest to God unless my Lorde take it speedily into consideration the king will have more ships then saylors." He goes on to say that the men are without shoes or stockings or rags to cover their nakedness, "which dothe cause these lamentable diseases and mortalitie . . . wee commonly send from our shipps 20 and 30 men a day sicke on shore, and faster then wee can supply fresh men wee send away the sicke, and all the shipps are so infectious that I feare if we hold the sea one month wee shalle not bring men enough home to more our shippes . . . I vow to god I can nott deliver itt in words." He asks for some relief for them that bear all so patiently. "I have used my best cunning to make the vanguard wholesome. I have causd her to bee washt all over fore and aft every second day; to bee parfumd with tarr burnt and frankinsence, to be ayred twixt decks with pans of charcole to be twise a weake washt with vinegar, the Hammackoes beds and clothes to bee ayred on shore, the cabbins to be cleansd, yett if to-day we gett together 200 men within foure daies after, we have not 100 labouring men and the shippe for all this so noysome and ill savoring that if the true affection of my hart did nott command a willingnes in mee to obey my Lord's commands without respect of hazard to my selfe I would rather quitt my employment then go to sea in her."

So dreadful is the impression left in the mind by these

<sup>1</sup> Kal. of State Papers.

<sup>2</sup> Dom., Charles I., lxiv. 76.

<sup>3</sup> So apparently in MS.—"nastily" presumably.

<sup>4</sup> Dom., Charles I., lxxxvii. 37.



letters of fruitless appeal that one is tempted to look upon Felton's crime rather as a piece of vicarious surgery than as murder. The Elizabethan seaman dying of putrid fever or the plague in one of the Queen's ships may have found some satisfaction in the thought that he had assisted in a glorious victory which had saved that country in which he was never again to set foot, but to the poor wretch rotting in one of Charles's floating pest-houses even that consolation was denied, and his death must have been the more bitter because it was useless.

The misery in the King's ships must not be taken as the measure of life afloat. Of conditions in the many coasters and fishermen there is no record, but there is no reason to suppose they were nearly as hard as in the Navy. It is to be regretted that we do not know more of this side of sea life. Since Henry VIII.'s time, ships had gone out to the Newfoundland banks to fish, and the experience gained in them, in keeping healthy at sea must have been slowly diffused and acted upon.

Again, though courtiers might neglect the men under them, commanders who were themselves seamen fully realised the danger of bad provisions, and the impossibility of getting good work from sick men.

Captain John Smith<sup>1</sup> in his "Accidence for Young Seamen," 1626, insists upon the importance of the health of the sailors being looked after, pointing out that, apart from bad victuals, at sea life is harder than ashore.

"Men of all other professions, in lightning, thunder, stormes, and tempests, with raine and snow, may shelter themselves in dry houses, by good fires, and good cheere; but those are the chief times, that Sea-men must stand to their tackelings, and attend with all diligence their greatest labour upon the Deckes. Many supposeth anything is good enough to serve men at sea, . . . . A Commaunder at Sea should do well to thinke the contrary." He advises certain comforts to be carried. Had his advice been universally followed scurvy might have disappeared from ships. His Petty Tally, "which is a competent proportion according to your number of these particulars following," included "Fine wheat flower, close and well packed, Rise, Currands, Sugar, Prunes, Cinamon, Ginger, Pepper, Cloves, Greene-ginger, Oyle, Butter, Olde Cheese, or Holland, Wine, vinegar, Canary Sacke, Aqua vitæ, the best Wines, the best Waters, the juyce of Lemons for the Scurvey, white Bisket, Oate meale, Gammons of Bacon, dried neates tongues, Roasted Beefe packed up in vinegar. Legges of mutton minced and

<sup>1</sup> He is buried in St. Sepulchre's Church near St. Bartholomew's Hospital.



stewed, and close packed up with butter in earthen pots." His observations contain such good sense and humanity that they deserve quoting at length.

"Some it may bee will say, I would have men rather to feast than fight. But I say the want of those necessaries, occasions the losse of more men, then in any English fleet hath bin slaine in any fight since 88: for when a man is ill sicke, or at the poynt of death, I would know whether a dish of buttered Rice, with a little Cinamon and Sugar, a little minced meate, or roast beefe, a few stewed Prunes, a race of greene-ginger, a flap Jacke, a can of fresh water brued with a little Cinamon, Ginger, and Sugar, be not better than a little poore John, or salt fish, with oyle and mustard, or bisket, butter, cheese, or oatmeale pottage on fish dayes, salte beefe, porke and pease, and sixe shillings beere. This is your ordinary ships allowance, and good for them are well, if well conditioned; which is not alwayes, as sea-men can too well witnesse: and after a storme, when poore men are all wet, and some not so much as a cloth to shift him, shaking with cold, few of those but will tell you, a little Sacke, or Aquivitæ, is much better to keepe them in health, then a little small beere or cold water, although it be sweete. Now that every one should provide those Things for himselfe, few of them have either that providence or meanes. And there is neither Alehouse, Taverne, nor Inne to burn a faggot in; neither Grocer, Poulterie, Apothecary, nor Butcher's shop: and therefore the use of this petty tally is necessary, and thus to be imployed as there is occasion."

Even in the King's service matters gradually improved, and though there was still disease, and complaints of bad provisions still occur, there was not again a state of things quite so disgraceful as that recorded above.

Some attempt was made to regulate the appointment of surgeons, and in the fifth year of Charles I. the Barber-surgeons' Company was empowered to examine and appoint surgeons for the sea-service.<sup>1</sup> It appears that the Company already claimed this right, which was now confirmed. After this time it is probable that all men-of-war of any size carried surgeons. Before, though frequently present, they do not seem to have been always found on board.

That a long voyage was possible without much illness is shown by the log of John Conny, Surgeon in the *Peregrine* of London, begun in 1648. This log<sup>2</sup> is kept in a little brown-

<sup>1</sup> An eighteenth-century MS. at the Admiralty dealing with the functions of the Admiralty and Navy Board. Vol. xvii. p. 85.

<sup>2</sup> Sloane MSS., 2779.



covered book which contains a book-plate of Robert Conny. In a MS.<sup>1</sup> of 1699 dealing with the treatment of sick and wounded men ashore, a Robert Conny is mentioned as practising as a physician at Deal. It is probable that the book-plate was his.

John Conny joined his ship on September 11. It does not appear what all her business was, but she carried passengers. His first case was one of sea-sickness. His treatment discovers more originality than he generally shows: "Sept. 25. This Night Mary Boone being somethinge seasicke did sound away: for which I was called: I tooke some vineger & wett some clouts in it & applyed to her temples & nose & wrists, it did her some good but did not recover her, then I tooke garters and bound one about each arme, and then she cryed out presently this doth mee good: this doth me good: and she presently recovered her senses: and then shee went to bed againe."

By October 3 he had plenty of small ailments to attend, and the Captain was seriously ill, of what we are not told. On October 5 he died.

He soon had four regular patients, two medical and two surgical; they were, in a short time, ready to be described as reasonable well. In medical cases his chief endeavours were to make his patients sweat. He also purged and made them vomit. The following entry is typical and is worth noting if only for the famous surname it contains.

"Friday, Oct. 13. This night Francis Hacluit complained of an extreame sorenesse of his whole body with paine in his head & stomake: administered a Bolus of Ther: Lond: to cause him to sweate but could not."

Theriaca Londiniensis he gave in nearly every case. The prescription from Thomas Brugis' *Vade Mecum*, 1651, is as follows:

R. Cornu cervini lima derasi. ʒij.  
 Sem: citri.  
 Sem: oxalytis.  
 Sem: Paeoniae.  
 Sem: Ocymi. āā ʒj.  
 Scordii.  
 Corallinae. āā ʒvj.  
 Rad: angelicae.  
 Rad: Tormentillae.  
 Rad: Peoniae.  
 Foliorum dictamini.  
 Baccorum Juniperi.  
 Baccorum Lauri. āā ʒ/s.  
 Flor: Calendulae.  
 Caryophyllorum (seu) vetonicae rubrae.

<sup>1</sup> British Museum MS., No. 28748.



Anthos.  
 Summit : Hiperici.  
 Nucis moschatae.  
 Croei. āa ʒiij.  
 Rad : Gentianae.  
 Rad : Zedoariae.  
 Rad : Zinziberis.  
 Nucis.  
 Myrrhae.  
 Foliorum scabiosae.  
 Fol : succisae.  
 Cardui benedicti. āa ʒij.  
 Cariophyllorum.  
 Opii. āa ʒj.  
 Vini canarini q.s. ad incorporand : <sup>1</sup>  
 Mellis triplum.  
 misce super igne <sup>1</sup> : fiat theriaca <sup>2</sup>.

On November 3, the ship anchored in Nantasket Road. They remained on the American coast till January 18, 16 $\frac{48}{49}$ .

Conny's use of Latin was cautious : on January 15, "Marke Hawkins received a fall in the Cooke roome & wounded his Palpebra or Eyebrowe." Theriaca Londiniensis succeeded in most cases, and till August he had the usual run of small injuries and disorders, occasionally relieved by such entries as : "Thomas Smith complaininge of some Lice which troubled him : I gave him some ʒ ʒj & ung. Laurin' to anoint the grieved part."

On August 7 a man complained of pain in his legs, which were found to be "Tumified with a Scorbutous humor beeing fallen into them." On the 10th, the carpenter complained of the same. A Welshman suffered from diarrhoea and vomiting, and wished to have blood let, but "I denyed it him by reason of the Malignity of the ambient aire which doth much hurt in the evacuation of bodies."

At the end of the month Conny himself was taken ill with the usual symptoms : pain in the head and stomach and indisposition to work ; on September 1 he "continued very ill : but tooke not any thinge." By the 10th he was almost recovered. Meanwhile the ship had come to Alexandria and had left for Messina.

On September 13 the gunner complained of "Intollerable itchinge" of his whole body, but by night only. Conny bled him, and made him wash all over with vinegar.

With the entry for September 18, one is not surprised to

<sup>1</sup> In English in the original, as are the quantities.

<sup>2</sup> Not in the original.



read "my London Triacle & Cordiall waters & syrups were all finisht."

For September 21 he wrote, "Nowe God be praysed all our men in Reasonable good health."

Early in October they reached Messina. The end of December found them in the Downs, and on January 3, 16 $\frac{49}{50}$ , they sailed for London. All this long voyage the Captain's was the only death.

In April he sailed in the same ship, now in the service of the State. They sailed to the westward, staying long at different anchorages. Ther: Lond: was as efficacious as before. On June 1, and they had not been further than Youghall, a man complained of sore gums, and was found to have the scurvy. Conny incised the gums and gave Succus Limionis to wash them. On the 3rd the patient's mouth was well, and since he now complained of pain in his leg he was told to embrocate it with the lemon juce; showing that Conny did not understand the cure of the disease. His treatment of two men that had pains in their hams, which he attributed to scurvy, was worse; he gave each gr. vj of green precipitate of mercury, and wrote that it wrought well, giving vomits and stools.

Towards the end of October they sailed for Bilbao. On Christmas day they were homeward bound, and on January 4, 16 $\frac{50}{51}$  they anchored at the Nore. Again they had had but one death, and that by a pistol accident.

In February 16 $\frac{50}{51}$  he sailed again, and this time saw some fighting. His treatment of scurvy did not improve; luckily for him the ship was pretty free from it.

"June 24 James Potts complained of a scorbutous tumor super genu sinistro. I applyed of the powder pro tumoribus to it." On July 25 "James Potts continuinge as ill affected with the scorbue as before I gave him about ʒij of Diacathol: to prepare his body to purge the day followinge."

On October 1 is the entry "Payd of at London." Again he records no death from disease.

In December 1651 he sailed in the *Phoenix of the States* to the Mediterranean. His log is less carefully kept, and there are many gaps. Finally, in fight with the Dutchmen "our Admirall<sup>1</sup> was boarded, and wee goinge to relieve him fell

<sup>1</sup> i.e., the flag-ship.



unfortunately aboard one of our enemies ships, & was taken," and so the log ends.

Under the Commonwealth real efforts were made to alleviate the hardships of the seaman in the service of the State. An Admiralty<sup>1</sup> Committee specially appointed made recommendations which seem to have been carried out. Sick men were to be landed, money was to be set by (from the men's wages, however) for special provisions, old linen was to be supplied for wounds, space was to be reserved in hospitals, and much else.

The letters change in tone when treating of the sick and wounded, and there are frequent mentions of surgeons and medical stores. These measures did not prevent illness, for many complaints are found, but the numbers are small compared with those of the preceding reign.

The following is an example of the attitude of the Commanders towards their men.<sup>2</sup>

"... We have allso sent in the *Ruby* frigate about twenty sick men whom we desire you will give order to be carefully looked after. The seamen & souldiers especially are in great want of cloaths some having hardly wherewithall to cover their nakedness, and therefore desire you will thinke of some speedy course to supply us in that perticuler. Wee are,  
Your very Affectionate friends and servants,

"GEORGE MONCK.

"ROB. BLAKE.

"*Resolution* off of the *Texell*  
the 20 June 1653."

How important this was thought is shown by the fact that a carefully written copy of the above extract was made, as though to be sent to some authority.

About 1662 Thomas Browne, surgeon in one of the King's ships and younger son of the famous physician, wrote to his father of a voyage to Tangier<sup>3</sup> that they met "with much foul and tempestuous wether, & at last not without much sicknesse, there dying thirtie in our shippe and no less then fiftie in the Admirall."

With the Restoration there does not seem to have been much change. The index of the volume of the Calendar of State Papers of the end of 1663 and the beginning of 1664 records no disease afloat, nor is the word plague found therein. Nevertheless the plague was increasing, as the next volume

<sup>1</sup> Kalendar of State Papers: Domestic: Interregnum, 1652.

<sup>2</sup> Dom. Interregnum, xxxvii. 121.

<sup>3</sup> Sloane MSS., 1831.



shows, and the year following was devastating London. Frequent references to sick and wounded men are found, and the good example of the Commonwealth seems to have been followed in this matter. In December 1664,<sup>1</sup> letters were sent to the Governors of St. Bartholomew's and St. Thomas' Hospitals, requiring them to reserve space for the reception of sick and wounded men. In 1665, when thousands were dying in London, the Navy seems to have been remarkably free from the plague, and efforts were made to keep it so. The following is an instance.<sup>2</sup>

"The Enemies Fleete beinge abroade in the Sea to engage whom it is necessary to make all speedy and fitting preparation of this Fleete. And considering that the Fleete hath lately had a very considerable supply of water; expecting that men and other provisions will be brought unto us where we Ride, And also considering the great danger of infection from the shoare into the Fleete, London, and Divers places being sorely visited with the plague, I doe strictly Charge and Comand you, your Inferiour officers and Company not to goe a shoare nor suffer any Boate or Vessell from the Shoar to bring any person aboard you or any other waies entertaine any person from the shoare without spetiall Licence from the Flagg in whose Division you are, And forbear to press men out of Colliers or Vessells from London, The neglect of the observance shall be strictly enquired into and punished by a Court Martiall.

"Given on Board the Prince the 19th of August 1665.

"To Capt. Moulton.

"(Signed) SANDWICH."

In October, Portsmouth was reported free from contagion.<sup>3</sup> In December, one Timothy Gardner wrote to the Navy Commissioners from Deal that the seamen sent ashore sick, relapsed when put on shipboard again.<sup>4</sup> On Christmas Day Sir Thomas Allen reported to the Commissioners that the *Convertine*, just from sea, had been "all the voyage very sickly, & is yet as may appeare by the inclosed list, some of them dyeing of a spotted feaver,"<sup>5</sup> apparently not the Plague. The letter is endorsed, "Send her to Hole haven"—an excellent place for isolation. The list gives the names of 47 dead and of an equal number of sick men, of whom all but 11 had been set ashore.

<sup>1</sup> Kal. of State Papers, Dec. 16, 1664.

<sup>2</sup> Harleian MSS., 1247.

<sup>3</sup> Kal. of State Papers, 1665.

<sup>4</sup> Ibid.

<sup>5</sup> Dom., Charles II., cxl. 14.



The following summer there was much plague at Harwich<sup>1</sup> and, since men were pressed from the shore, as a natural result cases occurred in the ships. Three hundred and four were landed sick from the *Rupert* alone, and died of the Plague. This, however, cleared the ship of it. After this year it does not seem to have visited the Navy again.

If plague departed, other diseases did not. There was published, in 1825, the diary of Henry Teonge,<sup>2</sup> Chaplain in the Navy, kept between 1678 and 1679. Teonge apparently was a man in humble circumstances who took things as he found them, and who was not troubled in conscience as long as he kept within his official round. For what he received he was duly thankful, as he records soon after joining his ship: "And here I might tell you what Providence putt into my hands; which though littell worth of themselves, yet were they of greate use to him that wanted almost everything. Early in the morning I mett with a rugged towell on the quarter deck; which I soone secured. And soone after Providence brought me a piece of an old sayle, and an earthen chamber pott;<sup>3</sup> all very helpfull to him that had nothing."

They sailed for the Downs, and Teonge expressed himself well pleased with the life: "We goe to prayers at 10, & to dinner at 12. No life at the shoare being comparable to this at sea where we have good meate & good drinke provided for us, & good company & good divertisments without the least care, sorrow or trouble." Aft, at any rate, the food seems to have been ample. They sailed for the Mediterranean, and on the way had many cases of sea-sickness. On December 24 we read, "Our decks are washt for Christmas," which sounds suspiciously as though washing them was rare. Some of the men's beef was thrown overboard, "for the meate was so bad that they chose rather to eate bread dry, then to eate that meate. That was much to our Purser's discreditt." Nevertheless only three or four men died on the voyage.

In 1678 he shipped on board the *Bristoll* bound for Virginia. On May 9, soon after joining, he records how "Punch and brandy since I cam on board have runn as freely as ditch-water." The men soon fell sick. On Christmas day their lieutenant died, and there had already been two deaths among the crew. Where each death is recorded it produces a far greater

<sup>1</sup> Kal. of State Papers, 1666.

<sup>2</sup> Unfortunately the MS. cannot now be traced.

<sup>3</sup> Neither would be found in a modern man-of-war, unless a boat's sail.



effect upon the reader than the mere statement of the total number of deaths at the end of a voyage, though there may have been more of them. Let the following prove it:

"*Jan. 2.* I buried . . . William Biggs."

More than a month passed.

"*Feb. 7.* This day I buried 2 out of our ship. I think they were little better than starved to death with cold weather.

"*Feb. 9.* I buried our Captain's cabin boy Imanuel Dearam.

"*Feb. 11.* I buried Samuel Ward, who had layn sick a long time.

"*Feb. 26.* This day I buried John Wilkinson, the carpenter's mate.

"*March 5.* Very cold days. I buried Izaak Maule, a Swede.

"*March 6.* And this day I buried Samuel Massy.

"*March 9.* This day I buried in the sea William Watson, belonging to the carpenter's crue." They were just out of Minorca.

"*March 12.*" At the island of Firmiteare. "Here was buried William Foster of the carpenter's crue." The captain "took cold" there.

"*March 19.* Our Captaine is now past all hopes of recovery . . . Brave Captaine Antony Langston dyed a very little after 10 o'clock this night."

The body was taken away in a barge and buried at sea with gun-fire and other ceremony. "The Solemnity being over, all the company cam back to our ship, where we had an excellent collation, and plenty of wine."

"*March 22.* I buried Francis Forrest as tis said eaten to death with lyce.

"*March 23.* We had prayers; after which I buried Joseph Pearson.

"*April 6.* I buried Isaac Webb out at the gunn-roome porte."

April was a healthy month.

"*May 1.* A fayre day & a fresh gale, & wee are past Cape Snt. Vincent. I buried John Johnson out of the gunn-roome port.

"*May 2.* Calm this day . . . I buried Henry Johns, out of the gunn-roome port.

"*May 3.* . . . I buried Rich. Dell," as before.

"*May 5.* The same wether still to our great discomfort for wee have little fresh water, & as little provisions for such a sick ship's company. God send us a short passage.

"*May 7.* A small gale, I buried Thomas Smyth."



The wind increased.

"May 9. . . . I buried John Horsenayle.

"May 12. I buried Mr. Richard Cooling in a coffin.

"May 16. Little wind, I buried William Wattson."

On the 22nd they anchored off Plymouth.

"May 25. No prayers, our captaine being not well. I buried Jeffrey Tranow.

"May 30." In the Downs. "A rainy day. I buried Joseph Bryan. And wee sent to shore 32 sick men; pittifull creatures."

Prayers were stopped when the captain fell ill, but the day before they landed their sick they were celebrating the King's birthday with guns, firing for above an hour "all in honour of King Charles, whom God blesse with long life, &c."

Such voyages must have given the surgeons plenty to do, unless, as is probable, they neglected their work. The service seems to have been unpopular, for it is recorded that<sup>1</sup> in 1692 the Surgeon's Company desired a standing Power from the Lord High Admiral, to impress surgeons and surgeon's mates.

In 1699 further instructions were issued concerning the treatment on shore of sick and wounded seamen, and liberal pay was offered for looking after them, as much as £200 per annum for a physician and an equal amount, but usually £100, for a chirurgeon. Twelve pence a day was to be allowed for each invalid, and in addition smallpox patients were to have 6d. a day extra for the first ten days to provide nurses. If a sick man could travel without danger to his life, he was to be given 1d. a mile conduct money, and sent to a London hospital.

In 1708 an expedition was prepared at Bristol of a kind associated more with the sixteenth century than with the eighteenth. Two ships, the *Duke* and *Dutchess*, were provided. In the former sailed the famous Dr. Dover, and her captain, Woodes Rogers, wrote the account of the voyage—a most amusing work,<sup>2</sup> in a vein of wit and gaiety, and with much unintended humour. It is striking that at the beginning he wrote that scurvy was usual on such cruises, but that the means to prevent it were so well known that it was easily provided against. Nevertheless it occurred. In August they sailed. When they crossed the "Tropick" they ducked those that had never done so before. "This prov'd of great use to our fresh-water Sailors, to recover the Colour of their Skins which were

<sup>1</sup> Admiralty MS. alluded to above.

<sup>2</sup> A Cruising Voyage Round the World. 1712.



grown very black & nasty." However, they made the land having had but one death, from a fall from aloft. They took their water-casks ashore to clean, "being Oil-casks; & for want of cleaning stunk insufferably."

At the "Isle of Grande," in Brazile, they fell in with "two great French ships homeward bound from the South Seas . . . had bury'd near half their Men here."

Early in 1709 scurvy appeared. On January 1, a man died, probably of that disease. On the 14th we are definitely told that a man from the *Dutchess* was buried that died of the scurvy, and soon many had it in both ships, and on the 22nd another died. The *Dutchess* was the more sickly. As of old the men lacked clothing. At Juan Fernandez they refreshed themselves. There were 21 sick in the *Duke* and more in her consort, but all recovered but 2. On February 10, they sailed. In March the scurvy appeared again, and on the 27th a Dutchman died of it. However, the old spirit of the adventurers, which no hardships could quench when there was a chance of enrichment, or, in justice, of serving their country, still lived, for of one expedition, in which they landed in boats, it is written, "It blow'd fresh and was very dark, with a small rolling sea, and the Boat cram'd w<sup>th</sup> Men, I had rather be in a Storm at Sea, than here; but in regard we are about a charming Undertaking, we think no Fatigue too hard."

The charming undertaking was the taking of the town of Guiaquil. They took the town, but nearly all the men that had landed caught some disease, and many died. Their victuals also proved none of the best, for their bread was "so full of Worms, that it's hardly fit for Use."

When they put to sea again the men were still in a bad condition. On August 29, 1709, a youth died "of a complication of Scurvey & the Pox, which he got from a loathsome Negro, whom we afterwards gave to the Prisoners that she might do no further Mischief on board." Some turtles they found kept the men from scurvy, but were found a "faintly food," and not good to work on. Early the following year there was much illness both among the regular crew and the negroes whom they had shipped to make good their numbers. The *Duke* also sprang a leak which gave much labour at the pumps.

At Guam they refreshed. At Batavia they buried the master of the *Duke*, the gunner of the *Dutchess*, and 2 men. On December 28, "Mr. James Wase our chief Surgeon died . . . a good surgeon & bred up at Leyden in the study of



Physick as well as of Surgery." He was buried with ceremony. At the end of 1710 they were at the Cape of Good Hope, having left Batavia in October. At the Cape they buried many of their men, a score or more. There the Dutch had a "noble Hospital" which could admit six or seven hundred men, "so that as soon as the Dutch Ships arrive here, their distempered Men are put ashore, and they are supplied with fresh men in their stead."

After some months at the Cape they sailed home. On May 14 they crossed the Equator for the eighth time in that voyage, which ended on October 14, 1711, at Erith.

Here the treatment of the age, which this essay set out to examine, ends with a story of war, disease, and gaiety. How little progress seems to have been made in the 200 years herein discussed. At the beginning of the seventeenth century, and perhaps earlier, men knew that want of proper food and clothing, combined with uncleanness, fosters disease, that scurvy could be prevented, and much besides; they knew it in Queen Anne's days, yet Anson's terrible voyage was yet to come, and many men were to die whose lives might have been saved by the knowledge of their time. The cause is to be found partly in neglect by authorities. The proverb "out of sight out of mind" is never so truly applied as to life at sea. But another cause is that quality of human nature by which men will not believe in approaching disaster if their present state be easy. Captain Cook, whose efforts for the health of his crews saved many lives, bears witness how averse the seamen were to change in diet; to make them eat anything new "requires both the example and authority of a commander."<sup>1</sup> Thanks to Cook and to Nelson, to mention but two great names, the lesson was at last learnt by the man before the mast, and early in the nineteenth century Captain Basil Hall could write of one disease: "In former days the scurvy struck down more than half the crew of every ship which made a long voyage, and was even fearfully prevalent in the navy; now the disease is so little known, that few of our naval surgeons have ever seen it."<sup>2</sup> In the merchant service it lingered till our own days, but so thoroughly is its prevention understood that a little lime-juice serves to keep it from crews fed even on the vile provisions of many modern sailing ships.

One reason why the study of the past is valuable is that it

<sup>1</sup> *A Voyage towards the South Pole and Round the World, 1777.*

<sup>2</sup> *Patchwork*, vol. ii. p. 215.



gives warnings of what may be in the future ; and perhaps its greatest lesson is that human nature is as unchanging as the sea.

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