

great leader is idolised for the day, and gets the thanks of Parliament as an august tribute to his merits. Young heroes are popular in ball-rooms, and even a private or non-commissioned, with brown features, bushy beard, and a collection of pewter decorations, gets an audience of his old companions at the corner of a street, or a passing glance of admiration from some members of "the upper classes." But the national jealousy of anything like military supremacy comes soon, and freezes the short enthusiasm.

The national jealousy is right, so far as it strikes at all attempts to give internal political power to military institutions. But there are two things which the nation owes to the soldier. Give him first fame and honours in due and permanent measure. Since, also, our wealth-born fastidiousness will not tolerate the disagreeables of war and soldier life to appear among us, surely we ought to pay the cost of that fastidiousness out of that wealth which generates it. Our requisitions on the soldiers' forbearance are not even limited to what may affect ourselves. We worthily desire to mitigate the hardships of war all over the world—among our enemies even, as well as among all neutral nations. To this end the object which war is so naturally apt to assume—the object of private plunder—has been sternly put down. The Duke of Wellington's great campaign in the Peninsula was a long resolute practical lesson against it on land and the abandonment of letters-of-marque was the abolition of its last offensive form at sea. Our policy of war is to strike at the heart, where the enemy may be paralysed and his power broken, with the least injury to life and property. This, however, is not the method of rewarding and enriching the soldier after old custom. Descents on unarmed seaports, after the fashion of our sea-king ancestors—marauding marches far away from the chief fortresses, among villages, country mansions, and rich religious houses—these are the forms of war which enrich the soldiers with plunder as the troops of Wallenstein and of Soult were enriched. Most worthily have we striven to suppress this curse—and with a success, crossed only by few exceptions. But again, why should the soldier be compelled to pay for our virtue—why not put our hand in our pockets and give him compensation, as we give it to some bloated jobber from whom we take an office where he is useless, and worse? Let us not be misunderstood in the free use of a simile. It is not strictly compensation that we would ask for the soldier, for though he has his own faults, mercenary selfishness is not among them. But since we demand that he should conduct himself with propriety and decorum should be sedulously amenable to military discipline, and at the same time carefully observant not only of the rights, but of the tastes and prejudices of civilians—that he should be as kind, generous, and disinterested as he is brave—that he should ever suppress in himself the natural disposition to covet other men's goods, for which he has so many temptations—that he should be moderate in the assertion of his own rights, and ever ready to admit and to protect those of our people—if all these demands on imperfect human nature are to be concentrated upon him, then certainly we ought to treat him, not only with fairness, but with generosity and kindness, and, even for our own sakes, should do whatever can be done to raise his condition, remove temptation, and make the practice of the many virtues demanded of him not too difficult. We are the very nation on whom falls, before all the world, the function of raising the soldier's condition. We require from him higher qualifications than the rest of the world—we are in possession of a greater wealth, which imdignates our social system with a habit of higher expenditure. What in others would be an act of difficult generosity, is to us one of easy justice.

The question of the nature and condition of the soldier among us is so large that volumes might be profitably written about it. Let us content ourselves at present with a slight glance at the department of the question to which we have already referred—the bearing upon it of that knowledge of sanitary economy which has lately been so fully developed. We shall state an antithesis of two examples—both by the way, earlier than the labours of the present race of sanitary economists, but not on that account less instructive as an illustration of the resources of the science in the improvement of the army,

since it records a triumph accomplished to words the other great department of our armament, the Navy.

We question if any one can realise what a ship of war was an hundred years ago. It was by looking from the quarter-deck down below that Johnson said one could "see the utmost extent of human misery—such crowding, such filth, such stench." This is vague, perhaps, and Johnson was a man with relentless prejudices, which he uttered hyperbolically; he exaggerated much when he said, "A ship is a prison, with the chance of being drowned; it is worse—worse in every respect—worse air, worse food, worse company." One would not take Smollett from his life and writings, to have been a fastidious man. He was our dear countryman, but we are bound to admit that our forefathers of his day had but faint notions of the importance of cleansing the pores of the cuticle, and scarcely enjoyed enlightened notions on drainage and ventilation. Nor did his wayward life give him many opportunities for correcting any deficiencies in his early training. When he was twenty years old, he held the office of surgeon's mate in the expedition of Vernon against Carthage in 1741. There can be little doubt that he has described with tolerable accuracy in *Roderick Random* his reception into the sphere where where his noble profession was to be exercised: "My friend Thomson carried me down to the cockpit, which is the place allotted for the habitation of the surgeon's mates, and when he showed me their berth (as he called it), I was filled with astonishment and horror. We descended by divers ladders to a place as dark as a dungeon, which I understood was immersed several feet under water, being immediately above the hold. I had so soon approached this dismal gulf than my nose was saluted with an intolerable stench of putrid cheese and rancid butter that issued from an apartment at the foot of the ladder, resembling a chandler's shop; where, by the faint glimmering of a candle, I could perceive a man with a faint meagre countenance sitting behind a kind of desk, having spectacles on his nose and a pen in his hand. This, I learned of Mr. Thomson, was the ship's steward, who sat there to distribute provisions to the several messes; and to mark what each received."

The admirers of Smollett will have a pungent recollection of Roderick's fate, when he endeavoured to imitate that feat of the surgeon, which was achieved by creeping under the solid stratum of hammocks, in the hospital, and cleaving his head through between them. We dare not conduct the reader further than the entrance of the hospital—it is far enough. "I assisted Thomson in making up his prescriptions; but when I followed him with the medicines into the sick berth or hospital, and observed the situation of the patients, I was much less surprised that people should die on board than that any sick person should recover. There I saw about fifty miserable distempered wretches, suspended in rows, so huddled one on another that not more than fourteen inches space was, allowed to each, with his bed and bedding, and deprived of the light of the day as well as of fresh air, breathing but a noisome atmosphere of the morbid steams exhaling from their own excrements and diseased bodies; devoured with vermin hatched in the filthy that surrounded them; and destitute of every convenience necessary for people in that helpless condition."

It was probably in such ships that Admiral Hosier's force died off every one of them, leaving the manning of the vessels to new recruits. Nay, it has been said that the complement of his fleet died twice over in lingering expeditions against the Spaniards, which it was his good fortune not to survive. But all this is merely introductory to the antithesis of two examples, showing the influence of sanitary neglect and sanitary exertion on shipboard, supplied by the vital statistics of two renowned voyages round the world.

In our youth the narrative, by Walter, of Anson's *Voyage round the World*, was a book deservedly popular. Its author was not stamped in any of the fixed literary moulds of his age; indeed, his style would not have stood the test in *Blair's Rhetoric*. The charm of his book lies in the unconscious earnestness with which he tells the daily events of the voyage, and explains in his own way the feelings of the actors and sufferers. It is no inconsiderable testimony to the au-

hold on his reader's sympathy, that he commands it though a long continuous gloomy record of mortality, disease, and despondency. The interest is brought to a climax like the histories of the sighting of land by Columbus; when the survivors reached their destination—the fruitful island of Juan Fernandez, whence their boat returned laden with grass; "for though the island abounded with better vegetables, yet the boat's crew in their short stay had not met with them, and they well knew that even grass would prove a dainty, as indeed it was all soon and eagerly devoured." But alas! they were far too late in reaching the land of promise and relief. The very possibility of landing was problematical. In one vessel, which, as the narrator says, had passed the Straits of Le Maire with between four and five hundred men in health and strength, "the lieutenant could muster no more than two quarter-masters and six foremast-men capable of working." These, assisted by the officers' servants and boys, took two hours to trim the sails. When they sent 167 sick on shore, twelve died in the boats; and so many of those who reached land alive were beyond the reinvigorating power of fresh air, that for the first ten or twelve days there were six burials daily. The summation of the whole was, that when the plague was stopped, and the strength of the squadron was counted before leaving Juan Fernandez, of 961 men who had embarked in three ships, 335 were living and 516 dead. We hold this history of calamity to be peculiarly significant, because, along with some early similar misfortune of his own, it prompted a zealous, humane, and skilful commander to turn anxiously in his mind, whether it was the design of Providence that those who go down to the sea in ships should find the common causes of mortality more deadly in their ravages, than the tempests of the sea or the casualties of battle. The matter was really one of great doubt. The writer we have just been quoting from, languidly remarked, that he "would not be understood to assert that fresh provisions, plenty of water, and a constantly supply of sweet air between decks, are matters of no moment;" but it was possible, he thought, that the freshest air might be rendered inimical to animal life, "by mixing with it some subtle and otherwise imperceptible effluvia," and as an application of this hypothesis, he suggested for the consideration of the maritime world the consoling view, "that the steams arising from the ocean may have a tendency to render the air they are spread through less properly adapted to the support of the life of terrestrial animals unless these steams are corrected by effluvia of another kind, which they alone can afford." The solution of the question fell to Captain Cook. It was undertaken very appropriately in a repetition of the achievement—the circumnavigation of the globe—which, by so calamitous an issue, had raised the doubt. He had gone on one unfortunate voyage; he determined that, if skill and ceaseless attention were of any avail, he should not have another. He prescribes at length his adjustment of the men's dietary, with the provision of antiscorbutics and other protective viands. But in conjunction with fresh provisions and vegetables, and with a continual supply of fresh water to the men, the most material part of his arrangements probably was, that "proper methods were taken to keep their persons, hammocks, bedding, clothes, &c., constantly clean and dry. Equal care was taken to keep the ship clean and dry betwixt decks. Once or twice a week she was aired with fires, and when this could not be done, she was smoked with gunpowder mixed with vinegar and water. I had also frequently a fire made in an iron pot at the bottom of the well, which was of great use in purifying the air in the other parts of the ship;" and so on. As our object is merely to afford a general notion of the tendency Cook's arrangements, not to instruct future circumnavigators how to preserve their men, we need not quote farther. He gives, with becoming seriousness, the reason for enumerating the several causes to which, under the care of Providence, the long continued health of his crew was owing; and he had, indeed, full ground for thankfulness when he had to say, that, after an absence of three years and eighteen days, he lost but four men, and only one of these by sickness.

We have dwelt somewhat on these two contrasted histories, because they show very

distinctly what we have already referred to—the existence of sanitary opinions and practice long before the existence of a school of sanitary philosophers. In fact, there can be no doubt that the potency of sanitary arrangements is as clearly proved as that bread nourishes and arsenic kills. The result of Cook's experiment could not but tell in the department in which he practised it; and a ship in her Majesty's navy is now a different place, indeed, from that which Smollett described it, after having served in the navy. Yet that there should remain so much sanitary science still latent, affords uncomfortable evidence, how slowly such improvements penetrate the crust of habit—how long they may remain unadopted, almost unknown, until they are borne in by some great pressure of public opinion—until, in short, a row is raised, and they are carried in the confusion by acclamation.

An old case in point has proved useful to us; moreover, as we do not desire to dwell too largely on recent events. The public has supped full of horrors on the details that have been so profusely laid before them about the sanitary condition of the camp in the Crimea, and the hospitals along the Bosphorus. There is generally, however, in evils, some one characteristic matter denoting a climax—as the wasting on the face of a rock may mark the highest level of a flood. Such was the nature of the vermin which appeared upon our men in the Russian campaign. Of the lesser vermin which infect the human frame in filth or disease, we have all heard often enough—many of us may have seen them; some of us, of course, in consequence of some charitable mission among "the lower orders," may possibly have been subjected to the sanguinary attacks of a solitary wanderer from the herd. It is unnecessary to estimate the state of matters by the profuse supply of the smaller threads, since both in the field hospital at Balaklava, and in the hospitals on the Bosphorus, the large and loathsome maggot crawled everywhere; and fed on the sores of the wounded soldiers. A nurse who crossed to Balaklava, states in her diary, that she took a quart of them off one man. Perhaps it may be stated, as a paralysed flood-mark of filth, a dead horse and hospital dressings are attested to have been seen in the tank for supplying one of the hospitals with water. And so enough of this dismal piece of experience. We leave it subjoining merely the unimpassioned estimate by the Commission of Sanitary Inquiry, of the causes and progress of the disaster, and the effect of the operations of Commissioners who were sent out in winter to deal as best they could with the difficulties which they found.

"With regard to the hospitals at Scutari and Kululee, the evidence shows that their unexampled mortality arose from other cause beside the severe type of disease. The drains of the hospitals were nothing better than cesspools, through which the wind blew sewer air into the corridors and wards. There was no ventilation; there had been little or no lime-washing; the ward utensils infected the atmosphere; the hospitals were overcrowded; there was an overcharged graveyard close to the general hospital; the number of sick admitted went on increasing; no sanitary improvements were effected, and the mortality rose progressively month by month as follows:—

There died 155 per 1000, tested from November 12 to December 9.

" 179 "	Dec. 7 to Janua. 10.
" 321 "	January 7 to Janry 31.
" 427 "	Feb. 1 to Feb. 28.

"During the month of February, although the mortality rose so considerably, the number of sick in hospital, as well as the admissions, had fallen off; and the deaths on board transports were only one-sixth part in January, showing that though the army was becoming more healthy, the hospitals were becoming more unhealthy the longer they were used.

"About the middle of March the sanitary improvements in the hospitals were commenced. During the three weeks preceding the 17th, the deaths were 316 per 1000 treated, and in the following five periods of three weeks each, the progressive fall was as follows:—

There died 144 per 1000, treated from March 18 to April 8.

" 107 "	April 9 to April 29.
" 52 "	April 29 to May 20.
" 48 "	May 20 to June 10.