On reading the journals and discussions one gets the impression that matters are not as they should be in India. There seems to be an absence of proper standards of authority. Had there been in each Presidency during the past twenty years thoroughly equipped Government Laboratories in charge of able men, well trained in modern methods, the contributions to our knowledge of epidemic diseases might have been epoch-making, and at any rate we should have been spared the crudeness which is evident in some of the work (particularly in that upon Malaria) of zealous but badly trained men.

In estimating the progress of medicine in the countries comprising Greater Britain, the future rather than the present should be in our minds. The strides which have been taken during the past twenty years are a strong warrant that we have entered upon a period of exceptional development. When I see what has been accomplished in this city, in the short space of time since I left, I can scarcely credit my eyes. The reality exceeds the utmost desires of my dreams. The awakening of the profession in the United States to a consciousness of their responsibilities and opportunities has caused unparalleled changes, which have given an impetus to medical work which has already borne a rich harvest. Within two hundred years who can say where the intellectual centre of the Anglo-Saxon race will be? The mother country herself has only become an intellectual nation of the first rank within a period altogether too short to justify a prediction that she has reached the zenith. She will probably reverse the history of Hellas, in which the mental superiority was at first with the colonies. At the end of the next century ardent old-world students may come to this side 'as o'er a brook,' seeking inspiration from great masters, perhaps in this very city; or the current may turn towards the schools of the great nations of the South. Under new and previously unknown conditions the Africander, the Australian, or the New Zealander may reach a development before which even the 'glory that was Greece' may pale. Visionary as this may appear, it is not one whit more improbable to-day than would have been a prophecy made in 1797 that such a gathering as the present would be possible within a century on the banks of the St. Lawrence.

Meanwhile to the throbbing vitality of modern medicine the two great meetings held this month, in lands so widely distant, bear eloquent testimony. Free, cosmopolitan, no longer hampered by the dogmas of schools, we may feel a just pride in a profession almost totally emancipated from the bondage of error and prejudice. Distinctions of race, nationality, colour and creed are unknown within the portals of the temple of Aesculapius. Dare we dream that this harmony and cohesion so rapidly developing in medicine, obliterating the strongest lines of division, knowing no tie of loyalty but loyalty to truth—dare we hope, I say, that in the wider range of human affairs a similar solidarity might ultimately be reached? Who can say that the forges of Time will weld no links between man and man stronger than those of religion or of country? Some Son of Beor, touched with a prophetic vision, piercing the clouds which now veil the eternal sunshine of the mountain top, some spectator of all time and all existence (to use Plato's expression), might see in this gathering of men of one blood and one tongue a gleam of hope for the future, of hope at any rate that the great race, so dominant on the earth to-day, may progress in the bonds of peace—a faint glimmer, perhaps, of the larger hope of humanity of that day when 'the common sense of most shall hold a fretful 'world' in awe.' But these, I fear, are the dreams of the closet student who knows not the world nor its ways. There remains for us, Greater Britons, of whatsoever land, the bounden duty to cherish the best traditions of our fathers, and particularly of the men who gave to British medicine its most distinctive features, of the men, too, who found for us the light and liberty of Greek thought—Linacre, Harvey and Sydenham, those 'ancient founts of inspiration,' and models for all time in Literature, Science and Practice.

Miss Roddick's tea in the Art Gallery on Tuesday was a most enjoyable function, and the hostess must certainly have felt somewhat fatigued by the time she had done welcoming the continuous stream of ladies and gentlemen who, as they were announced, shook hands with her and filed into the building. The scene was a brilliant one, the assembled company numbering not far short of a thousand persons, and Miss Roddick's reception, the initial one of the many social events to follow, was a great success.

Address in Surgery

BY

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THE SURGEON OF OLD IN WAR.

I am indeed greatly honoured by having to deliver to you to-day an Address in Surgery. Fortunately for me the title is a wide one, and I shall take advantage of that fact to diverge from the strict consideration of surgical disease, and shall offer you instead a brief sketch of some of the most notable work done of old by a body of members of our profession who have never received their due reward—those, namely, who have devoted their lives to the succour of the sick and the wounded in war.

MILITARY SURGEONS IN THE ROMAN ARMY.

Twelve months ago my friend, Dr. Barnes, of Carlisle, ex-President of this Association, made me acquainted with a remarkable paper by the late Sir James Simpson, entitled, Was the Roman Army provided with Medical Officers?—a paper exhibiting such profound learning, so charmingly written, and so little known that I need not make any apology for acquainting you with some of its chief points of interest.

The most careful investigations have failed to make out from their writings whether the Romans regularly appointed physicians and surgeons to their armies or not, although nearly every other question relating to their military organization has been treated of, sometimes very fully. Curiously enough, what little information we possess on the subject comes mainly from mortuary or from votive tablets. Borcovicus, in Northumberland—now called Housesteads—was one of the principal stations on the line of Hadrian's wall. Here, about seventy years ago, was found a monumental tablet, now in the Newcastle Museum. On it is the following inscription:

D M	D(HIS) M(ANIBUS)
ANICIO	ANICIO
INGENUO	INGENUO
MEDICO	MEDICO
ORD COH	ORD(INARIO) COH(ORTIS)
I TUNGR	PRIMAE TUNGR(ORUM)
VIX AN XXV	VIX(IT) AN(NOS) XXV

The First Tungrian Cohort is known to have been present at the battle of the Mons Graupius, and to have served at Castlecary, at Cramond near Edinburgh, in Cumberland, and at Housesteads. The tablet is highly ornamented, and antiquarians hold that a rabbit and round bucklers carved in the upper part, which are emblems of Spain, show that the young military doctor was probably a native of that country. From various works treating of Roman inscriptions Simpson was enabled to find that four more tablets, in which surgeons of cohorts are mentioned, existed. They were found at Rome. One of them is a votive tablet, the inscription upon which intimates that it was dedicated by Sextus Titius Alexander to Aesculapius and to the safety of his fellow soldiers. It was cut in the year of the consulship of F. Flavius Sabinus, which is known to have been A.D. 83. As the Roman legion consisted of ten cohorts, it is interesting to know that there were not only medical officers attached to each cohort, but also one attached to the legion—a sort of surgeon-colonel, as we should call him nowadays. Three tablets have been discovered in which the *medicus legionis* is mentioned. One found at Verona was a tablet raised by Scribonia Faustina to her dearest husband J. Caelius Arrianus, medical officer to the Second Italian Legion, who died at the age of 49 years and 7 months. Furthermore, Simpson routed out of Mommsen's Latin inscriptions of Naples a tablet, now in the Dresden collection, which was found in the Elysian fields near Baiæ, close to the Portus Julius, which was the station of a division of the Imperial fleet. The inscription tells that M. Satrius Longinus, *medicus duplicatorius* to the Trireme Cupid, and the heirs of those freed by Julia Veneris erected the tablet to the manes of that deserving lady. The term *duplicatorius* means that by reason of long or meritorious service he was entitled to double pay and rewards. These little gleanings from Simpson's paper show what an interesting one it is, and one is astonished at the labour that

must have been expended in digging up the information contained in it.

AMBROISE PARÉ.

Hundreds of years went past before there came upon the scene any military surgeon of note, but when he did appear he was a man of transcendent merit—the illustrious Ambroise Paré. From 1517 to 1590, for seventy-three years, he lived a long and incessantly active life, the contemporary of Vesalius, the immediate predecessor of Harvey. We have only time to glance at the soldier-surgeon side of Paré's life. For over thirty years he followed the wars under four kings of France—Henry the Second, Francis the Second, Charles the Ninth, and Henry the Third, with intervals of a few years at home in Paris. Perpignan, Metz, Verdun, Rheims, Hesdin (where he was taken prisoner and had to write to his wife for his ransom), St. Quintin, La Fère, Amiens, the taking of Rouen, Dreux, Moncontour—these are but some of the bloody battles and sieges at which he was present. Through them all his humanity, his love of his profession, his independent character, and his jovial, frank disposition carried him safe, and made for the son of the poor country joiner warm friends among the greatest and noblest warriors of France. Even that miserable monster, Charles the Ninth, loved the Huguenot surgeon, and when the awful day of St. Bartholomew came, Paré was spared to tend his wretched master through the brief term of agonised and remorseful life that was given him. The description in Dumas's novel, the *Two Dianas*, of the wound of the famous warrior, Duke of Guise, where the lance entered above the right eye and came out between the nucha and the left ear, breaking short off, and how Paré lugged it out, with the chance that when it did come, one terrible gush of blood would finish his illustrious patient's life and his own career at the same moment—the picture of all this is real history.

Amid all the splendid work, both anatomical and surgical, which Paré did the application of the principle of the ligature to bleeding arteries is of course that with which his name will be forever associated. In this day of grace it is impossible for us to imagine the horrors that awaited a wretched man so soon as his limb was cut off and the process of stopping the bleeding began. Think of the raw and exquisitely sensitive stump exposed to the red hot cautery or plunged into boiling pitch! For this frightful treatment Paré substituted the ligature, which in our own day, employed in the form of an aseptic animal material which the tissues quietly absorb, has practically reached the pitch of perfection. In his time, too, there was a fixed belief that the danger from gunshot wounds arose from the poison of the gunpowder conveyed on the bullet. To destroy this poison the treatment was to pour into the wound boiling oil in which elder-wood bark had been stewed. On one occasion, not having this infernal concoction at hand, Paré used a cold mixture of yolk of egg, oil of roses, and turpentine to his wounded soldiers. He passed a sleepless night from dread that this would injure those to whom it had been applied, and his delight next day was proportionately great when he found that they had had but little pain, while their wounds were free from inflammation and swelling. This was his panacea for wounds ever afterwards. There are of course persons who wish to make out that he was not original in the matter of the ligature. He himself says this about it: "Taught me as I interpret it by the suggestion of some good Angel, for I neither learnt it of my masters nor of any other man. And thus I wish all chirurgions to doe. For it is not in our Art as it is in civil affairs, that prescription, law, or authority should prevail over right reason." But these cavillers have doubtless never heard of an ancient proverb which says that there is nothing new under the sun. In spite of them the world will ever believe in a glorious trio—Paré, the Frenchman, who invented the ligature; Morton, the American, who discovered anaesthetics; and Lister, the Englishman, who introduced antiseptics. In the fulness of years, possessed of affluence, and surrounded by friends, died Paré, the whilom poor barber-chirurgeon, now a Councillor of State and Surgeon-in-Chief to the King. One final touch will perhaps reveal a sentiment that permeated and guided his every labour. On one occasion, after the successful treatment of a wounded officer, he made this wise and reverent remark, afterwards adopted as his motto: *Je le pansay; Dieu le guarist*—I treated him; God cured him.

ROBERT CLOWES.

Coming to England, a surgeon who saw no little fighting was Robert Clowes, who was born somewhere about 1540 and died in 1604. He served in France in the army com-

manded by the Earl of Surrey, and was afterwards for several years in the navy. He then began practice in London, and was made surgeon to St. Bartholomew's and Christ's Hospitals. But, after being about fourteen years in civil practice, he was despatched by Queen Elizabeth's orders into the Low Countries to attend upon the Earl of Leicester, Commander of Her Majesty's forces. He was at Zutphen when Sir Philip Sydney was killed. His last piece of service was a glorious one, he being with our fleet that defeated the Spanish Armada. It is told of him that he always kept beside him his military surgical chest with the bear and ragged staff of his old chief Leicester on the lid. He finally settled down once more in London, where he was very successful in practice, and was made surgeon to the Queen. He wrote several works in English, of which the most important is entitled: *A profitable and necessarie Booke of Observations for all those that are burned with the flame of gunpowder, &c., and also for curing of wounds made with musket and caliver shot, and other weapons of war commonly used at this day both by sea and land*. A good half of this treatise is occupied with a record of surgical cases of note which he had treated, and this renders the work very entertaining, inasmuch as we get an accurate and positive knowledge of everything that was done for a wounded man in those days, while there are numerous little side touches very characteristic of life at the time it was written. He tells us, for instance, of "The cure of one Master Andrew Fones, a merchant of London, which, being in a ship at the sea was set upon by the Flushingers, in which fight he was very dangerously wounded with a gunshot." There is "The Cure of one Henry Rhodes, one of the waiters at the Custom House, he being upo the river of Thames a skirmishing with his peece, and by reason the peece had certain flaws in it, did breake into many peeces, and made a great wound upon his chin, and carried away a good part of the mandible and the teeth withall; moreover it did rend his hand greatly: all which I cured without maime or deformitie." There is "An observation for the cure of the master of a Hoy that had both his legs fractured and broken into many peeces with an iron bullet, shot out of a great basse or harquebusse of crocke at the sea by a Pyrat or sea rover." These few titles will give you an idea of Clowes's clinical cases. The importance which attaches to them, and the reason why they constitute a distinct advance in the science of surgery is that the author gives his actual experiences and tells us what he did to his patients, whereas at that period the tendency was to write endless commentaries on ancient writers, to whose every dictum the blindest and most unreasoning respect was paid.

PETER LOWE.

Contemporary with Clowes was a most interesting character—Maister Peter Lowe—who was born in Scotland about 1550, and lived some sixty or sixty-five years, reaching well into the seventeenth century. Like many of his countrymen, he went to France when very young, where he lived, for some say ten, some twenty years. Then he returned to Glasgow, where he lived and died a citizen of much renown, having obtained in 1599 from King James the Sixth a charter for the Faculty of Physicians and Surgeons of Glasgow, which he thus founded. A few years ago Dr. Finlayson published a most charming account of Maister Peter.

His most important work is termed *A Discourse of the whole art of chirurgery, compiled by Peter Lowe, Scottishman. Doctor in the Faculty of Chirurgerie at Paris, and ordinary Chyrurgion to the French King and Navarre*. The first edition dated from 1597, and is one of the earliest, if not the very earliest, work embracing the whole art of surgery published in English. It is clear that Lowe must have seen a good deal of military service abroad, being "Chirurgion Major to the Spanish regiments two years at Paris, and since that time following the king of France my maister in the warrs." In his day, as we have seen, the surgical world was still greatly exercised about gunshot wounds and burning by gunpowder, as it was believed that they were injuries of quite a peculiar and very poisonous character. Lowe, however, treats of them with great good sense. Thus: "*Of Wounds done by Gunshot*—These wounds come indifferently to all parts of our body whereof there are divers opinions; some think that there is a venosity in the powder, and burning in the bullet, which is false, for the thinrs whereof the powder is ordinarily made, as Brimstone, Saltpeter, coales of divers sorts of trees, Water, Wine and Aquavitæ, have no venosity in them; likewise there is no burning in the bullet, for if the bullet of lead being shot a great way, should burne, through heat would be melted itself. I have

cured divers within these thirty yeares of divers nations which have followed the warres in Fraunce and other cuntries, in the which I have found no more difficulty than in any other contused wounds." Here, again, we have a most important advance made by a military surgeon, for only those who are acquainted with the medical literature of Lowe's time can understand the ridiculous views then held about gunshot wounds, and the dreadful consequences to the patients which followed from them.

We have seen that Paré lived between 1517 and 1590, and that Peter Lowe was in France between 1570 and 1580; consequently, he probably learnt all about the ligature for the arrest of hæmorrhage. When treating of amputations he describes the whole process of the operation up to the removal of the limb. Then he says: "One of the Assisters shall put the extremitities of his fingers on the great vains and arteries to stay them from bleeding till the Chyrurgion either knit or cauterise them one after another. Where there is putrefaction we stay the flux of blood by Cauters actuals, and where there is no putrefaction, malignitie nor humour venomous we use the legator." He narrates the case of a certain valiant Captain Boyle, of the Spanish troops, whom he, in the capacity of Chyrurgion-Major to the regiment, was summoned to treat for an "aneurisme on the right side of his cragge." Lowe ordered it to be let alone, "but the captain sent for an ignorant Barbor who did open the swelling with a Launcet, which being done, the spirit and blood came forth with such violence that the Captain died in fewe howers after." Having duly castigated the Ignorants who do such things, Lowe observes that his treatment for such cases is first to draw blood in both arms, and then to apply on the tumour "Rec, Pulveris subtilissimi boli arminici, sanguis draconis, myrtilorum, lapidis calaminaris in aceto extincti, absinthii ad unc. cum cerato refrigerantis Galeni quantum sufficit, fiat unguentum." Curious to note how, even in men of distinct ability like Lowe, a complete ignorance of pathology dragged them into the perpetration of the silliest empiricism.

WOODALL'S "VIATICUM."

In 1628 appeared the first work in England specially devoted to military and naval surgery. Some eleven years later a second edition appeared, and this is its title:—*Viaticum, being the Pathway to the Surgeon's Chest, containing chirurgical instructions for the younger sort of surgeons employed in the service of his Majesty or for the Common-Wealth upon any occasion whatsoever intended for the better curing of wounds made by Gunshot*, by John Woodall. A perusal of the *Viaticum* shows that Woodall was a very practical surgeon and an eminently religious man, and the way in which he mixes up pills and piety is sometimes very diverting. After some excellent general advice to the surgeon's mate, including a warning against "being given and dedicated to the Pot and Tobacco-pipe in an unreasonable measure,"—he enumerates the instruments for the Surgeon's Chest, including among others Catlings, Rasours, Trapanes, Trafine, Lavatories, Cauterising Irons, Storks bills, Ravens bills, Crowes bills, Terebellum, Probes or flamules, Glister Sirings and (what would have utterly damned his book in the present day) "one bundle of small German instruments." Then comes a list of medicines under the heading Unguentum, Aqua, Sol, Oleum, Chemicall Oyles, Syrups, Conserva, Electuariæ, and so on, winding up with a list of the Simples, and of the Herbs and Roots most fit to be carried. A long and careful description of the uses of the instruments and drugs follows, and then come chapters on wounds, apostumes, fractures, dislocations, amputation, scurvy, the plague, gangrene, and other topics. He observes that the cauterising irons had gone somewhat out of fashion, and he did not use them much himself "because of the feare they put the Patient into and for speech of people who are ready to scandalise an Artist upon each light occasion." In amputation, moreover, they are "now wholly forborne for reasons aforesaid, and for that a more pleasant course is known better for the patient and the Artist by making a ligature upon the veine, wound or artery, which is the binding of each end thereof, being first caught and holden with some fit instrument, and tied with a sure and strong thread."

Woodall advances the cure of wounds a distinct step, once more putting us under an obligation to the soldier-surgeon. This he does by sharply attacking all through his works the inordinate and meddlesome use of strong caustics. He says that he had seen men lamed by the needless use of caustic medicines, even in slight wounds to which if an old wife had only applied her one salve for all sores, no such thing had happened. "They will not see a wound incarne and red and good flesh to grow, but

straight they slander it of pride, and call it proud flesh, like their owne; and then must at the fairest Precipitate or Vitriale burnt goe to work, yea though the Patient be lame for it, or at the least the griefe put back again."

RICHARD WISEMAN.

I wish I had time to give you a proper account of the adventurous life of Richard Wiseman, who has been termed the Father of English Surgery, and that not without reason. Born in 1620, dying in 1676, he lived in the time of Charles the First, of the Commonwealth, and of Charles the Second. He was a naval surgeon to begin with, serving in the early part of his life in the Dutch navy. Being, however, a devoted Royalist he served with the armies of Charles the First, and after his death went into exile with his son in France. He was present at the battle of Worcester, where he was taken prisoner, and afterwards confined in Lambeth House for awhile. During the Commonwealth he was naturally under a cloud, and even went off for three years to serve in the Spanish navy. At the restoration the King did not forget his old surgeon, who had done and suffered so much in his service, but appointed him his surgeon-in-ordinary, and afterwards serjeant-surgeon. The first edition of his work, printed in 1672, is quite a small book, and is entitled *A Treatise of Wounds*, but it afterwards expanded into a very large volume.

Nothing reveals a man like his own words, and so in trying to give you an idea of these old worthies I have let them tell their own stories. Wiseman believed in the need for giving stimulants to a man who was in the habit of taking them, if that man was in a dire strait. After describing the parlous case of a certain patient, it seems that the "man swooned and complained that he could not live without wine. I complied with his desire; he drank again as he pleased, his sickness went off, his wound digested, and he cured. This I have often seen in some of our Dunkirkers at sea, who drank extraordinarily, and were full of drink in our sea fights. I could scarce ever cure them without allowing them wine, and thereby their spirits were kept up, and I had the liberty to bleed them as I thought fit." From this it is clear that the old saying about Dutch courage has a distinct origin in fact. But if the unhappy Batavians were liable to be bled at once by the lance of the enemy and the lancet of the surgeon, one can hardly wonder at their taking something to keep their spirits up.

When speaking of gunshot wounds, he insists upon the bullet being searched for and extracted at once. "The part is at first dressing, with what diligence you can, to be cleared of all such Foreign Bodies as have made violent Intrusion into it, while the patient is warm with the heat of Battel, and the wound fresh and very little altered by either Air or Accidents, so that less pain must necessarily follow upon the extraction. In the *Armada Naval de Dunquerque*, where we Chirurgeons were oft employed in this Service, we after every fight went together visiting one another's wounded men. Amongst us it was thought a great shame if any of this work of Extraction was there to be done. It hath been the cause of the death of many a brave Souldier, and every Battel produces instances of it, to the discredit of our profession." This is good surgery and straight talk. I think it must have been a fine spectacle to have seen these rough old surgeons, with their limited knowledge and their miserable means of treatment, walking round to see each other's patients and learning how best to mend their mistakes.

He has a chapter entirely devoted to a great case of a fracture made by a splinter. The patient had his arm badly smashed above the elbow, and ought to have had it amputated; but a sudden cry of fire stopped this. "I hastily clapt a dressing upon his wound and rouled it up, leaving his arm in his other hand to support it, and endeavoured to get up out of the hold as the others did, I verily believing I should never dress him or any of them more. But our men bravely quitted themselves of the Fire-ship by cutting the Sprizil Tackle off with their Hatchets (which they wore during fight sticking in their Shashes); we were freed of the fire, and by our hoisting up the top sails got free of our Enemy. Now, I was at a loss what to do with this man, who lay not far off complaining of his arm. I would have cut off his arm presently with a Razor (the Bone being shattered there needed no Saw); but this man would not suffer me to dress his arm; he cried 'it was already drest.' The Fight over, we got into the next Port; I caused presently the Mariner's Bed to be set up (which was four pieces of wood nailed together and corded, and a Bear's skin laid upon it); this was fastened between two Guns to the Carriages." Wiseman then set hard to work to save this unfortunate

mariner's arm; but "when it came to my turn to be visited by my brother Chirurgeons of our Squadron, they did not dislike the wound nor my way of dressing (for we, being used to see one another's Patients, had all much one way of dressing); but they laughed at the excuse I made for not cutting off his arm, and doubted I should yet be forced to do it. But at the end of two months there was in this Patient a strong callus, filling up the void place of the lost Bone at least two inches, with little or no shortening of the arm." Well done Wiseman!

BARON LARREY.

Up till the time of the French Revolution it is clear that military surgeons were not men of much importance, and probably had very little influence, if any, in the conduct of campaigns. But in the latter part of last century war was made on a scale which was never known before, and was made also with a rapidity and a precision quite unprecedented. Moreover, the science and art of surgery had been rescued from quackery, and surgeons in actual practice were able to be of great and real service to the wounded. As a result of the vast masses of men that were hurled against each other, the number of wounded after a big battle amounted to thousands, and civilization had so far advanced that it was imperative that immediate help should be given to them. So that about this time the military surgeon really became an important officer in warfare, and begun to have his rank and pay well defined, and his merits (up to a certain point) recognized.

In 1776, near the Pyrenees, was born Jean Dominique Larrey, the Chirurgien-en-Chef de la Grande Armée, the friend and body surgeon of Napoleon, the greatest military surgeon that ever lived. He studied at the medical school of Toulouse, and in 1792 joined the headquarters of the Republican Army of the Rhine under Custine. Now, the ambulances of these days were obliged to remain about a league from the army, and the wounded were only picked up after the fighting was done. General Custine was a man who moved his troops very rapidly, which made matters worse for the wounded. This greatly affected Larrey, who set to work and devised a new ambulance hung on springs, and combining great strength with lightness. Such carriages were termed *ambulances volantes*. They could keep up with the advanced guard of the army with the speed of flying artillery, and they carried off the wounded almost as they fell. Larrey had early perceived the enormous advantage a wounded man got by having his fracture set or his bleeding stopped as rapidly as possible, and by then getting a roof over his head before night set in. General Beauharnais, in a despatch to the Convention, made special mention of "Surgeon-Major Larrey and his comrades with flying ambulances, whose indefatigable care in the healing of the wounded has diminished those afflicting results to humanity which have generally been inseparable from days of victory, and has essentially served the cause of humanity itself in preserving the brave defenders of our country." The staff of a flying ambulance was about 340 in number. For each division there were four heavy carriages and twelve light ones. Some had two and others four wheels, and they were furnished with mattresses. In Napoleon's Italian campaigns they came greatly to the fore, and the great man displayed a lively interest in them, reviewing them and causing them to manoeuvre before him just as if they were on a battle field. After one of these inspections he said to Larrey: "Your work is one of the most happy conceptions of our age. It will suffice for your reputation."

When Napoleon undertook his Egyptian campaign Larrey proceeded to Toulon to organise the medical staff. So readily did professional men respond to the call made by him that he soon was able to reckon on 800 well qualified surgeons, of whom many had served in the army of Italy, and these were in addition to the medical officers actually attached to regiments. This, I think, shows the value that the king of commanders set upon the health of his troops, and the trouble and expense which he was prepared to face in order to maintain it—a great contrast to the miserable way of dealing with this subject, which has too long been the fashion with our military rulers. Not long after the landing at Alexandria a certain General Figuières was severely wounded. By able treatment he recovered, and in gratitude for the preservation of his life he asked Napoleon to accept a valuable Damascus sword. "Yes," said the latter, "I accept it in order to make a present of it to the Surgeon-in-Chief by whose exertions your life has been spared." Upon the sword was engraved the words Aboukir and Larrey, and the surgeon had it till the fatal day of Waterloo, when the Prussians robbed him of it. Some months after the occupation of Egypt a terrible revolt took place in Cairo by fanatical Turks. Utterly regard-

less of anything except how to get at Frenchmen to murder them, they attacked the hospital, which was crowded with sick and wounded soldiers, but the doctors valiantly defended their patients, and two staff-surgeons, Roussel and Monjin, were killed, while Larrey nearly shared the same fate.

At one period there was a total dearth of meat, and Larrey had nothing wherewith to make even a drop of bouillon for his patients. He ordered camels' meat to be used for this purpose, and, when that fell short, he used up the horses. Years afterwards, in the second campaign against Austria, the Imperial Guard and several other corps were crowded together in the island of Lobau in the midst of the Danube, which Napoleon was endeavouring to cross. The days were roasting, and the nights icy cold, and provisions became so scarce that Larrey's patients were in danger of starvation. Without more ado he impounded certain officers' horses and had them slaughtered and employed as food. As there was a lack of kettles, he employed the cuirasses of those who had been killed, and made his horse flesh soup and stews in them. Certain generals made bitter complaint to the Emperor of Larrey's proceedings, who summoned the Surgeon-in-Chief, and in the presence of his staff demanded an explanation with a severe expression of countenance. "What," he said, "have you on your own responsibility disposed of the horses of the officers in order to give soup to your wounded?" "Yes," answered Larrey. He added no more, but soon afterwards he heard of his promotion to the rank of Baron of the Empire.

One of the most appalling retreats, next to that from Moscow, was Napoleon's retreat from the invincible walls of St. Jean d'Acre through Jaffa. There is no doubt that at that place a considerable number of patients sick of the plague were quietly put out of their misery by opium. Alison says 60; Sir Robert Wilson says 580. The retreat had to go on, the Turks were only an hour's march behind, and nothing but a cruel death awaited these unfortunates, so that whether this were a justifiable deed or not may well give ground for argument. But, as Alison says: "History must record with admiration the answer of the French chief of the medical staff when the proposal was made by Napoleon to him: 'My vocation is to prolong life, and not to extinguish it.'"

In those days means of transport were so inferior, and the necessity for removing hopelessly damaged limbs as soon as possible after the injury so imperative, that amputations were performed on the field of battle, while it was still raging, and amid showers of bullets. During the battle produced by the landing of the English in Aboukir Bay, General Silly had his knee crushed by a bullet. Larrey saw that unless the leg were promptly amputated the case would prove fatal, and, the General giving his consent, the operation was performed in the space of three minutes under the enemy's fire. Just then the English cavalry came upon them. "I had scarcely time," said Larrey, "to place the wounded officer on my shoulders and to carry him rapidly away towards our army, which was in full retreat. I spied a series of ditches, some of them hedged with caper bushes, across which I passed, while the enemy, owing to the ground being so cut up, had to go by a more circuitous route. Thus I had the happiness to reach the rearguard of our army before this corps of dragoons. At length I arrived at Alexandria with this honourably wounded officer, where I completed his cure." We must all agree that these were a pair of heroes.

As may be imagined, the awful retreat from Moscow called into play all Larrey's resources, and many an interesting story could be told of his efforts. Think of the awful battle of the Borodino, where under Larrey's own direction 200 amputations were performed, where there were neither couches nor blankets nor covering of any kind, and where the food consisted of horseflesh, cabbage stalks, and a few potatoes; think of cold, so intense that the instruments requisite for the operations too often tumbled from the powerless hands of the French surgeons. Think of the savage Cossacks, hovering about all the while, and waiting their chance to kill the surgeon and the wounded man equally with the combatant. Then came the passage of the Beresina. Take an incident of it. Among the wounded was General Zayonchek, who was over 60 years of age. His knee was crushed, and without amputation the saving of his life was impossible. It was performed under the enemy's fire, and amid thick falling snow. There was no shelter except a cloak, which two officers held over him while the operation was being performed; but the surgeons did their work with such coolness and dexterity that the old general survived, and died fourteen years afterwards Viceroy of Poland. Larrey succeeded in getting over the Beresina with the Imperial

Guard, but discovered that the requisites for the sick and wounded had been left on the other side. At once he recrossed the river, only to find himself in the midst of a furious struggling crowd. He was on the point of being crushed to death when providentially the soldiers recognized him. No sooner did they do so than they carried him across the river in their arms, with the cry, "Let us save him who saved us!" and forgot their own safety in their desire to preserve the man whose tender kindness they had so often experienced.

Following his adored master through victory and defeat, Larrey at last stood at night on the field of Waterloo alone, except for some medical officers and the wounded who lay groaning around them. Down upon them came a squadron of Prussian lancers. Expecting no quarter he fired his pistols at them and galloped away. They shot his horse and sabred him as he lay on the ground. Leaving him apparently dead they went off. But he recovered his senses, and tried to crawl by cross roads into France. Again he was seized by another detachment of Prussian cavalry. They robbed him promptly of all he possessed, and took him before a superior officer, who ordered him to be shot. What a reward from a soldier to one whose life had been passed in succouring soldiers! About a quarter of an hour before the sentence was to be carried out, a surgeon-major recognised Larrey. He had attended with deep interest a course of lectures which Larrey had delivered in Berlin six years previously. The prisoner was brought before Bulow, and finally presented to Blücher, whose son in the Austrian campaign had been badly wounded and captured by the French, and who owed his life to Larrey's exertions.

Larrey's honourable and glorious life terminated in 1842. Napoleon, when he made his will at St. Helena, wrote in it: "I bequeath to the Surgeon-in-Chief of the French army, Larrey, 100,000 francs. He is the most virtuous man I have ever known." From Napoleon's lips the words of free, spontaneous, ungrudging praise such as this rarely fell.

PESTILENCE MORE DEADLY THAN THE SWORD.

In the middle of last century, while surgery had distinctly improved, the gross neglect of the Government and the pig-headed obstinacy of the generals was such that our unfortunate soldiers and sailors were hardly any better off than they were in the days of Paré. It has been maintained that Smollett, in the appalling picture of naval life as witnessed in the miserable expedition to Carthage which he drew in *Roderick Random*, and which is known to have been the record of his own experience as a surgeon's mate, grossly exaggerated the evils thereof. I do not believe this. Look at the awful and unsuccessful expedition to Porto Bello in 1726, when nearly the whole of the crews of the ships were destroyed by fever three times over; where 2 admirals, 10 captains, 50 lieutenants, and about 3,000 to 4,000 inferior officers and men perished without striking a blow. Look at the taking of Havannah in 1762. The Earl of Albemarle took with him in the fleet 11,000 soldiers. Between June and the middle of October, when Cuba was ours, we had lost 560 men by wounds, and 4,708 by sickness. At the end of the Seven Years' War, a statement was drawn up in the *Annual Register* for 1763 from which it appeared that in all the naval battles of that war there were but 1,512 sailors and marines killed, while 133,738 had died of disease or were "missing." Look even at the end of last century, and consider the wretched and disgraceful Walcheren campaign. Never did our poor soldiers fight with more gallantry than in that campaign, only to perish beside Dutch ditches and canals from fever and ague and dysentery.

MILITARY COURAGE.

As we have just seen, Baron Larrey's whole life shows that, while absolutely devoted to the work of his profession, he displayed a cool courage on the field of battle not less heroic than the more dazzling deeds of his fellow combatant officers. Not less does it mark the military surgeon of the present day. Have you ever heard of Surgeon Thomson who, during the Crimean war, when the army marched off after the battle of the Alma, volunteered, with his servant, John McGrath, to remain behind on the open field with 500 terribly wounded Russians, and passed two awful days and nights—these two Englishmen alone—among foreign foes, some dead, some dying, and none able to raise a hand to help themselves? Have you ever heard of Assistant-Surgeon Wolesley, of the 20th Regiment, who, at the battle of Inkerman, had quietly established his field hospital in that awful place, the Sandbag Battery? When the 150 men, who were all that remained of its defenders, were forced to desert it, about 100

of them fell back in one direction, and in that they found, at 30 paces from them, a Russian battalion blocking their path. There was not a combatant officer left, so the assistant surgeon took command. He had not even a sword with him, but, laying hold of a firelock with a fixed bayonet on it, he spoke a few words to the men within range of his voice, and told them that what they now had to fight for was not victory but life. Then he gave them the word of command: "Fix bayonets, charge, and keep up the hill." The soldiers answered him with a burst of hurrahs, sprang forward to the charge, and the next instant were tearing through the thickest of the Russians. One half of these reached the other side alive. Have you ever heard of Surgeon Landon, who was shot through the spine while attending to the wounded on Majuba Hill? His legs were paralyzed, but he caused himself to be propped up, and continued his merciful work till his strength ebbed away. When unable for more he quietly said: "I am dying; do what you can for the wounded." Have you ever heard of Surgeon-Captain Whitchurch, who gained the Victoria Cross at the beleaguering of Chitral for the most determined courage in endeavouring to save the life of Major Baird? Yes, you have, for last year at Carlisle you gave him the gold medal of the Association, the highest honour which our Association can give to its members. There died the other day a certain Surgeon-General Reade, C.B., V.C. During the siege of Delhi, while attending to the wounded at the end of one of the streets of the city, a party of rebels advanced from the direction of the bank, and having established themselves in the houses in the street commenced firing from the roofs. The wounded were thus in very great danger, and would have fallen into the hands of the enemy had not Surgeon Reade drawn his sword and, calling upon a few soldiers who were near to follow, succeeded under a very heavy fire in dislodging the rebels from their position. Surgeon Reade's party consisted of about ten in all, of whom two were killed and five or six wounded. Ladies and gentlemen, Surgeon Reade was a Canadian, and the son of a colonel of the Canadian Militia. Of the 118 wearers of the Victoria Cross 14 are surgeons, nearly 12 per cent. of the whole number. They stand in the proportion of 9½ per cent. of all the officers of the army, so at all events they have contributed not less than their fair share of the deeds of valour which alone can win that glorious distinction.

THE ARMY MEDICAL SERVICE TO-DAY.

Ladies and Gentlemen,—I have diverged from the beaten track common to the givers of addresses such as this to tell you what splendid men have been the military and naval surgeons of old, who not merely did their duty nobly and courageously as such, but who have in their day enormously contributed to the advance of the art of surgery. I have done it with a purpose; with the hope of attracting more strongly than ever the sympathy and help of this great Association to their military brethren in a critical juncture of their history. To-day Her Majesty's Government cannot induce candidates to come forward for the medical service of the Queen's army. And why? Because it has persistently treated the Army Medical Department meanly and shabbily. To-day the Government of India can secure the services of the pick of our newly fledged doctors for its army. And why? Because it has always treated the Indian Medical Service liberally and generously. I am not going to enter into the reasons for this; I desire merely to emphasise one point, namely, that money is not at the bottom of this difficulty. The soldier-surgeons of to-day are the same men now that they were in the days of William Clowes, who winds up his book, as I shall my address, with these verses:

When valiant Mars, with brave and warlike band,
In foughten field with sword and shield doth stand,
May there be mist a surgeon that is good,
To salve your wounds and eke to stay your blood,
To cure you sure he will have watchful eie,
And with such wights he means to live and die,
So that againe you must augment his store,
And having this he will request no more.

A neat little official badge, with distinctive colourings denoting the officials, the members, and the guests of the Association, is a feature of this year's gathering, and the frequency with which the emblem, worn on the coat, was met with in the streets of the city, testified to the appreciation in which it was held by the visitors generally.