

## **Longmore Pamphlet Collection: Volume 3**

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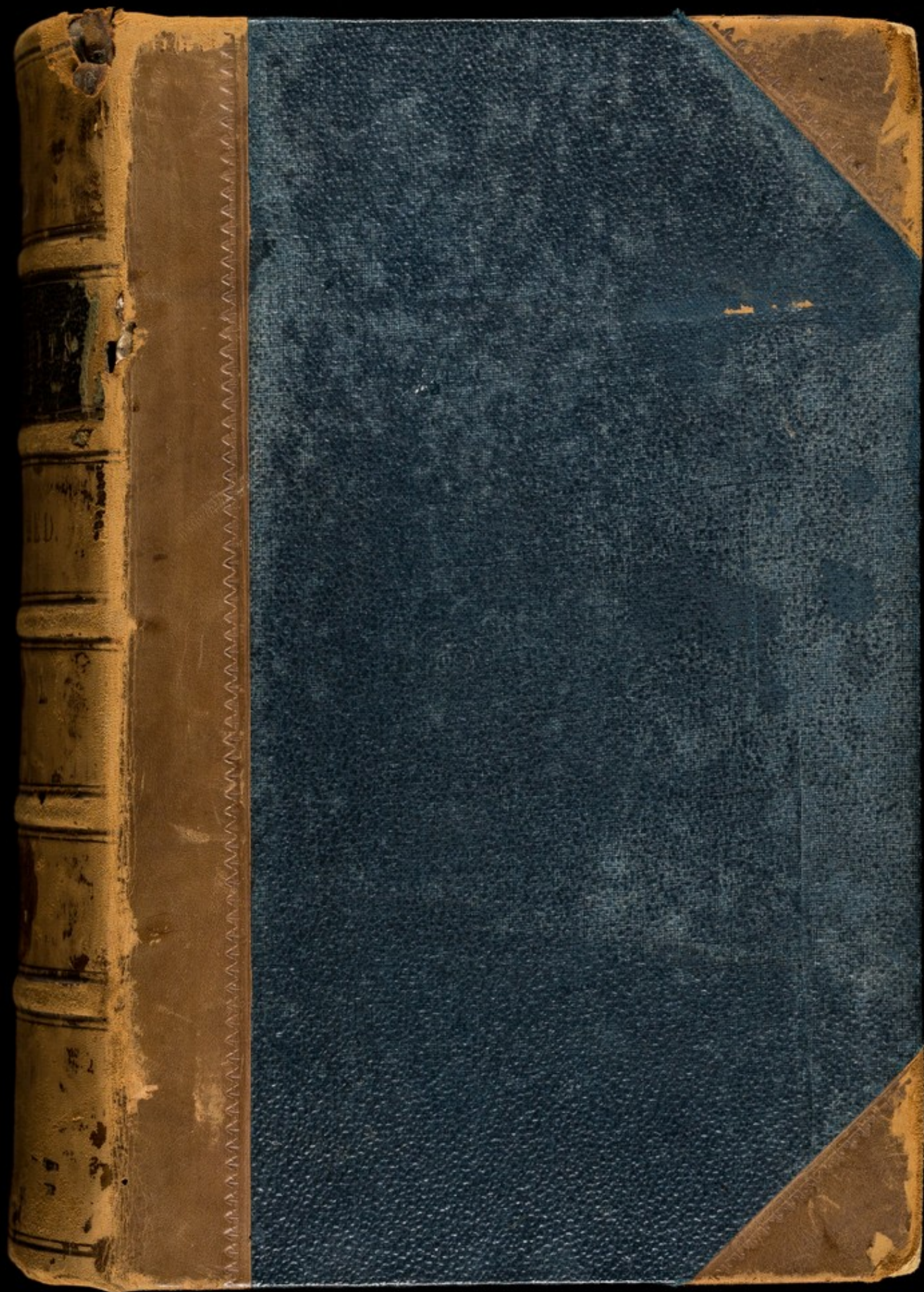
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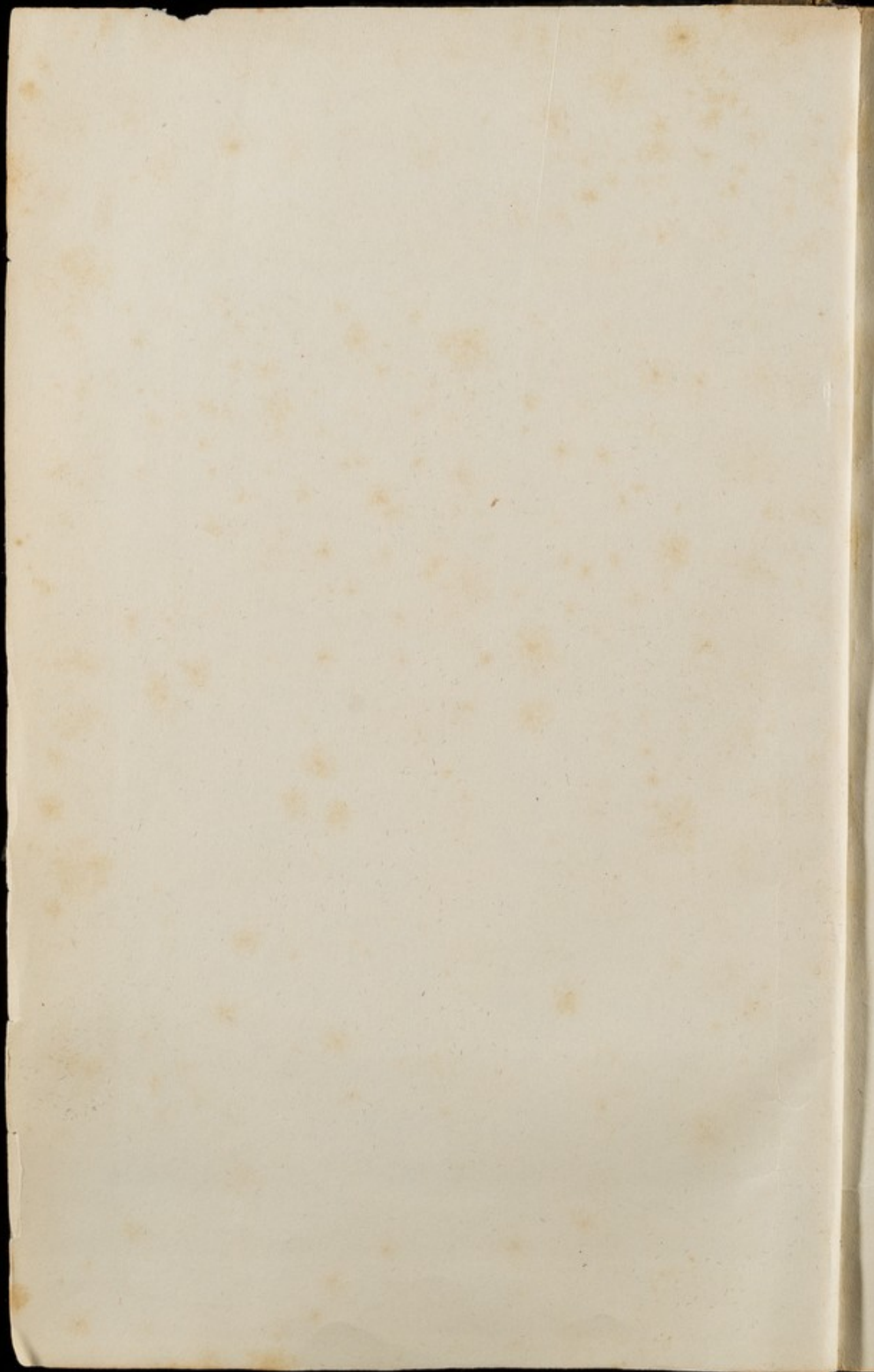


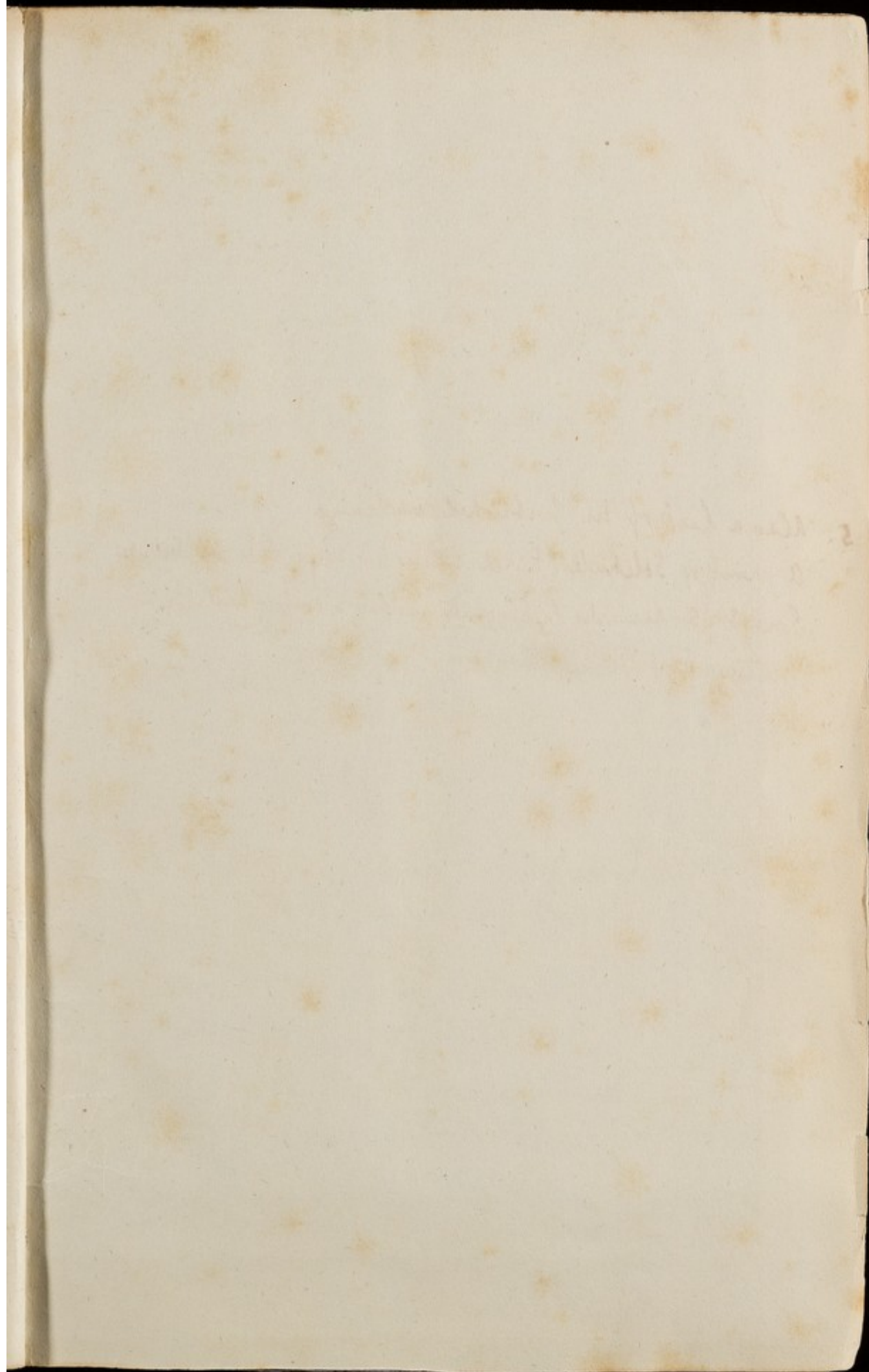
Sir Thomas Longmore.

For Memoranda relative to the late  
Professor Parkes, see Pamphlet No. 5.

Vol III  
Many interesting Pamphlets  
WPK







5. Also a list of his published writings  
A print of Solihull Church where his wife & he are buried  
Some m. s. remarks by his sister-in-law, Miss Chattock -  
Advertisement of Parker Memorial Prize Essay



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2.	Sandford Moore	Notes with a Prussian Sanitäts- Detachment in the Loire Campaign. 1870 (with Letter from the Author)	1872	London.
3.	Orsborn	In Memoriam - E. A. Parkes	1876	Southamp <sup>ton</sup> .
4.	Hewett.	Recollections of Sedan. -	1877	Halefax.
5.	Aitken.	(In Memoriam. E. A. Parkes, &c. (Address at Netley.) With Photo- graph of Dr. Parkes -	1876	Glasgow
6.	Delchamont	Address on Army Medical Studies & (Military Hygiene -	1876	London.
7.	Maclean	Introductory lecture. 35 <sup>th</sup> Session (Army Med <sup>l</sup> School. Oct <sup>r</sup> 1877)	1877	Southamp <sup>ton</sup> .
8.	Longmore	Amputation - Historical Sketch (Introductory lecture, Army Med <sup>l</sup> School Oct <sup>r</sup> 1875 -	1876	Glasgow
9.	Longmore	Introductory lecture. Army (Med <sup>l</sup> School. April 1878)	1878	Glasgow
10.	Lyde-Simley <del>Longmore</del> Lieut. Col.	On Aid to Sick & Wounded in War. A lecture at the Royal United Service Inst <sup>n</sup>	1871	London.
11.	Staples	Introductory lecture. Volunteer (Ambulance Depart <sup>t</sup>	1877	London.
12.	C. A. Gordon	Administrative Services during the Franco-Prussian War.	?	?



*[Faint, illegible handwriting, likely bleed-through from the reverse side of the page. The text is arranged in several paragraphs and appears to be a historical or legal document.]*



No. in Vol.	Name of Author	Title	Date	Where Published
13.	a soldier of the Regiment.	Voyage & Journey of 2 <sup>d</sup> Batt <sup>n</sup> Scots Fus: Guards from South <sup>n</sup> to Montreal during the winter of 1861-62.	1862	Montreal
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17.	Mac Cormac	Gunshot Wounds of Lower Extremity		
17½.	Welch	Anatomy of <i>Toxica Medicamentosa</i>	?	?
18.	Welch	Description of <i>Filaria Immitis</i>	?	?
19.	Welch	Aortic Aneurism in the Army -	1876	London
20.	Lawson	Obs <sup>n</sup> on Yellow Fever	1862	London
21.	Parkes	Obituary notice of Sir James Clark	1871	London
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23.	?	Memorial to late Lord Herbert	1862	London
24.	Miss Nightingale	Army Sanitary Administration & its Reform under Lord Herbert	1862	London
25.	Miss Nightingale	Life & Death in India	1874	London
26.	Fayrer	European Child-life in Bengal	1873	London
27.	Franklyn (H. Bowler)	Twelve Short Essays chiefly on Military Subjects -	1875	London
28.	Parkes	A scheme of Medical Tuition	1868	London
29.	De Chaumont	Pecuniary Value of Enrolments of Army Medical Officers -	1874	Edin:
30.	British Med Journals	Improvement of the Medical Branch of the Royal Navy	1874	London



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No. in Vol	Name of Author	Title	Date	Place of Publication
31.	F. J. Brown	Requisitions of the Naval Medical Officers, based on Equality with the Army	1865	London
32	Retired D. T. G. H.	The Case of the Med <sup>l</sup> Off <sup>rs</sup> of the Army fairly Stated - in a letter to Earl de Grey & Ripon.	1864	London
33	?	Remarks on the Royal Warrant &c of October 1858	1866	Dublin
34	F. R. C. S.	A reply to - Mr. Hardy's charge of want of unanimity among Military Surgeons. &c -	1875	Dublin
35.	Moat	Proposals for the reintroduction of the Regimental System in a Modified form	1875	Palmerston
36	Grant	The Regimental System in the Army Med <sup>l</sup> Depart <sup>t</sup> discussed with a Reg <sup>t</sup> Commanding Officer -	1870	Greenwich C. & G. H. H.
37	A. M. D.	The Army Medical Service in the Past - & Future. An expostulation	1875	London
38	Grant	A plea for the General Hospital System &c -	1875	Private circulation
39	Union	Concerning the Army Medical Department	1875	Subsistence



35. The first of the three is the most common and is found in all the localities mentioned above.

36. The second is less common and is found only in the localities mentioned above.

37. The third is the most rare and is found only in the localities mentioned above.

38. The fourth is the most common and is found in all the localities mentioned above.

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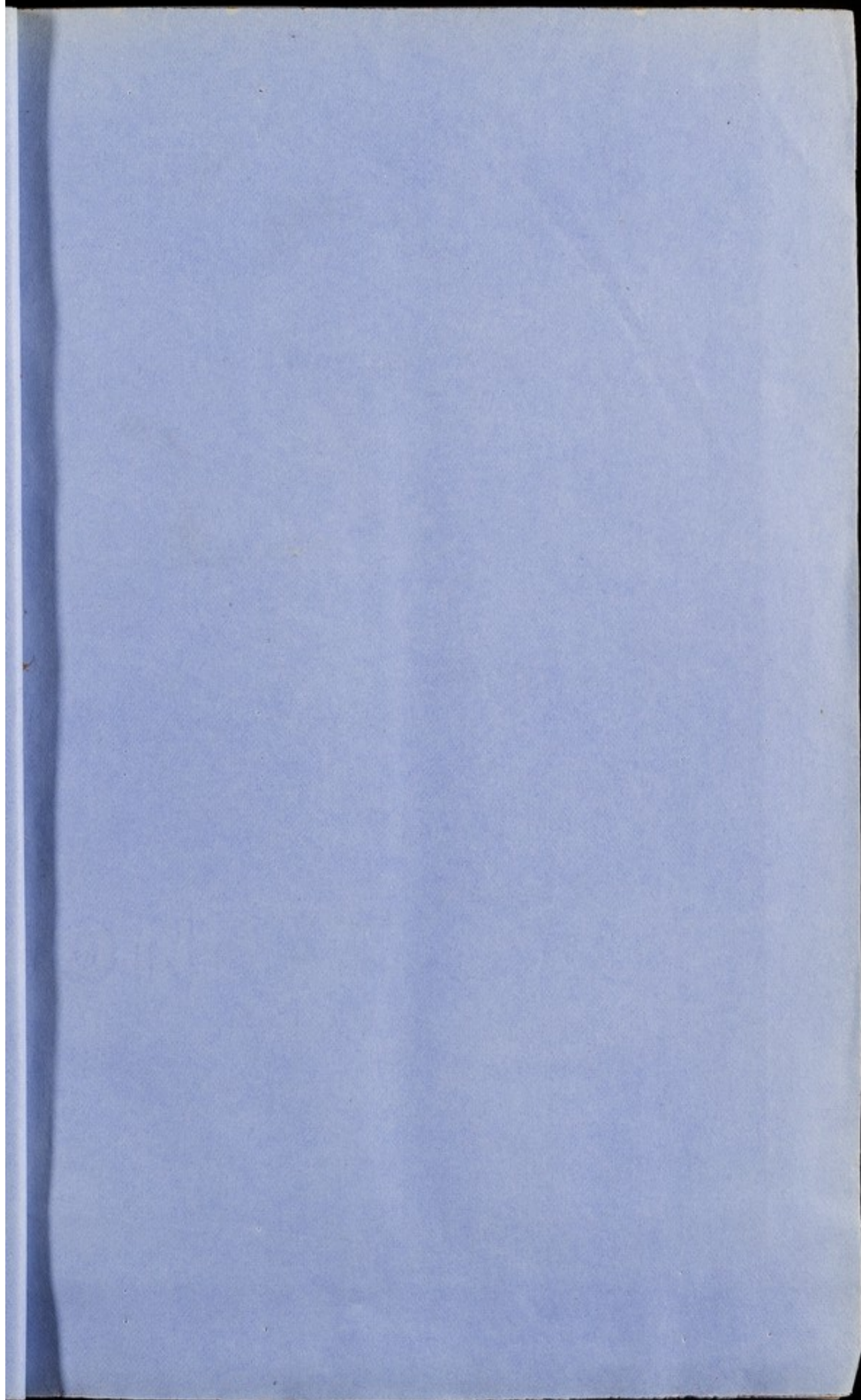
40. The sixth is the most rare and is found only in the localities mentioned above.

41. The seventh is the most common and is found in all the localities mentioned above.

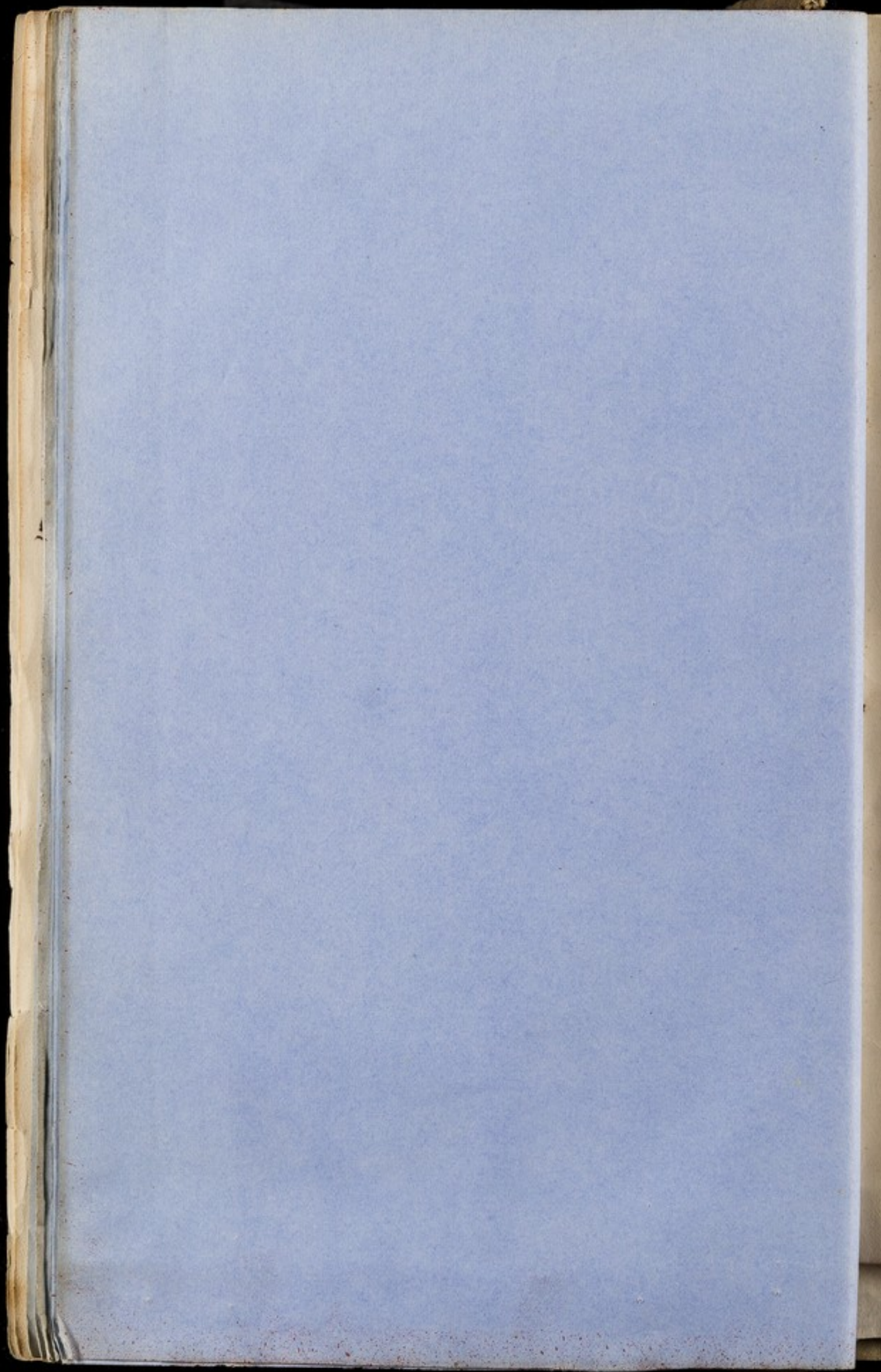
42. The eighth is less common and is found only in the localities mentioned above.

43. The ninth is the most rare and is found only in the localities mentioned above.









No. 1.

TREATMENT  
OF  
THE SICK AND WOUNDED,  
ILLUSTRATED BY OBSERVATIONS MADE AT  
THE SEAT OF WAR;

BEING THE INTRODUCTORY ADDRESS IN UNIVERSITY COLLEGE,  
OCTOBER 3RD, 1870.

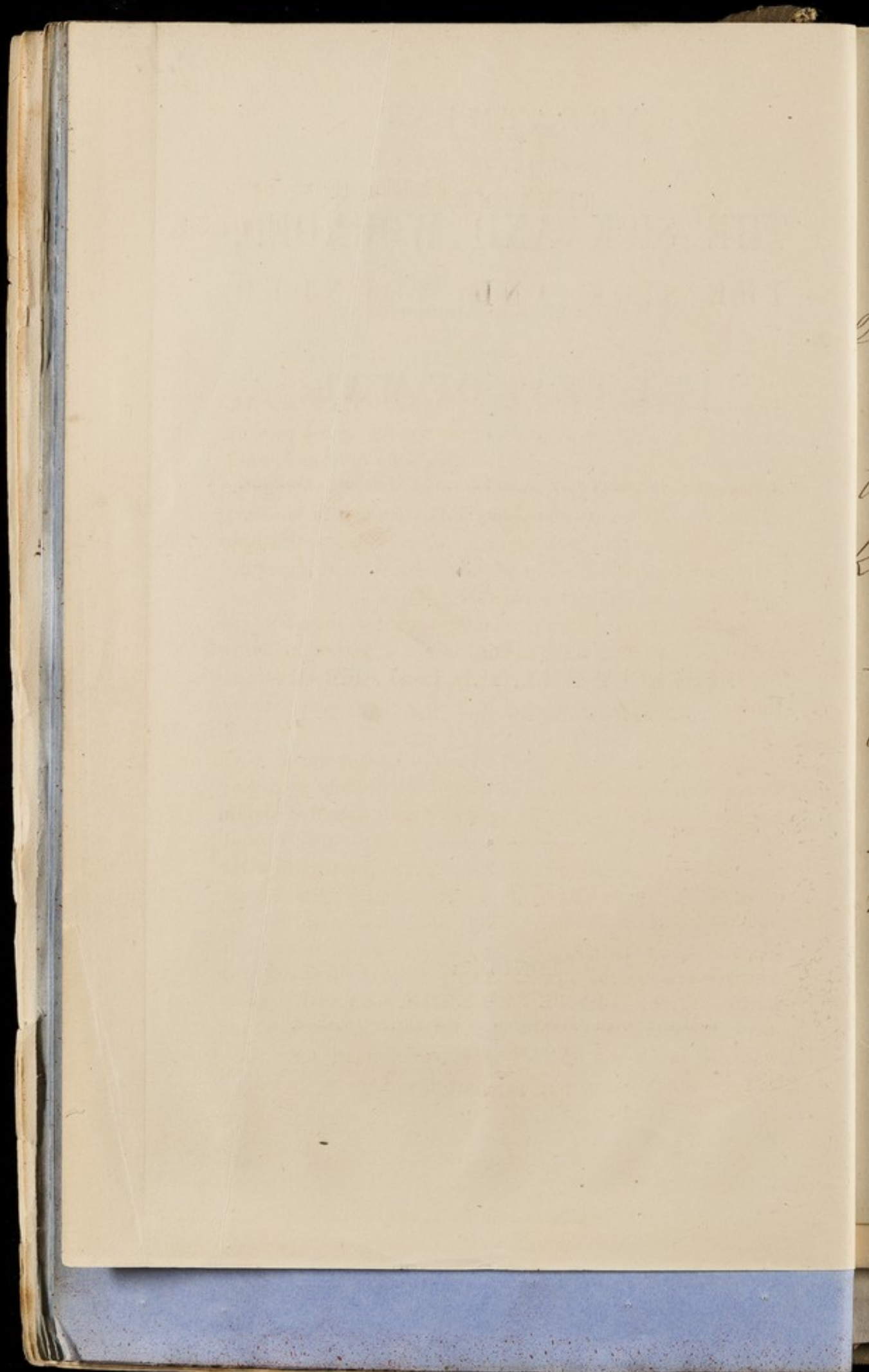
BY  
BERKELEY HILL, M.B. Lond., F.R.C.S.,  
ASSISTANT SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

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LONDON:  
JAMES WALTON,  
BOOKSELLER AND PUBLISHER TO UNIVERSITY COLLEGE,  
137 GOWER STREET.

—  
1870.







Oct. 8. 70



14, Toleymouth St.

Portland Place, W.

Dear Sir

I ought to have written  
to thank you ere this for your  
kindness & care in giving me  
so much of your time & trouble  
when pointing out sources of  
information & also in lending  
me Esnarch's book which I  
now return with many  
thanks. What little success  
attended the delivery of the

introductory lecture at Union as I should have liked had  
College last Monday was entirely permitted. But enough  
due to the information it could <sup>to convince me that unless</sup>  
& this I could not have inserted <sup>far superior accommodation</sup>  
but for your & Dr. Parkes' kind <sup>provided</sup> <sup>in</sup> to locality of a  
little primary amputation  
I am having to lecture <sup>primary</sup> resection. ~~and~~ we  
and shall venture to send a copy <sup>practised</sup>. The surgery  
to you to mark that I am <sup>was</sup> generally very wretched  
forgetful of your kindness <sup>in this account.</sup> I am glad that a regular ambulance  
You are probably aware that <sup>is</sup> going out but why so much  
I went to the Sea? Was a delay, I ask & I advised it  
Sedan &c. I saw a good <sup>to</sup> in a letter to Col Lindsay  
that not nearly as much <sup>at least 3 wks ago.</sup> I did  
not see any platter of Paris



Sphincter, put on in the manner  
you told me of (the Bavarian).  
all I saw, they were not made  
were done by rolling bandages  
round & laying on the cream.

I trust your health is better  
& that your eye is quite well  
again.

With very sincere thanks

Yours most faithfully

Berkeley Hill

Professor Langmuir F.R.S.  
k. a

TREATMENT  
OF  
THE SICK AND WOUNDED.

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THE present moment, when the minds of all are engrossed in the contemplation of the fearful drama passing through its weary acts on the other side of the channel, appears to me an appropriate occasion for comparing the modes of succouring the sick and wounded in military service during the present and recent wars, with those employed before science had made its several important changes in the conduct of warfare.

In this examination, we must consider in what the modes of receiving and treating the sick and wounded in battle have been altered from the means employed during the wars of the last, and even in those at the commencement of the present century.

Frederick the Great, we are told, experienced such insuperable difficulties in the way of adequately providing for his wounded, that he suggests that all wounded should be recognised by belligerents as neutrals—such, indeed, was the agreement between Earl Stair, commanding the English forces, and the Duc de Noailles, on the French side, in 1743—or, failing this mutual concession, he suggests it would be not only a more convenient, but a more humane practice to abandon the wounded on the field of battle, arguing that with the means at command in those days, any care that could be bestowed on the sick and wounded rarely did more than stave off death for a time, and so uselessly prolong the sufferings of the wounded.



But other views have prevailed; the physicians who attended the forces engaged in these very struggles in the middle of the last century laid down and sufficiently defined most of the main principles of military hygiene, which nevertheless did not, until quite recently, receive much attention.

The military authorities of this country neither copied the improvements of other nations, nor, during the peace subsequent to Waterloo, did they profit by the experience gained in the wars against Napoleon. The true advance for this country in the practice of military hygiene began when the English nation learned, through the English press, the ravages that death and disease from preventible causes were inflicting on the fine troops sent to the Crimea. This discovery at once aroused the national sympathy, and created the determination to compel the authorities to make the necessary exertion, which, supplemented by the abundance sent from private sources, quickly converted a miserable exhausted remnant of a gallant force into an army complete at all points, and in the highest state of health and efficiency.

The English expedition to the East landed in the Crimea almost entirely destitute of transport and hospital supplies; those sent after the army were mostly wrecked in the Balaclava storm; as a consequence, nearly 10,000 men died from preventible disease in the first winter. In the second winter, on the contrary, the loss by death was but 600; scurvy, typhus, and other diseases originating in hardship and neglect, were unknown. Indeed, through the wise and successful exertions of the government and of the nation, the health of the British forces in the Crimea\* was as good or even better than it is at home in the time of peace.\* At the same time, the French army, which,

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\* Medical and Surgical History of the British Army in Turkey and the Crimea in 1854-5-6. Presented to Parliament, 1858. Vol. II., p. 43.



through their preparations for war, imperfect as they were, suffered less from disease during the first winter, sending in that period from sickness alone 81,000 cases to the hospital, with a mortality of 10,000, sent in the second winter 106,000, with a mortality of 21,000, or twice as large as that of the first winter.

Let us now consider the consequences of neglecting or of observing two of the most important principles of army hygiene.

One of the most incontestably proved principles of military hygiene is *segregation*, or avoidance of overcrowding either of the sick or of the healthy. Still this important condition of health was not ensured to our troops until the middle of the Crimean War, since which time it has been upheld in every campaign as of first-rate importance. For instance, Sir John Pringle, medical officer in the campaigns of the British forces in Germany under George II. in 1742-43, and in Scotland and the north of England in 1745-46, gives the plainest possible examples both of the effect of overcrowding in producing disease, and of isolation in arresting its progress when at its worst. He tells us that after the battle of Dettingen in the year 1743—which you may remember was the last occasion of an English king being present on the field of battle—nearly half the English forces of about 16,000 men fell sick of dysentery. The village of Feckenheim was employed as a hospital. In it 1,500 sick were lodged. Hospital fever soon broke out, and spread even to the doctors and attendants, causing great mortality throughout the army. At last the camp was raised, and the disease at once rapidly abated. But 3,000 sick were left behind. Of these nearly half died, and with them the unfortunate inhabitants of the village were almost wholly destroyed. So again, in the campaign against the rebellion of 1745, the sick of the army under the Duke of Cumberland suffered most severely from typhus, or “jail fever,” as it was then called, through the



sick men being crowded into the workhouse at Lichfield; yet Pringle says that at all other places where there was no common hospital, and the sick could not be collected together, the jail fever was unknown.\*

All large hospitals are necessary evils; necessary, because it is impossible to manage and attend to large numbers of sick or wounded without grouping them together; evils, because each patient is a copious source of poisonous emanations, which, if not rapidly and continuously cleared away, breed disease and death for himself and those around him. This being admitted, it remains to be seen how far we understand the method of diminishing the mischievous consequences of aggregation so that they shall not outweigh the advantages the sick receive from medical attendance and nursing. These evils so rapidly gain strength that, as it has been remarked by several of the earlier writers on military hygiene, a bad hospital system will destroy an army faster than the most energetic government can recruit it.†

In preventing the evils of over-crowding, the quantity of *pure air* deemed indispensable has undergone gradual augmentation, as special researches on hospital sanitation have successively increased the quantity, until at least a superficial area of 100 square feet and a cubical space of 2,000 feet is now pronounced necessary for each patient. The air of this space must be renewed every hour, and for fever or pyemic patients even twice in the hour. Indeed for the latter, treatment almost in the open air appears to be most beneficial. Yet Mr. Hammond, Surgeon-General to the Federal forces during the late American war, in a report on the condition of the hospitals of Western Virginia and Maryland during an early stage of the war,

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\* Sir John Pringle, M.D.: *Observations on Disease in the Army*. Fifth Edition. London, 1765, p. 41.

† Fergusson's *Recollections of a Professional Life*.



states that in several of the hospitals two or three hundred cubic feet, and in one instance only 84 cubic feet per patient, was the space allowed. It needs not further comment for us to believe that comparatively few of the patients left those receptacles alive. Jackson, writing on the Peninsular war, says, "it was often proved in the history of the late war that more human life was destroyed by accumulating sick men in low and ill-ventilated apartments than in leaving them exposed to severe weather at the side of a hedge or common dyke. It is fit that the military officers bear this fact in mind, and also that churches and palaces are less proper receptacles for military sick than barns, hovels, and open sheds."

Dr. Parkes\* remarks that the effect of a great supply of air for some diseases is marvellous; he relates how the patients with spotted fever in 1814, at Paris, were placed with great reluctance in consequence of the crowded state of the regular hospitals in the abattoir of Montfaucon; and that contrary to expectation, they recovered infinitely faster in this structure than in the ill-ventilated wards of the regular hospitals. So again, Donald Munro, writing 100 years ago a treatise replete with minute and practical directions for maintaining the health of troops, tells us† that in 1755, some men of war carried out to North America a malignant gaol fever, brought by convicts impressed from prison to make up the strength of the crews, not an uncommon practice in those days. The fever continued to spread among the crews while the ships were at sea, but at Halifax the sick were lodged in huts or very old shattered houses, that admitted the air freely, and this change put a sudden and effectual stop to the disorder.

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\* Practical Hygiene. Third Edition.

† Observations on the Means of Preserving the Health of Soldiers and of Conducting Military Hospitals. Second Edition. 1780. London.



The experience of former wars received so little attention in even recent campaigns, that, for example, the overcrowding of the French hospitals in the Crimean war, and at Genoa in the Italian war of 1859, was acknowledged to have greatly increased the mortality of the French sick.\* During the Crimean war, much of the enormous loss by sickness in the French army was the consequence, we are told by Chenu, of the inability of the French *Intendance* to appreciate the importance of the most clearly recognised rules of sanitary science. In spite of the remonstrances of their chief medical officer, and of requests that quarters should be changed from time to time, the same field hospitals for the immediate reception of the sick and wounded were employed throughout the war—with what disastrous consequences may be judged by contrasting the sickness and mortality of the three successive periods of six months which the French army passed in the Crimea. In the first six months 51,000 were sent to the tent or field hospitals, with a mortality of 4,960; in the second, 85,000, with a mortality of 12,000; in the third, 61,000, with a mortality of 11,000. Similar testimony is borne by the results of treatment in the large general hospitals established by the French at Constantinople to receive their sick from the field hospitals. The vast number of sick soon filled the accommodation the hospital originally provided, and the corridors were fitted up with beds in spite of the protest of M. Michel Lévy, the chief medical officer of the army. Thus 2,100 beds were installed in a single palace. The result was a mortality of 12 per cent. in the first six months, 18 per cent. in the second, and 27 per cent. in the third. This loss in the third six months was almost entirely from sickness, for active hostilities having almost ceased, only 300 wounded were treated.

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\* Chenu: *Statistique Médicale de la Campagne d'Italie en 1859 et 1860*. Paris, 1869. *Observations générales*, p. xxiv.



The undeniable evils that result from overcrowding in hospitals, and the rapid improvement that takes place in even apparently hopeless cases, when either by accident or design they obtain a free supply of fresh air, have led to the opinion that sick persons should never be collected together, and that the obvious advantages, both to the sick themselves and to the cause of science, of housing them together in hospitals, are outweighed by the evils that they inevitably suffer from propinquity to each other.

Dr. Farr\* first attracted attention to this point by a series of statistics, which showed that in our large Metropolitan hospitals the mortality was twice as great as that in similar but much smaller institutions situated in provincial towns or in country districts, and concluded that this difference was due to the unhealthy and over-crowded condition of our London hospitals. This important suggestion excited much discussion at the time. Dr. Guy, of King's College, suggested that possibly some part of this enormous difference should be ascribed to the difference in the kinds of cases admitted to our London hospitals from those attended in provincial institutions. This suggestion of Dr. Guy's was shewn to be the true explanation by Messrs. Holmes and Bristowe, who were charged by the Medical Department of the Privy Council to visit the different hospitals of the United Kingdom, to report upon their relative healthiness and upon the causes which determine the mortality in these institutions.† The large London and Provincial hospitals admit a far greater proportion of acute medical cases of which the mortality, wherever treated, is high. From these gentlemen's report it would appear also that those diseases which are chiefly met with when large numbers of wounded are collected together—diseases that are doubtless much in-

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\* Twenty-fourth Report of Registrar-General, pp. 229 *et seq.*

† Appendix to the Sixth Report of the Medical Officer to the Privy Council.



creased by defective ventilation, such as erysipelas and pyemia—form but a small percentage of a London hospital's mortality, and are by no means unknown in the rural hospitals.

The late Sir James Simpson, who turned his energetic mind to solving the question of mortality in hospitals, arrived at the conclusion that it is impossible to prevent a high mortality if more than a very few patients are placed together under one roof, and that the advantages of hospital treatment without preponderating evils can be afforded to the sick only by locating them in a series of small detached buildings. Sir James showed that of 2,098 amputations in private practice 226 died, and of 2,089 amputations in hospital practice 825 died. This gives a surplus of 629 deaths in hospital practice, and, taking St. Bartholomew's to represent a large, well-managed London hospital, he showed that, whereas 1 in 9 of the rural amputations died, 1 in  $2\frac{1}{2}$  died of those performed in that hospital. Moreover, Sir James pointed out a fact that, to my mind, is most cogent—namely, that the difference in mortality was greatest, not in amputations of the thigh (which operation, it has been suggested, is resorted to in the country for less severe injuries than in town, and would thus show a larger percentage of recoveries), but that the mortality after amputations of the forearm is fifteen times greater in St. Bartholomew's than in country practice.

Ultimately Sir James Simpson put forward this table of the results of 6,000 cases of limb-amputation:—

In Parisian hospitals .....	1	died in	$1\frac{1}{2}$	or	3	in	5
„ British „ over 300 beds .....	1	„	„	$2\frac{1}{2}$	„	2	„ 5
„ „ „ from 300 to 150 beds..	1	„	„	4			
„ „ „ „ 120 to 50 „	1	„	„	5			
„ Cottage „ .....	1	„	„	7			
„ Private practice .....	1	„	„	9			
„ of frequent operators .....	1	„	„	12			

Against this at first sight most striking series of statistical facts, it has been advanced with much truth that



while we know pretty accurately what were the conditions of the patients operated on in the hospitals, and can estimate how far their previous conditions influenced their recovery from operation, we have no means of doing the same by those operated on in private practice; hence the comparison lacks a condition essential for accuracy. Until these data are supplied, the question is not ripe for discussion. In the meantime, Mr. Callender\* has introduced a fact that goes far to exonerate the hygienic condition of large town hospitals from increasing the mortality after operations. He showed that the mortality of a small series of amputations on persons sent to Bartholomew's Hospital from the country, and, therefore, presumably in a constitutional state similar to those operated on in the country, was 1 in  $5\frac{1}{2}$ , or almost identical with that set down for rural hospitals by Sir James Simpson. Nevertheless, until the question is settled, it is open to presumption that some part of the enormous difference in the relative mortality of town and country hospitals is caused by faulty hygiene, and it may fairly be expected that the experiments on that subject, now being carried out on so large a scale, will give us some valuable results for elucidating the question.

Having adverted to the enormous loss that attends overcrowding and neglect of hygiene, it is very reassuring to mark how nearly all arrangements for treating the sick and wounded in the present war have been subordinated to this principle of segregation. Our own Government has since the Crimean War made most important steps in this direction, though leaving still something to be done before all that past experience indicates as necessary is adopted.

The unsuitableness of dwelling-houses, churches, and other ill-ventilated buildings has been very extensively recognised, and a great portion of the hospital accommo-

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\* "British Medical Journal," Oct., 1869.



dation prepared for the wounded consists of hut-hospitals, either erected for the purpose or contrived from open sheds, in which the necessary free ventilation can be satisfactorily obtained.

Let me, then, for a moment occupy your attention with a brief sketch of the arrangement of the hut-hospitals, called "Barack Lazarethen" in Germany.

The most successful military hospitals of modern times have been constructed on the plan first devised in the Crimea, by Mr. Brunel, under the instructions of the sanitary officers. The hut-hospitals have proved that certainly hospital fever and hospital gangrene, and probably pyemia (diseases which have destroyed so many of the wounded in former wars) can be entirely prevented in military hospitals.

In construction they are extremely simple, and can be erected from the commonest materials in a very short time. A short description of the hut-hospital at Saarbrück, one of the best in point of sanitary excellence I saw during my recent visit to Germany, will serve to explain their mode of construction. In an open garden, clear of the town, the series of single roomed huts which formed the hospital were arranged in a double row, each hut being separated from its neighbours by a space equal to its own height. Light and air can thus penetrate freely around. The ground was well drained to carry off rain-fall water, and a distinct system of pipe sewers removed the excreta and refuse of the hospital. Water laid on from a neighbouring mountain rivulet was present in any quantity. The huts, built of rough weather boarding, were raised on stages two feet above the ground, so that air penetrates freely between the planks of the walls, the floor, and the roof. Besides this, at the floor level, apertures were purposely left for the entry of fresh air, while the ridge of the roof was lifted above the rest to a height of eight inches along the whole length of the hut, in order



to afford an easy exit for the heated air of the interior. The windows consisted partly of glass, but chiefly of light shutters that could be raised or lowered at pleasure, being fixed above on hinges and free below. Each hut contained about fifteen beds, at the time of my visit almost all occupied. The kitchen and other offices, and abode of the surgeons, nurses, and attendants, were constructed in additional huts of a more complex and permanent kind; but the sick were entirely housed in isolated batches of fifteen, in domiciles through which the wind blew freely in and out on all sides. The atmosphere of the interior was as fresh as the air outside. This absence of anything like a sick room smell I noticed only in the hut-hospitals; in buildings of every other kind it was easy to detect that peculiar odour so universal in continental hospital wards, and not unknown in even our better managed English hospitals. In all the hut-hospitals I visited, the condition of the patients was most satisfactory, not a single case of pyemia had occurred. In the houses and other buildings converted into hospitals, in too many instances hospital diseases had begun to appear. For example, I visited at Saarbrück a large building, the school-house of the town, which had been occupied as a hospital about six weeks. I found one ward had been entirely emptied for purification; four patients had died of pyemia in the few days before my visit, and other cases of pyemia and hospital gangrene had previously occurred. Yet this building was apparently well adapted for its new use, being situated in the outskirts of the town, consisting of lofty rooms, with wide easily opened windows, and reached by a wide airy staircase. So again, in the hospital for wounded in the Bessunger Orangeriehaus, at Darmstadt, a parallel condition of things existed. This beautiful hospital is situated in a fine garden, lent by the Duke of Hesse Darmstadt. It consists of a series of huts, built on the plan I have described, the gifts of various



charitable persons, and of three houses, used in winter for storing the orange-trees which in summer decorate the garden. These orange houses at first sight appear well suited for hospital use; they are wide, lofty rooms, with windows on the sunny southern side, reaching from ceiling to floor, and opening freely. But the absence of doors or windows on the other sides, renders thorough ventilation extremely difficult, and in these orange-houses several cases of pyemia, and one of extensive gangrene, have already occurred; the latter, however, ceased to spread directly the patient was removed from the Orangery to a small tent, of which the sides were open all round. My visit to the hospital, in managing which the Princess Alice takes an active part, was extremely interesting; the surgeons were carrying out the newest methods of conservative surgery with great zeal and assiduity. Thoroughly impressed with the unfitness of the Orangeries for the reception of wounded men, they are very anxious to get huts to receive all the 240 patients under their charge; but their funds are nearly exhausted, and the £200 necessary for the construction of two more huts is a great difficulty.

In towns smaller than Darmstadt and Saarbrück, single hut-hospitals have also been prepared. In large cities like Berlin, hut-hospitals have been prepared on the enormous scale found so successful and economical in America during the late war. Such a one to receive 1,300 patients is now preparing in an open space near Berlin, under the superintendence of Professor Virchow. It is in its main features a reproduction of the great hospital at Philadelphia, and other large cities of the United States. The plan which hangs before you represents the Mower General Hospital of Philadelphia, which consists, as you see, of a series of one-storied huts, disposed round an interior area, in which the offices and abodes of the administrators are situated. The site was a high and



airy plateau, on which fifty huts afforded accommodation for 5000 patients. These huts were arranged like spokes of a wheel around a central corridor, open freely to the air, and warmed in winter by stoves, and this afforded, at all seasons, a pleasant lounge for the convalescent patients. A tramroad ran round the corridor, on which waggons brought the food and supplies to the end of each hut-ward without delay. A telegraph connected the huts with the kitchen, with the director's office, and other parts of the administration. A branch from the railroad permitted the railway cars, in which the patients had been laid near the battle field, to discharge their freight at the door of the hospital. Thus the patients suffered only one change—from the railway to their bed. Among other arrangements there was a printing establishment on the premises, which printed a newspaper, edited by one of the chaplains, and filled with news and with articles written by the patients and medical officers. This journal was distributed gratis to all the patients, its cost being defrayed by the sum received for the slush from the hospital kitchen. A telegraph and post-office completed the communication of this vast sick asylum with the outside world.

TRANSPORT.—Having described the receptacles for sick and wounded which have been constructed on the principle of segregation, and which it must be recollected have been prepared to a greater or less extent in every town of Germany, with the double object of preventing too great an agglomeration of the sick, and of distributing the burden of their care and maintenance equally over the community, I next proceed to the question of transport, which, since the American War, has attained, through the addition of voluntary aid, such marvellous progress in its organisation.

As late as the wars of the first French Republic the only means of transport for the sick and wounded were



the baggage carts, and the services of soldiers from the ranks when they could be spared.

The first Baron Larrey, while attending the Republican armies on the Rhine, devised a system of special carts, with sick-bearers, to convey the wounded from the front; for, at that time, the field hospitals were one league in rear of the attack, consequently twenty-four hours always elapsed before the wounded were got into hospital. This was the commencement of the system of ambulances, which is now employed by the French army, and has, with many modifications, been adopted by all other military nations. It will, perhaps, be as well to explain the different meanings attached to the word "Ambulance." Abroad it signifies a *moving hospital*, i.e., a corps of surgeons, attendants, stores, waggons, and horses. In England the term is frequently, but erroneously, applied to the waggons for conveying the sick from place to place. I shall always use it in the continental signification. In the hands of the French the ambulance system frequently breaks down. The direction and supply of the material, waggons, horses, stores, are entrusted to the *Intendance*, a department that manages commissariat, transport of supplies of all kinds, even the convoy of ammunition, and, consequently, has far too much to do to be able to meet sudden emergencies in the medical requirements of the army.

Again, an invariable consequence of this over-centralisation is a general break down when the army to which it is attached suffers defeat, as in the present war. The French *intendance* has been utterly unable to assist in the conveyance of their wounded, who have been left entirely in the hands of the Germans, and of the few volunteer French and foreign ambulances that have been able to get to the battle fields. Nay, when the army is in a friendly country, or victorious in a hostile one, the *intendance* has been unable to meet even trifling demands



when of an unexpected kind. For example, the Emperor Napoleon III., at the outset of the Italian campaign of 1859, decreed that the baggage of the officers should be carried for them by the intendance. This could only be done by taking for that purpose the cattle which were attached to the hospital field waggons.\* It is, therefore, not surprising that, a few days later than the date of this decree, we learn that for four days after the battle of Montebello, 20th May, 1859, 800 wounded were fed entirely by the charity of the inhabitants of that town, as the Intendance had failed to bring supplies, and still worse, that surgical necessities of all kinds were badly wanted.† In short, had the French been fighting in a thinly inhabited, or hostile country in 1859, their loss from sickness, even great as it was (for the enormous number of 193,186 men were sent to hospital during the short stay of the French army in Italy), would have been largely increased.

But far more disastrous than this was the condition of the English army in the beginning of the Crimean war, and of the Americans in the beginning of their last war. The English army landed in the Crimea with a means of sick transport of one pony and ten canvas stretchers per regiment. Notwithstanding that the principal medical officer of the Crimean army had before the campaign, as he stated in evidence before the Sanitary Commissioners, asked for forty-two waggons, 336 canvas stretchers, and 672 men for his hospital corps, he actually received three waggons without horses, harness, or drivers.‡ In consequence of this neglect our army was delayed two days after the battle of the Alma collecting the wounded, and many lives would have been lost

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\* Chenu: *loc. cit.*, p. 6.

† Ibid., p. 30.

‡ "Official History of the British Army in Turkey and Crimea," vol. ii., p. 253.



had not the French lent their litters and mules to transport our sick and wounded to the shore, where the crews of the men of war conveyed them to the hospital ships. Again, after the battle of Inkerman, the French lent us 500 mules to bring in the wounded, and, in great measure, to their aid we owe it that the English wounded on that occasion were in bed and attended to by ten o'clock of the evening of the battle. Indeed, it is reported that from December 1st, 1854, to January 20th, 1855 (seven weeks), 8,000 sick belonging to the British army were borne on mule-litters and cacolets lent by the French from our camp to Balaclava, where they were embarked for Scutari, a voyage of seven to eight days. These miserable creatures were often so crowded together that it was impossible for the attendants to get near enough to them to supply their wants. A large number died on the voyage, and were thrown overboard. Of these no account could be taken; but when those who survived these miseries arrived at Scutari, they were without their kits, and almost without clothing; numbers of them in a dying condition, unable to tell either their own names, or the regiments to which they belonged.\*

It is gratifying to learn that in the second winter, when we were so well housed, efforts were made by the British to assist the French, on whom fell most of the fatigue necessary to prevent the Russians escaping from Sebastopol after active hostilities had ceased. Dr. Baudens tells us that Sir Henry Storks offered to construct and maintain accommodation for 1,000 sick in the French camp, saying, "Whatever we do, we cannot repay what the French did for us last year."†

So, also, we must rejoice that during the present unhappy crisis in France, we have been able to return to the

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\* Shrimpton: "The British Army and Miss Nightingale," Paris, 1864, p. 19.

† Chenu: *loc. cit.*, p. civ.



French sick and wounded some of the aid which our distressed countrymen received from their army in the Crimea.

The want of a pre-arranged system of transport and machinery for receiving the sick and wounded was most grievously felt in the early battles of the American war. Mr. Hammond, afterwards the American Surgeon-General, writing eight days after the first battle of Bull Run, tells his superiors that 600 wounded then remained on the battle-field, where many poor fellows had already died of starvation. So also after the battle of Manassas Gap, 7th September, 1862, 2,000 wounded lay from Saturday to Wednesday on the field, without food or water; the surgeons even were starving with their wretched patients. Again, Dr. Agnew, a member of the American Sanitary Commission, estimated that 500 lives were lost after the battle of Antietam, September 17th, 1862, for want of proper transport.\* The news of these and similar horrible mischances, acted upon the Americans of the Northern States as thoroughly as that of our Crimean disasters did on us, and a Volunteer Aid Association was formed that quickly replaced neglect and destitution by succour and plenty. The volunteer aid and transport were so perfectly organised that on many occasions, notably on that of the battle of Fredericksburg, December 13th, 1862, the carts and agents of the Volunteer Aid Societies were under fire on the field of battle several hours before the ambulance carts of the regular forces reached the scene of action. These volunteers carried off the wounded, as they fell, to hospital tents, where their injuries were dressed and their wants supplied. Or, again, at Gettysburg, July, 1863, one of the battles which decided the war, where 20,000 Federals fell in the three days of the battle, and at least

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\* Official letter to the United States' Secretary-at-War. Quoted by Longmore, "The Transport of Sick and Wounded," pp. 16 and 17.



as many Confederates, the agents of the Sanitary Commission were again so close to the moving columns with their supplies and assistants, that by the day after the fighting ended, every wounded man was in hospital, his wounds dressed, and his clothes changed.

The transport and aid for the sick and wounded was developed to a higher perfection by the Americans in their war, than by any other nation. In the present war many of their expedients have been copied, notably that of the arrangement of hospitals for receiving the wounded away from the scene of war; and again, that of the hospital trains, etc., which form part of the means of transport immediately to be described.

The German system of transport is in two parts—one organised by the military department, the other the volunteer transport, which, though recognised and aided by Government, is entirely dependent for its funds on the contributions of individuals.

The military system of transport. In the Prussian service, each army corps of 30,000 men is considered a complete army, and is supplied with equipments of every kind to enable it to act independently if advisable. Therefore each army corps has its medical staff of 20 head surgeons, with proper proportion of assistants, dressers, carriers for the wounded (*Krankenträger*), drivers, horses, litters, stores, waggons—some to convey the wounded, and others to convey surgical stores, water, etc. On going into action, certain of the surgeons, with the sick bearers, litters and waggons, are detailed to follow the corps d'armée closely; the remainder post themselves in the neighbourhood, to form the field hospitals. To these the surgeons of the detachment with the forces engaged in action despatch the wounded, as fast as they are gathered by the sick carriers from the field of battle. The wounded receive attention to their most urgent wants without delay; each soldier carries on his person a bandage and a piece of lint, which



The sick-bearers are taught to apply, as well as to put in force means of stopping loss of blood, should that be necessary, before the wounded man is raised from the ground. The sick-bearers are likewise instructed in the best way of carrying the man according to the nature of his wounds. With these precautions, the wounded are taken to the surgeon, who is close to the scene of action. He examines the wound, applies splints, or what dressing is necessary to enable the man to reach the field hospital, and inscribes on a slip of paper provided for that purpose the nature of the injury, and what has been done to relieve it. Thus, when the man reaches hospital needless examinations are saved. All these officials are in time of peace carefully drilled in their duties, and have as their sole charge the collection and attendance of the wounded in battle, or the sick who fall out on the march. Thus the combatants not only fight with better heart, knowing that, if disabled, a body of skilled bearers will come at once to their rescue, but they have no excuse to leave their ranks at a critical moment of the fight to carry a wounded comrade to the rear.

The wounded or sick being safely disposed of in the field hospital, the next step is to restore them to such a condition that they can be distributed into the permanent hospitals in Germany, which are ready to receive them. This precaution, first extensively carried out by the Austrians in 1859, is always most advisable, because the field hospitals are rarely, if ever, supplied with the best means of repairing injuries, nor are they salubrious abodes. It is also necessary to clear out these primary hospitals, to make room for fresh cases constantly coming from the front. Indeed, the heavy slaughter of the recent battles was far greater than the field hospitals could meet, and thus the neighbourhoods of the battles have been crowded with wounded and dying, in a condition, as far as they are concerned, almost as bad as if no provision whatever had been made beforehand. Again, the necessities of the



campaign required the staff of surgeons, with their assistants, to leave their wounded and follow the marching columns, to be ready for the next engagement. In these emergencies the volunteer aid associations have rendered such important service. Their organisation enabled them to undertake the conveyance of the wounded already sufficiently restored to bear locomotion to their permanent abodes; to take charge of those not yet ready to move, and even to go to the scene of battle and aid the regular medical staff in applying the first dressings to the wounded.

The transport of the sick is accomplished in the following manner:—Trains of ambulance waggons and of country carts—when, as often happened, the former did not suffice—were organised to travel to the nearest station on a railway open to the Germans. To this station was sent a service of trains composed partly of the long American cars used on the Würtemberg lines, and partly of luggage vans. These carriages are fitted up with one or two tiers of cots, supported on elliptical springs fastened to the floors. In each train travel a surgeon, attendants, and nurses, with provisions and supply of medicines for use *en route*.

When all is ready for evacuating the field-ambulance, the patients are fed, their wounds dressed, and their wants supplied as well as the resources they are about to quit will allow; and they are placed in the carts, too often, alas! of the rudest description, in which they travel, whatever may be the weather, to the railway station. Here a corps of the Volunteer Association is ready to receive them, to lift each man from his waggon, carry him to the sheds, where the surgeons quickly change his dressings, often sorely in need of it, feed, and change his clothing, before he is deposited in his cot in the train. When all of the convoy are removed from the carts, the



latter return to the field hospital for a fresh detachment, and this process is repeated day after day.

The train starts on its journey, halting two or three times every day at towns *en route*, which receive a telegram announcing the approach of the convoy, in order that when the train arrives everything may be ready for dressing their wounds, and giving the sick a hot meal. The surgeons and dressers prepare their stores of lint, bandages, clean clothes, etc., and by the time the train is due numbers of clerks, lads from shops and elsewhere, volunteers who have enrolled themselves for this purpose, appear on the platform, ready to convey their patients to the dressing places. If the train arrives after dark, the well-lighted platform becomes, as the cars cease to move, a scene of picturesque activity. Carriage after carriage is quickly entered, the sick borne out, and their wants supplied. If they have not, as often happens, changed their clothes since the battle, they are re-clothed from head to foot. Having received a good meal, cigars, or tobacco, and if they can write, having delivered their letters to a clerk, who undertakes to post them, they are carried back to the train, which as soon as all its occupants have been refreshed, resumes its journey. The lamps are extinguished, the bearers, dressers, and cooks disappear, and stillness reigns where, a quarter of an hour before, all was bustle without disorder. A striking feature of this scene was the contrast between the pain-stricken and hungry, though patient countenances of the wounded, and the fresh, cheerful, I may even say merry, faces of their attendants, who work with such hearty goodwill, that for a moment the idea suggested itself that these young lads must be relatives of the wounded soldiers they waited upon with such tender devotion.

When the train has deposited its burden in the destined hospital, it returns to the gathering-place for a fresh convoy. In this way enormous numbers of wounded and sick



have reached the Fatherland, and even their native town. As many as 40,000 patients have passed through Mayence alone since the first battle of the war; indeed, they still come in crowds, 13,700 having been attended to at the halting-place of Mayence during the eight days preceding my visit. Besides railway hospitals, sixteen Rhine steamers have been fitted up, and have conveyed many thousands down the river to the cities on its banks in the easiest manner possible. By these means, the sick, at first hastily collected into churches, houses, and hovels, their wounds treated as well as the means at hand would allow, have been rapidly deported into permanent and properly prepared hospitals, the Germans into Germany, whither also the slightly wounded French have been marched as prisoners of war, as soon as their recovery was sufficiently advanced. The French who were severely wounded in the battles near the frontier are passed into Belgium, where they have been received into hospitals, prepared in every large town, and treated with extreme assiduity and skill, under the immediate supervision of the king and queen, who, as is well known, are ever active in the cause of benevolence. Belgium, by allowing her railways to be used for the heavy traffic of the thousands of German wounded, and by receiving any German wounded who chose to stay in her hospitable cities, besides providing for thousands of luckless French, has not only suffered inconvenience, but also serious loss by the war; she will, I trust, be well repaid by the lasting gratitude of both France and Germany.

Having thus depicted, but very imperfectly, the manner in which the Volunteer Aid Societies of Germany perform a small portion of their self-imposed duties, namely, their share in the transport of the sick and wounded, I may detain you a few minutes with some account of the organisation of those societies. That their work is of the highest value will, I trust, be clear to every



one after a little reflection, since, from the greatness of the emergency, regular medical staffs and hospital corps must fail to supply adequate attendance to the vast masses of men who, in the battles of the present day, are suddenly rendered helpless. This want can only be met by volunteers, who must supplement the action of the regular medical staff in every way. This insufficiency has, from time immemorial, called forth the charity of individuals, and has in later times, here and there, even set on foot some slight organisation for the aid of the sick and wounded. The earliest I am acquainted with is the Ladies' Union (Frauenverein) of Frankfort, which was formed in 1813 by three ladies of that city to succour the wounded in the great struggle which led to the discomfiture of Napoleon I. In peaceful times it preserves its organisation by working for the poor. In 1847, the short war of the Sonderbund called forth a society at Zurich, which, however, came to an end with the termination of hostilities. This was unfortunately the fate also of the Aid Societies formed in Austria for the wars of 1859 and 1864, so that in the war of 1866 these useful associations had to be constituted afresh. The Crimean struggle was the occasion for the noble efforts of this country, and the generous devotion of Miss Nightingale; but no organised society sprang up in that national crisis, and the need for volunteer aid having passed away, the nation no longer interested itself in the matter. In the late struggle in the United States a Volunteer Aid Association, the American Sanitary Commission, grew up, which had a career of the utmost success. The Commission was inaugurated May 22nd, 1861, and consisted of about twenty eminent men of various professions, well known for their experience in sanitary affairs and for their tact and probity. The objects were—1st. To employ medical inspectors to visit the camps and hospitals, and report and advise on the



numerous causes for disease existing therein. 2nd. To supply to soldiers those articles of need and comfort not furnished by the Government so far as the means of the Commission enabled that to be done. 3. To print and circulate among the soldiers simple sanitary rules. The influence of the Commission rapidly became enormous; it soon undertook the chief direction, both in collecting supplies and in their distribution, and also advised the Government continually on most important questions of the sanitary position of their armies. The machinery it instituted was extremely simple. A chief centre at Washington, a sub-centre in the east and west, collected supplies from the national generosity, which it stimulated by promulgating in their several districts frequent accounts of the work already done, and of the needs of the armies in the field. The distribution of the enormous funds supplied was effected in the following manner:—At each centre were chief inspectors, who received daily reports from sub-inspectors allotted to stated districts or particular armies. These were responsible for furnishing exact and full information of the condition of the soldiers in camp and in hospital, and of the need for supplies in the reporter's district. To these inspectors discretionary power was given to draw supplies when urgently needed, from depôts established along the line of communication with the combatant armies. Other agents of the Commission were employed to follow the armies with carts and stores, and thus on innumerable occasions were of the greatest service during or immediately after a battle. In a multitude of ways, this association was of eminent service. In the three years of its existence it collected no less than  $2\frac{3}{4}$  millions sterling, and saved, it is said, 100,000 lives.

The German aid societies (Hülfsvereine) have had a very similar organisation. Called into existence by the urgent needs of the Prussian army in the Schleswig-Holstein war of 1864, and again still more actively engaged in the war



of 1866, the Volunteer Aid Societies of Northern Germany have continued their organisations, and, thus experienced, have prepared in the intervals of peace the supplies of money and goods which have been so incalculably useful in the present war. Many independent associations exist, working in the districts in which they have been established. Most of the larger ones are represented by a delegate to a central committee in Berlin, which receives contributions from the smaller societies, and disburses them directly through its agents at the seat of war and among the hospitals in Germany, and also sends subsidies to the various societies whose resources are drained by extraordinary demands. One of the principal of these individual societies is the Knights of St. John, which ancient corporation has, in this new field of action, begun again its useful labour. Its regular members are mainly drawn from the aristocracy, many of them soldiers, taking active share in the campaign, who eagerly devote any leave or leisure they may obtain in aiding their brethren who are continuously engaged in the good work. Under the direction of this order, which, owing to its importance, enjoys a position recognised by the German Government, and possesses many privileges, bands of volunteer assistants are enrolled, and held ready to be despatched for service where they are most required. It is said that over 13,000 volunteers are employed in various capacities in the present war, in succouring the sick, wounded and distressed soldiers. The carrying out of these arrangements of this and other societies has been greatly facilitated by the German Convention, by which all wounded and their attendants are treated as neutrals, and their supplies are not liable to capture. This is the first war in which this Convention has operated throughout.

THE SURGERY OF THE WAR.—The progress of surgery during the last twenty-five years has not been without



effect in modifying the treatment of injuries received in warfare. In this period most important changes in the art and practice of surgery have been established. The general use of anesthetics is perhaps the most striking change.

When the Crimean war commenced, the opinion of military surgeons was divided on the expediency of using it in very severe injuries, it being supposed by some that chloroform diminished the chance of recovery when the patient was prostrated by the shock of a severe injury; while, on the other hand, the sharp agony of the amputating knife was deemed useful to rouse the wounded sufferer from his exhausted condition. This belief was rapidly exploded, and in the English camp at least, the use of chloroform became universal in all operations of any magnitude. In the present war, the bounteous supplies contributed by charitable persons have also enabled the use of chloroform to be very general, and the cases where it was not used are very few. Luckily the nervous condition of soldiers while excited by the struggle, prevents them from feeling painful operations nearly so acutely as do civilians when injured under ordinary circumstances. It is difficult to believe, yet it is perfectly true, that a young soldier immediately after undergoing amputation of the arm declined to stay in the bed where he had been placed, and, with a cigar in his mouth, returned to the operating room, to watch with lively interest a similar amputation performed upon a comrade. Besides chloroform, subcutaneous injection of morphia, and the new narcotic, chloral-hydrate, are being largely employed with enormous benefit to those with severe suppurating wounds and extensive laceration of the flesh. Nitrous oxide is also to be tried largely, but how far it will practically be of use we do not yet know.

Of far greater importance is the substitution of resection of injured joints for amputation of the limb. The ex-



perience of English, American, and German surgeons has demonstrated that in cases of injury to the shoulder, the elbow, and, perhaps, to the wrist, the limb left after resection of the joint, in many cases becomes more useful than any artificial appendage to a stump. Some very remarkable instances of the serviceableness of a limb so crippled have occurred in the surgical practice of the New Zealand war. Of eight cases operated in New Zealand, which, on their arrival at Netley, were examined by Professor Longmore,\* considerable usefulness had been regained in most of the injured limbs, in some to a remarkable degree. A sergeant whose shoulder had been resected for gunshot injuries, had recovered so well that he is able to load and shoot off his rifle, and to lift considerable weights with the injured limb. Similarly good accounts are given of the resection for injured joints of the upper limb in the German wars of 1864 and 1866. Though it must be admitted that recently Hannover,† of Kiel, describing the present condition of certain Danish soldiers who had been treated by resection in the German military hospitals during the war of 1864, throws considerable doubt on the ultimate usefulness of limbs of which the joints have been resected. In most cases, he says, the limb is an encumbrance, capable of very little use, and a source of constant anxiety lest it should receive injury. This intelligence, which, perhaps, must be accepted with some reserve, clearly shows that the advantages of resection over amputation, though in some cases of undoubted reality, and the rules for selecting either operation, are not yet fairly set down in surgical practice. We may however confidently look forward to the results of the present war making a considerable advance in this respect.

But from the observations I was able to make in the

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\* Army Medical Reports for 1863 and 1864.

† Hannover: Medizinische Jahrbücher, 18th Bd., 1869, p. 109.



hospitals and houses where the wounded were being treated, during my recent visit to the scene of war, I am convinced that, before the niceties of conservative surgery can have fair trial, much more must be done in the provision of hospital and surgical accommodation. How greatly are the chances of recovery cut down in a case of compound fracture if the patient lies in a damp hovel, on straw, half-starved, without anodynes to soothe his pain, without splints or apparatus to fix the injured parts at rest. Or, even supposing the patient is fairly well cared for, is immediately lodged in dry and not overcrowded quarters, and has an appropriate splint, how severe the ordeal of fifteen or twenty miles in a springless waggon over rough roads, in drenching rain, and then 300 miles in a railway truck on straw—and such has been the fate of thousands—until the patient at length reaches the proper habitation, and receives the assiduous care that he needed a fortnight before, when first wounded. The consequence of this want of rest of all kinds has been to cause matter to collect along the track of the bullet, to excite general fever, and not unfrequently blood-poisoning, in which case the patient's only chance for life is amputation. This is not surgery, as we understand it, nor as it is practised in all decent hospitals. Until these adverse conditions are removed, it will be impossible to appreciate scientifically the various modes of treatment to practise in gun-shot injuries. Many limbs are now lopped off that undoubtedly in better conditions of hygiene might be saved. And to these limbs, so amputated, a fair chance is not given by a long railway journey. The attachment of the healing surfaces are shaken asunder, so that conical stumps and protruding bones were by no means unfrequent in the hospitals that I had the privilege of visiting, where the primary amputations had been received.

In face of the enormous pressure, the preparations fell far short of the requirements of the occasion, and of the



utmost efforts of the surgeons, who were rarely able to carry out the most approved practice of modern surgery. The application of the plaster of Paris splints to compound fractures, though generally approved, was, where I went, the exception, not the rule, simply because the means were not at hand for employing them. Of Lister's method of treating wounds by carbolic acid I did not see a single instance. Carbolic acid is much used it is true, but as a wash, or as an oily solution spread on a handful of charpie secured by a bandage. Doubtless, the carefully considered instructions published by Professor Lister for the use of military surgeons will be followed in several of the hospitals throughout Germany; but the colossal scale of the war, and the enormous difficulties that overtax the energies and resources of the surgeons at the seat of war, have prevented anything like a general application of the best surgery of the present day, though here and there no doubt the perseverance of our comrades has enabled them to put the best methods of treatment in operation.

This lecture has already taxed your patience most severely; I had intended to include an outline of the means this country should adopt in preparations for the medical treatment of our soldiers in war, should that unhappily be forced upon us. It is, however, abundantly manifest to all who have watched the progress of the present war in the public prints, that no government can adequately meet the exigencies of actual warfare; that it is not enough to enlarge the regular medical staff, and supply it with every appliance for the collection and treatment of the sick and wounded; the Government must establish it with means of transport quite distinct from the military train, which—the system in the American army—I regret, has not been adopted in the British service, where the French system of Intendance has been too closely followed. In addition to this, it must enlist the services of a staff of volunteer assistants,



by encouraging the establishment of societies in time of peace; by assisting them with its advice and experience, and by promoting the drill and equipment of those who undertake at the outset of war to put themselves at the disposal of the military authorities.

I must now conclude; only let me congratulate you who to-day enter our noble profession, on the auspicious moment you have chosen. Never was the value of the physician or of the surgeon more generally acknowledged, or his opportunity better for rendering the great services that our professional training enables us to lavish on the unfortunate victims of a perverted civilisation. I assure you, many a time did I feel a glow of pride, though only a bystander, in belonging to the profession whose skill and devotion were bringing ease of mind and body to hundreds of miserable fellow-creatures, starving and dying in agony. Prepare yourselves; your opportunity will come, I trust not in so bloody an epoch as this, but in occasions less exciting, and, therefore, conferring the more credit on you who undertake the often tedious duties of our sacred calling. Your vocation will not lead you to the highest offices of the state, nor to the renown attainable by the soldier or the lawyer; but of true glory, and of the noble satisfaction that rewards a well spent life, you can attain your just share. May you begin to-day a prosperous career!



Arthur Banach  
Manchester

21 March 1872

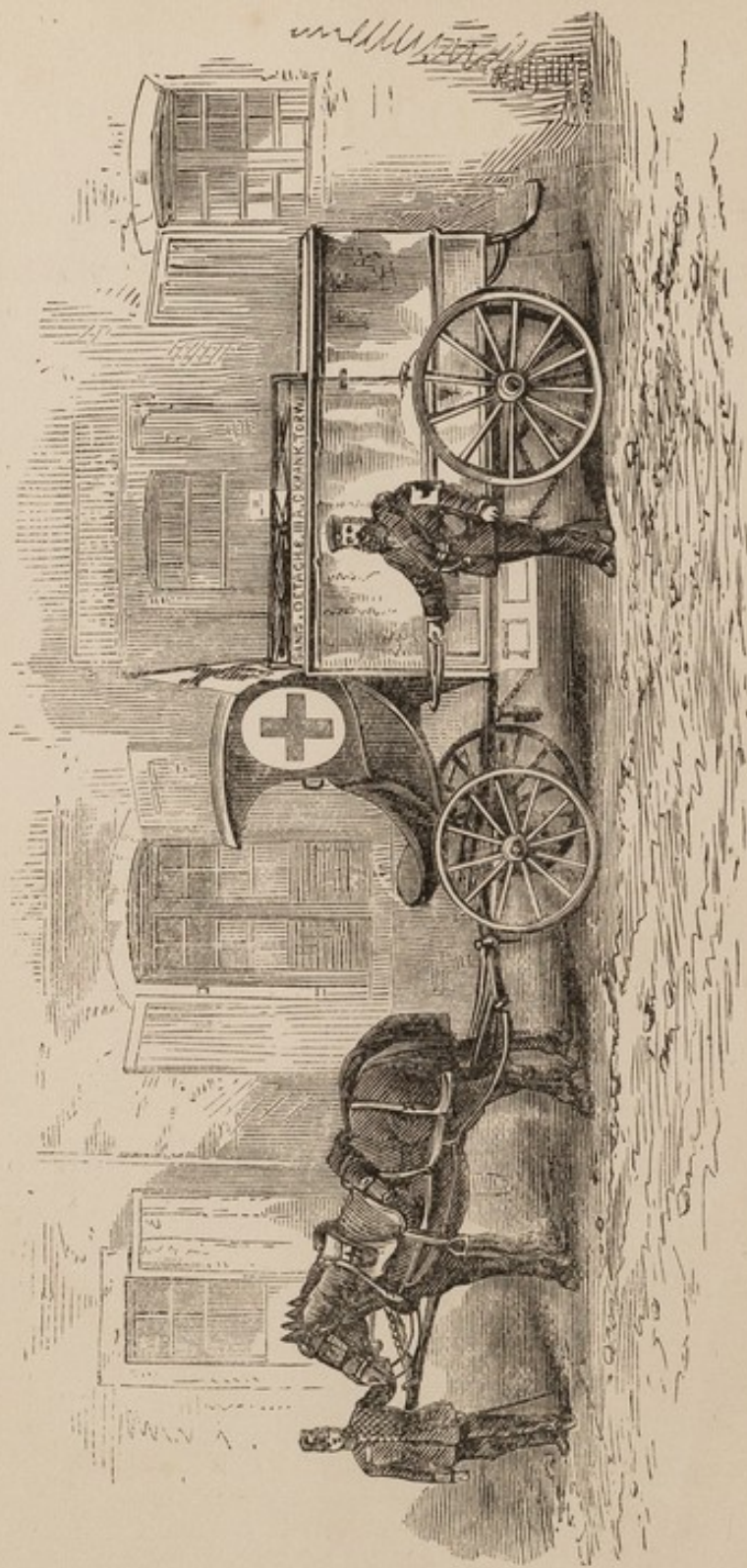
My dear Mr. Longmore

I forward by today post  
a copy of my pamphlet - "Notes  
with a Prussian Sanitary  
Detachment" and hope you  
will have the goodness to ac-  
cept of the same.



It may not be uninteresting to you as a record of field experience during the late war. I purposely delayed forwarding a copy to you until the commencement of the Session at Vethy, as I considered you would have been away on leave — but Mr. Stan tree, to whom I forwarded a copy some little time ago, informs me that you are not in leave. I therefore take an early opportunity of forwarding one for your acceptance and by to remain very sincerely yours  
Saml Jas Moore





THE PRUSSIAN AMBULANCE WAGON.



# NOTES

*No. 2*

WITH A PRUSSIAN SANITÄTS DETACHMENT

IN THE LOIRE CAMPAIGN, 1870.

BY

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NOTES  
WITH A PRUSSIAN SANITÄTS DETACHMENT  
IN THE LOIRE CAMPAIGN.

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THE Woolwich Ambulance was despatched to the seat of war in October, 1870, under Deputy Inspector-General of Hospitals Guy, by the National Society for Aid to the Sick and Wounded in War. It was a British military ambulance in every respect. Army surgeons, Army Hospital Corps, non-commissioned officers and men (*en civile*, and with the Red Cross *brassard* on the left arm), formed the British *personnel*; while army ambulance waggons and general service waggons, with regulation harness and field hospital stores, formed the *matériel*.

The Ambulance marched from Havre to Saint Germain in the first instance, and on its arrival in that town an attempt was made to establish a hospital there; owing, however, to the jealousy and unfriendliness of certain individuals, this course had to be abandoned. The ambulance, already arranged in four subdivisions, had therefore to be broken up in November, and the B Division, under Surgeon Manley, V.C., R.A., marched on the 12th of that month for Chartres. As it turned out, the subdivision of the ambulance was a most fortunate circumstance, work being



far more easily obtained amongst the outlying besiegers of Paris than at Versailles. Two days subsequent to the marching away from Saint Germain, Mr. Manley, Mr. McNalty, and the writer of these notes, were presented to the General commanding at Chartres, and the B Division of the ambulance forthwith attached to the Sanitäts Detachment of the 22nd Prussian Division, just then quartered in that city, and hourly awaiting orders to march out to meet the enemy. With this Sanitäts Detachment the Division remained associated until the end of December—during some very severe weather and severe marching. It so happened that the B was the only division of the ambulance, and indeed the only foreign ambulance, permitted to march as a component part of the Prussian army, rationed by its commissariat and billeted by the billeting parties. I confess, rare opportunities were thus presented, not alone for the observation of the immediate treatment and removal of the wounded on the field (to which I have already alluded in Nos. 14 and 15, vol. i., of the *Lancet*), but also the working of the wheeled transport, British and Prussian, the former of which had not been previously tried in European warfare.

My notes I classify as follows :—

1. Notes on B Division of the British Ambulance.
2. „ Sanitäts Detachment.
3. „ March with the 22nd Prussian Division.
4. „ Ambulance transport employed... { Hand litters.  
Hand-wheel litters.  
Ambulance waggons.
5. „ Principles of construction of ambulance waggons.
6. „ Ambulance horses.



## 1. ON THE B DIVISION OF THE AMBULANCE.

*English Personnel.*—Surgeon W. G. Manley, V.C., R.A., Director; Assistant-Surgeons G. M'Nalty and S. Moore,\* with one civilian groom, and one sergeant and four privates of the Army Hospital Corps.

*French Personnel.*—One shoeing smith, four drivers, and one groom; or, in all, three officers and twelve men.

*The matériel* consisted of two regulation ambulance waggons, one general service waggon, and twelve horses. The ambulance waggons were drawn by two horses; the general service waggon by four, in double draught, the near horse carrying the driver postilion-fashion. The harness, though heavy, contrasted favourably with that in the Prussian service for wear and strength. In each ambulance waggon, two field and two ambulance stretchers were carried, as well as a water barrel, water tins, and bucket. In the general service waggon, corn in sacks, a circular tent, two field panniers, two divisional boxes, bedding for twenty-five men, horse clothing, and the men's kit-bags. As the approach to the contents of this waggon was by lowering the tail-board, it frequently happened that almost every article had to be removed before the object for which search was made was discovered, and if some straw, shavings, or empty sacks were not forthcoming to spread at the rear of the waggon, the contents had simply to be deposited on the ground. To this waggon, and to the Prussian store waggons (the *Medecine und Utensilien*), I hope on some future occasion to be able to draw more particular attention.

*The French Drivers.*—One had been a postilion, but was, at the period to which I refer, so infirm that he had to

\* Assistant-Surgeon J. Power, 4th Regiment, joined the Division after the recapture of Orleans, where he had been detained a prisoner.



mount his horse from the splinter-bar ; one was a grocer, and two others dock labourers at Havre—the latter altogether unused to horses or riding. When to these facts I add that our horses, with a very few exceptions, were screws, it may be a matter of surprise that early disaster did not wait upon the B Division. This, however, did not occur, and subsequent success goes far to show that, even with inferior horses and untrained drivers, an ambulance corps, by good management, may undergo severe hardships in the field, and at the same time do good service.

*The Army Hospital Corps Men.*—It has been the custom of a certain class of individuals in this country lately to eulogise things Prussian at the expense of things British ; nor have our Army Hospital Corps escaped some severe handling. They have been spoken of since my return as ignorant, untrained, and rough ; and the Prussian Krankenträger (their representatives in the Prussian army) as well trained, well educated, and gentle. For the sake of fair play, what are the facts ?

Twenty-seven of the Army Hospital Corps accompanied the ambulance to France. When hard work had to be accomplished, in or out of hospital, no one can say but in our men we always found ready and willing hands. To their credit, I mention the rapid manner in which our twenty waggons, when placed on the quay at Havre in detached pieces, were put together ; how in six hours these twenty waggons loaded and 108 horses were drawn to the railway station at Havre and put on trucks ; and how in two-and-a-half hours from the time of the train stopping at Saint P. au Louvrièr the same transport and horses were disembarked, and the whole ambulance on the move to the neighbouring town. To the exertions



of our Army Hospital Corps men were these satisfactory results due. In hospital, revolting gun-shot wounds were dressed by these men, and shattered extremities handled with tenderness and care. I wish I could say as much always for our friends the Krankenträger from time to time placed under my own orders.

Let me endeavour to assure the faint-hearted by saying, that our Army Hospital Corps men are not in any respect inferior to the Prussian Krankenträger, either as regards special training or gentleness.

## 2. ON THE SANITÄTS DETACHMENT OF THE 22ND DIVISION.

The Division consisted of the 32nd, 83rd, and Saxe-Weimar Regiments, the 13th Hussars, one artillery regiment, one pontoon train, and the Sanitäts Detachment, all under the command of General Wittisch. These regiments were at this time far below their strength; nor was the division a complete division. It was known to the Prussians as an "abtheilung," and in round numbers did not number more than 9,000 or 10,000 men.

To the Sanitäts Detachment I will here refer; and this naturally leads to some brief remarks on the Prussian ambulance arrangements on the outbreak of war. Army medical officers are employed in three different ways—(a) with Regiments, (b) with Sanitäts Detachments, and (c) with Reserve Feld Lazareths.

(a) *Regimentally*.—Two are attached to each battalion of infantry, regiment of cavalry or artillery, which they accompany into action. A small medicine cart accompanies each battalion, containing stimulants and the first dressings, but no stretchers; it is drawn by one horse, and

\*



driven by a soldier of the regiment. All medical officers wear the helmet and Red Cross *brassard*.

(b) *With Sanitäts Detachments*.—To every *corps d'armée* there are three Sanitäts Detachments. Each one consists of an ambulance column, four Feld Lazareths, and one Krankenträger company, with three train officers, and 120 men.

In each *ambulance column* there are seven surgeons, one or two apothecaries, and one inspector; in *each Feld Lazareth*, two or three surgeons, one apothecary, and one inspector, with a proportionate number of train drivers who do not wear the *brassard*, and Krankenträgers. With the column are two medicine waggons and six ambulance waggons; and with the Feld Lazareth two medicine waggons and two general store waggons.

*Résumé of Sanitäts Detachment, three of which go to a Corps d'Armée.*

	Officers.					Waggons.			Horses.
	Doctors.	Apothecaries.	Inspectors.	Rittmeister.	Lieutenant.	Ambulance.	Medicine.	Utensils.	
1. Ambulance column ... ..	8	1	1	...	...	6	2	...	25
2. Four Feld Lazareths ... ..	12	4	4	...	...	...	8	8	60
3. Krankenträger Company ... ..	...	...	...	1	2	...	...	120	5
	20	5	5	1	2	6	10	8	90

(c) *With Reserve Feld Lazareths*.—These, which are “reserve field hospitals,” have not a number fixed for transport, men, or horses. I have met Reserve Feld Lazareths consisting of but two or three surgeons, and twelve men, but without either waggons or stores; while others had a few waggons and stores, and about the same number of sick attendants and surgeons.



*Duty of the Sanitäts Detachment and Reserve Feld Lazareth.*—The duties of the former are to accompany its own division on the line of march, and to follow it into action. When the Krankenträger get their stretchers into play, and bring in the wounded to the ambulance waggon, in which they are then conveyed to the point where field hospitals have been established—generally farm-houses, or villages near at hand, in the last war—to render such professional help, both on the field and in the temporary field hospital, by its entire medical staff, as the halt of the division will allow of; and on the division's departure, to move away with it, detaching a Feld Lazareth for the subsequent care of the wounded at each point. Thus, after each engagement the Sanitäts Detachment loses one of its Feld Lazareths, the duty of the latter then is to remain in charge of the wounded until either they are all evacuated to the base of operations, or until relieved by the Reserve Feld Lazareth, when it rejoins the Sanitäts Detachment. When, in its turn, the Reserve Feld Lazareth has evacuated the remaining wounded, it also moves further on to the front.

In the Prussian service the General holds the senior medical officer with the Sanitäts Detachment responsible for its discipline, hours of march and billeting, and for proper arrangements being made for the immediate removal and treatment of the wounded. The Ritmeister and two other train officers take their orders from him; he is the sole responsible head. When the Feld Lazareth is on detached duty, it takes orders from an inspectorial officer at headquarters. From the same source the Reserve Lazareth likewise takes its orders.

It must appear evident that the satisfactory performance of such varied duties as are imposed upon the head of the



Sanitäts Detachment, and with so wide a latitude, requires information of a non-professional, as well as that of a professional nature. In the Prussian service great care is taken to select these officers, and the recipient must have this range of information, and in every instance must be a horseman as well.

Even for the lesser charge, that of the Feld Lazareth, considerable responsibility is incurred. Detached in some small village in the enemy's country, and far away from troops, requisitions have to be made for food and wine, evacuations conducted to the nearest railway depôts or towns, on country carts, discipline maintained amongst all ranks, and when the order comes to rejoin, transport and horses carefully conducted back to the division.

No such arrangements exist in the British service, and although the system described is not a model one, there are many points deserving of notice. There are, however, too many apothecaries and inspectors (quartermasters) in the Prussian service. In our service such posts might with more economy, and as efficiently, I think, be filled, the former by serjeants (past compounders) in the Army Hospital Corps, and the latter by cavalry or artillery serjeant-majors, specially selected and appointed during war time; and the proportion of ambulance waggons, 18 for (30,000 men) *corps d'armée*, seems small. Of this, more hereafter.

### 3. ON THE MARCH WITH THE 22ND DIVISION.

I have arranged a chronological table, which gives the distances marched, the places of halt, and some remarks on the description of weather and country traversed. Reference will not be made to each day's march in detail, many of which presented very little difference, but matters



which I think worthy of note alone will here be spoken of. *Total distance marched*, 341 miles, in twenty marches, or an average of seventeen miles daily. *The time of march*: this was generally at 7½ a.m.; the Sanitäts Detachment marching in rear of the infantry of the division, the British Ambulance immediately in rear of the Sanitäts Detachment. Towards noon the column halted, when what we dignified by the name *déjeuner* was supposed to be enjoyed. The order was that all the wheeled transport was to be drawn up, without loss of distance, to the right side of the road when the halt took place. This occurred indiscriminately on the flat or on the hill side. When on the hill side, owing to there being no scotching apparatus in our waggons, it was necessary to keep the horses in the collar until a stone could be obtained to put under the wheels. This inconvenience was frequently experienced.

Without sound of trumpet or other martial sound, the word "aufsitze" (mount) passed along the line, and the march resumed. The infantry in front rarely removed their packs, but rested themselves by lying on their backs on heaps of stones or banks.\* The column halted generally at dusk—sometimes before, sometimes after; the wheeled transport was now drawn up in a well-dressed line, the British waggons on the left, and the horses and men despatched to billets, previously discovered by a non-commissioned officer sent on in front, whose duty it was to inscribe on each door with a piece of chalk the number of men and horses for that billet, with "Sanitäts Detach." written above. Tents not being carried in the Prussian service, long rounds had often to be taken to obtain the

\* Not till the men had marched for ten days continuously, and over more than 120 miles, including two engagements, were their packs carried in country carts for them.



necessary shelter for the night. In this way—unwelcome and unknown guests—many a remote château, farm, and village in France was suddenly and unexpectedly called upon to house our British detachment.

*Billeting.*—When a small village only was available for the whole division a sort of scramble for quarters was admissible—at any rate among the officers; this was the case at Marville-le-Bois. Four friends and myself found a kitchen with one bed; one man somewhat sick was voted to the bed, while the remainder slept in straw on the floor; for many a night after, a by no means rare occurrence.

Very different to this was the case when a large town, or town capable of holding the whole division, was reached. To every corps then distinct quarters were assigned; to one part artillery, to another infantry, and so on. As a regiment marched into its quarters and through a street, a section fell out right and left from a company, and entered the houses on either side of the street—a kind of billeting very rapidly performed.

*The Weather during the March.*—This was variable. In November, fogs, rain, and cold winds. In December, mild days at the beginning of the month, but hard frost and snow towards the middle and end; all the nights were cold. The rain was felt the most of all, and led to a good deal of sickness. The infantry at this time were sadly in want of new boots and new clothing. It was not a very unusual thing to see a man with a pair of Mobile's trowsers on, and once I saw a Uhlan with a tall silk hat in place of his lancer cap.

*The Nature of the Country traversed.*—Almost every variety was at one time or another met with, from good roads over level plains, and steep, hilly, or rutty roads, to mere tracks through fields and woods; awkward turns, and



sudden descents into fields adjoining the road to avoid other transport. Plough furrows, and other broken ground had at times to be crossed to avoid cut roads or barricades, or to get a nearer position to the wounded.\*

On good roads the wheeled transport travelled with facility, but from the preceding statement it will be seen that it was at other times exposed to very severe strains and thrusts.

*On the Sufficiency of the Transport with the 22nd Division.*—The British Ambulance (B division) was present at Saint Ange, Bretoncelles, and the general action near Artenay. At Saint Ange the search for wounded was continued till after dark, and sixteen severely, besides other wounded, placed in the eight ambulance waggons. That more men than these were severely wounded and lying about in the thick brushwood was probable, but the darkness of night rendered further search then impossible. The following day all the ambulance waggons were ordered to return from Château Neuf, ostensibly to have the dead interred, but also, I suspect, to search for any further wounded. I returned with them. Wounded, I dare say to the number of thirty, were discovered in the cottages adjoining the scene of action, to which they had either crawled or been carried during the night. Now, had these men been found the night previous, and supposing at a distance from cottages, what course could have been pursued under the circumstances? The eight ambulance waggons were full, the additional severely wounded must have

\* To avoid a barricade near Château Neuf, the main road had to be abandoned, and ploughed fields crossed at a smart trot to reach the wounded, it being then almost dusk. On another occasion near Bonneval, the bridge over the Loiret being cut, a tressel bridge lower down, erected by the engineers, had to be crossed, swampy fields, and the river forded at a bend lower down.



remained out all night unsheltered, or at any rate until such time as country carts could be sent back from Château Neuf for them; the ambulance waggons could not, for they were to march the following morning with the division. Here, after this small affair at Saint Ange, at which some sixty men had been placed *hors de combat*, it was apparent that but for the good fortune of adjacent cottages, the regulation amount of ambulance waggons, even including the British, would not have sufficed on that occasion to remove them to the field hospital at Château Neuf, four-and-a-half miles away. *At Bretoncelles*, the case was different, for the engagement took place immediately outside the village, so that the ambulance waggons were employed in making frequent journeys to the battlefield, and thus enabled to bring in all the wounded before dusk. *At the general action on the 2nd December* the 22nd Division was sent out on the morning of the 2nd to make a *reconnaissance* in force, when it unexpectedly came on the left of the French army, strongly posted at the village of Pouprey, near Artenay. A general engagement ensued, resulting in a drawn battle, both armies sleeping on the field by their bivouac fires. On one part of the field was a large farm-house, known as Onaux; here the British Ambulance established itself towards evening, and in its own two waggons conveyed eighty-five wounded from the field to Onaux, and there treated them. I purposely avoid mentioning the reason for the absence of the Sanitäts Detachment at this critical juncture; suffice it to say, Mr. Manley received that night, when in the midst of his work, the General's thanks for the help rendered. Here again, as at Bretoncelles, the wounded were conveyed to an adjacent temporary field hospital by frequent journeys of but two ambulance waggons backwards and forwards;



these journeys had, however, to be continued to an early hour in the morning.\*

Favoured by good fortune on each of these occasions in a remarkable manner, the deficient amount of ambulance transport did not then strike me so forcibly as it has done since. And in case such a small limit as eighteen ambulance waggons to a *corps d'armée* of 30,000 men is the one for adoption in other services, it would appear to be very advantageous to have as a provisional arrangement some ready means at hand for adding an upper storey to each ambulance waggon, whereby four severely wounded could be carried in the waggon at a time on any emergency, and likewise marquees in the store waggons, so that in any case, if it so happened that wounded men had to be left out all night on the field, they could be collected and housed in them until removed to a field hospital.

#### 4. ON THE AMBULANCE TRANSPORT EMPLOYED.

It may be divided into three sorts:—

- (a) Hand stretchers; (b) Hand wheel-stretchers; and
- (c) Waggons.

For full details concerning these, the reader is referred to Professor Longmore's "Treatise," and Dr. Gwilt's "Atlas;" and as I have not, however, found a detailed account of the Prussian ambulance waggon, I purpose giving as full a one as I can under the heading of "Waggons."

(a) *Handstretchers: objection to every Dual-stretcher System.*—With the British Ambulance, the two sorts of regulation stretchers were used. They are called the "field stretcher," and the "ambulance stretcher." On the

\* From the two days' fighting round Artenay, 1,000 wounded remained collected in Bagneaux, Lunan, and Artenay.



former, the wounded man is carried from where he receives his wound to the waggon, where he is transferred to the "ambulance stretcher," on which alone he can be conveyed in the waggon. On the arrival of the waggon at the second line of surgical assistance—in other words, at the field hospital—another transfer to the field stretcher may or may not be required. If the distance from the waggon be short, this need not take place; if, however, it be considerable, or stairs have to be ascended, it must, owing to the short \* handles of the "ambulance stretcher" cramping the bearers' hands,—and besides, its weight,† and smooth, sloping surface.‡ Thus, in every case a double, and in many cases a treble transfer is unavoidable, at a sacrifice of great waste of time, and considerable increase of suffering to the wounded.

*The Object of a Dual-stretcher System.*—The main object of the system is to have one very light stretcher, and one provided with springs; the former for the bearers' benefit, the latter so as to be used on springless vehicles.

To make the "field stretcher" very light, with the above object in view, it is provided with thin, weak, iron traverses, and is without feet. With regard to the latter, Mr. Longmore says: "The advantages are so great, that the additional liability to injury in consequence of them has been submitted to (elsewhere), rather than the disadvantages of doing without them."

To give elasticity to the "ambulance stretcher," a double framework for the reception of the springs is necessary, giving so much extra weight that the stretcher cannot

\* Made short to fit the floor of the waggon. Hinged handles would meet this much better.

† Its springs necessitate much additional weight.

‡ A condition in itself favourable to accidents.



conveniently be carried but in the ambulance or other waggon. During the war, however, when evacuations were conducted on springless carts, as they in the majority of instances always were, the wounded were placed directly on hay or straw, and never on stretchers. Taking into consideration, then, this latter circumstance, with the waste of time and increase of suffering due directly to a dual-stretcher system, it seems to be very desirable that this system should be abolished, and but one pattern of stretcher used instead.

*The Prussian Hand Stretcher.*—There is but one description in use: on it the wounded man is carried to the waggon—in the waggon, and from the waggon to the field hospital. It is heavier than our “field stretcher,” not so heavy as the “ambulance stretcher.” It has short wooden feet, one stout framework, and wooden traverses; it has no springs, it does not fold up, and can bear, for I have seen it subjected to, the very roughest usage. It has one very great defect—the moveable head-rest, which takes away from its length for the body and legs, and increases the weight.

*Rough Outline of a useful Stretcher for the Field.*—Two eight-feet solid wooden poles, with padded side flaps at the centre, and iron-bound wooden feet and hinged handles, and two wooden traverses, forming a rigid wooden framework; canvas sacking bottom and waterproof pillow, neither to be removeable nor laced up, scrubbed *in situ* if necessary. (I have seen blood-stained stretchers which had been used at Woërth and Sedan, and were not to be washed till the end of the war—unwashed, therefore, from August until March.)

Springs, double frameworks, moveable head-rests, and shoulder straps are but positive encumbrances (the latter in



the British were only used to replace worn-out stirrup leathers). Such a stretcher might be made exceedingly strong, to bear any usage, and not as heavy as the Prussian stretcher at present in use in that army.

(b) *Hand Wheel-stretchers*.—By this is meant a stretcher wheeled by a man. The regulation Prussian hand wheel-stretcher is simply the hand stretcher carried on a wheeled support, consisting of an axletree, two wheels and two double elliptical springs; the latter are clipped down on the axle, and can be fixed at the point opposite, where there is a crutch or socket, to an iron standard attached to the under surface of each side pole at its centre, and when *in situ* retained by a transverse bolt. No wheeled support was sent out with the British Ambulance. By the application of wheels to stretchers it is supposed that the wounded can more quickly, and with less labour, be brought in than when stretchers alone are used, supposing suitable ground to exist. Suitable ground must be defined to be level, unyielding roads; the road may be hilly, but must be free from ruts or other inequalities, as about a fort or large hospital. Hence this support was not used by the Prussians in the field in the last war, where frequently roads had to be abandoned, and fields traversed to reach the wounded. On yielding ground the strain on the bearers' arms is so great as soon to tire a man out.

(c) *The Prussian Ambulance Waggon* (see Frontispiece).—This is called "Kranken Transport Wagen," or sick conveyance waggon, and consists of a fore and hind carriage carrying a body and coupé over them. *The fore-carriage*, *vide* Figs. 1 and 2, is formed by a Y-shaped futchell, 9 9, a pole, 10, splinter-bar, 11, axletree bed, 12, and axletree with small (3 feet 2 inches) fore wheels; the futchells are housed across the axletree bed, and close to their free extremities



support the bottom sway-bar, 5. The stem of the Y helps to form a pole socket, the end of the pole being received

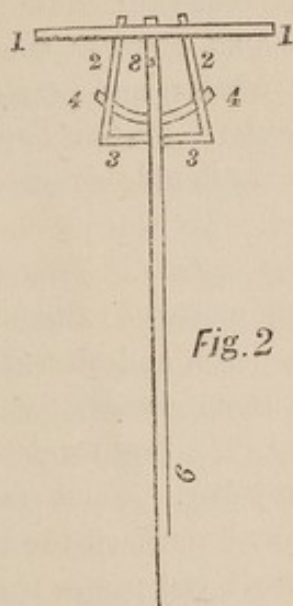
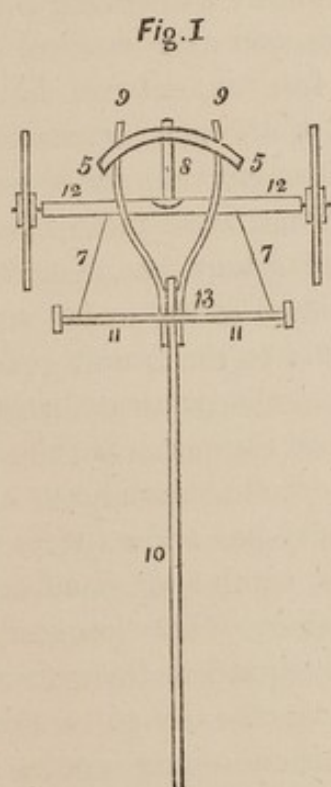
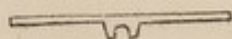


Fig. 3



between the futchells; the under surface of the centre of the splinter-bar is hollowed out, the hollow (Fig. 3) houses the pole and futchells (a locality technically known as "the chops"); bands of iron (nose plates) hook across the hollow, over the end of the pole, and under the extreme ends of the futchells. When these bands are secured *in situ*, the pole, futchells, and splinter-bar are here retained firmly together. A strong iron bar, 7, runs from either side of the splinter-bar to the axletree bed, and serves to strengthen the connection between these parts; on each end of the splinter-bar is nailed an iron step, which facilitates entrance and exit to the coupé. The axletree



bed and the bottom sway-bar, 5, are shod with iron plates to take the bearing of the perch and framework. The splinter-bar is fitted for double draught with swingle-trees.

*The hind carriage* consists of an iron axle (without bed), 4-feet wheels, and perch, 6; the fore end of the latter is *morticed* to a stout cross-piece, 1, on each extremity of which the double elliptical springs supporting the coupé are clipped. To the perch here and the cross-piece a framework is *affixed*. This consists of a horn-bar, 3, and two framing pieces, 2; the former is bolted to the under surface of the perch and *morticed and bolted* to the framing pieces, which themselves fit into sockets in the transome or cross-piece, 1. To this framework and to the perch is *bolted* the top sway-bar, 4, shod as well as the transome, so as to travel and work on the bottom sway-bar and axletree bed. A vertical pin passes through the perch and small centre futchell, and secures them together. The longitudinal springs supporting the body are clipped to the iron axle. *The body* consists of two parts, the coupé and body proper. The latter is 9 feet 4 inches long, and 4 feet 4 inches wide, and is formed of a framework and planking like every other waggon, and with low wooden sides; it is separated from the coupé by a permanent partition of wood and canvas. A small square orifice at the centre admits of communication between the recumbent patients and those in the coupé. The floor of the coupé is one foot and a half higher than the floor of the body, a lock-hole is thus formed for the small fore wheels to travel under. The floor of the coupé is supported by two strong curved iron "body plates," which spring on either side from the body. The roof of the coupé is higher than that of the body, and is also a little wider. Both are slightly arched, and covered with painted canvas.



The latter is formed of a framework, on which the canvas is nailed down; this is maintained *in situ* by nine wooden standards, four from the corners, two from each side, and one from the end of the body. The framework itself is formed of four pieces, and a long central one on which nine crosspieces are morticed and bolted. Small canvas curtains close the sides and ends, and can be rolled up or let down at pleasure.

The roof of the coupé is covered with black painted canvas, a red cross on each side in white ground and flag; the coupé is protected by a leather apron, provided with an excellent sheepskin cushion, well padded all round, and large enough for four men. This is a snug and excellent seat. An iron ladder with four steps is carried on the near side, and intended to facilitate entrance to and exit from the coupé, but it is rarely used; when one man stands in the coupé to help, and the wounded man steps on the fore wheels, or splinter-bar step, he is got in easier without it. On the floor of the body two stretchers are carried for severely wounded, head foremost, and separated by a low partition; near the top four web-tags hang from the roof about a yard long each, so that the men on the stretchers can lift themselves up, and so change their position. The end of the waggon is closed by a step suspended by two hinged iron arms.

Packs, wheeled-stretcher supports, are carried immediately behind the coupé on the roof (a low iron rail about six feet long, and the width of the roof, retains them there; while wooden laths are laid along to keep the canvas roof from being injured); stimulants and medicine in presses attached to the bottom of the waggon; spare stretchers strapped to the side, or inside the waggon, or on country carts. The chain for the drag-shoe is fastened to



the perch near the vertical pin, and a *narrow and semi-circular piece of iron* is nailed to the axletree bed on either side, and by projecting over the naves of the fore wheels, prevents to some extent the mud from getting into the pipe boxes.

This waggon is not free from defects. The low centre of gravity, small fore wheels, perch, and short sway-bar, which augments the vibration and wabbling ("swagging" as it is technically called) when descending hills, these have all been noticed and remedied in waggons which have been more recently constructed by the Germans; in point of fact, a new ambulance waggon is about to be constructed in Prussia.

#### 5. ON THE PRINCIPLES OF CONSTRUCTION OF AMBULANCE WAGGONS.

The bulk of authorities seem agreed that waggons, and not carts, are the proper forms of vehicle for transporting wounded in Europe; that sick and wounded men—never stores—are alone to be carried in the waggon; and that that capacity by which six or eight wounded (two severely) are conveyed in a waggon drawn by two horses is calculated to allow of the greatest amount of work being accomplished in a given time, and with the least waste of motive power. So far, then, as concerns the general form, the capacity, and the nature of the load of the ambulance waggon, definite views have been arrived at. I believe, however, I am right in saying the principles of construction have hitherto been very little discussed. I will now attempt to explain what appear to me to be the more prominent points.

(a) *Ambulance waggons should possess such an arrangement of the parts of their roofs and sides as will at all times,*



*and independent of the season, afford adequate protection to the occupants.* This would seem to be almost self-evident. Yet the British waggon sent out with the expedition was found suitable for summer use only; and although our ambulance work had to be carried on unintermittingly all through the winter (1870-71), it was carried on under this disadvantage, viz., with a waggon totally unsuited for a winter campaign. In what, then, did its shortcomings consist? Its roof and sides are formed by one continuous waterproof canvas cover stretched over bale hoops. There is no partition; canvas falls can be let down in front and behind instead. When the wind is ahead, or the horses leave a walk, a draught is felt, more or less, by every occupant—who sit or lie, as it were, in a tunnel—even when these falls are down. In severe weather I have heard men howling with pain from this draught. In the Prussian waggon there is no draught, owing to its partition, made of wood and canvas. This partition is, I think, a most essential part of an ambulance waggon, as by dividing the waggon into two comfortable compartments, one for sitting, another for recumbent wounded, all draught is avoided. With it of course there must be side curtains, to be raised or lowered according to the state of the weather—raised in warm weather, when the occupants need abundance of cool fresh air; lowered and fastened down in cold or wet weather, or at night evacuations, at all of which times the compartments of the waggon require to be rendered most comfortable. Remembering, then, the long periods for which men have at times to occupy the waggons,\* and the severe weather

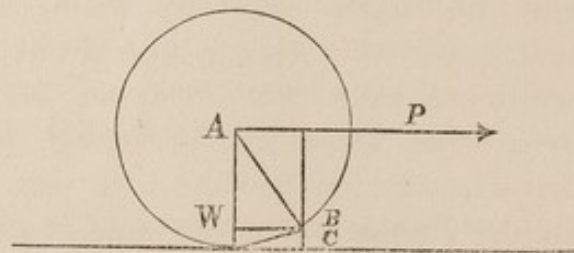
\* On the 20th December I took 260 wounded on three British waggons and forty country carts, from Moree to Cloyes. At noon I commenced to load at Moree. I did not get rid of my charge until



during which modern armies continue tactical movements in the field, adequate provision for the protection of the wounded, by some such arrangement as I have pointed out, seems to be indispensable for European ambulance waggons, at all events.

(b) *The best Size for the Wheels.*—Wheels serve two ends; they remove friction to where it takes place between hard and smooth surfaces, and they give power to surmount obstacles. It is not difficult to show that the larger the wheel the less is the power required to pass over

Fig. 4



inequalities of the ground, *i.e.*, where the height of the point of attachment of trace (or the splinter-bar) depends on the radius of the wheel. In the construction, Fig. 4, let *B C* be an obstruction with which the wheel meets;

2 a.m. at Cloyes—just fourteen hours' occupation of the waggons by the wounded. The next day, the 21st December, I took the convoy, increased to 300, from Cloyes to Chartres, forty-five miles (English), marching continuously from 2 p.m. to 6 a.m., or just sixteen hours' occupation of the waggons and country carts. Both marches were made by Prussian orders, both in severe frosty weather—so cold that drivers and horsemen had to walk the entire distance, and not once during either were food or stimulants administered. The latter march, 140 prisoners trudged along with the convoy. I have never been able to ascertain whether the wounded, placed simply on hay or straw on the springless carts, and exposed with but scanty clothing, and for such a time without food, to this severe weather, were at all injured thereby. Prussian ambulance waggons are not, or were not then, or at any other time, used in evacuations. Nor do I suppose in our future wars ours ever will.



$a$ , the angle which it subtends;  $p$ , the power acting horizontally from  $A$ , the centre; and  $w$ , the weight acting in the perpendicular downwards through  $A$ . As the angle  $BAW = 2a$ , it follows  $p = w \tan. 2a$ . In this equation,  $w$  is a constant, and  $p$  diminishes as  $a$  diminishes, but  $a$  diminishes of course as the radius of the wheel increases, and  $\therefore p$ , the power diminishes as the radius of wheel increases. Not alone for the increased power\* it gives in surmounting obstacles does the high wheel recommend itself, but also for another reason. Where speed, in contradistinction to great power, is required, experience has shown that a high wheel gives more ease to the horse. Is no limit, then, to be placed to the height? A large wheel raises the body high off the ground, making it more liable to upset; for the higher the wheel the smaller the angle of upset.

Now, an ambulance waggon is a moderate weight generally; it has to be drawn sometimes rapidly over ploughed and broken ground. Does not this point to high, but still not very high wheels—anything but low wheels? I have repeatedly noticed the superiority of the equirota British waggon wheels (4 feet 2 inches) to the smaller Prussian waggon wheels, in broken ground.

*Small Fore Wheels.*—Braine, in "The Dictionary of Science and Art," says, "The fore wheels of waggons in this country are usually too small." The main reason advanced for them is to facilitate turning, for by their passing under the lock hole the angle of lock is increased,† and the space to turn is diminished. But for an ambulance waggon, is there ever this pressing necessity to turn

\* Major Close, R.A., Superintendent, Royal Carriage Department, shows the relative power of wheels to be as the square roots of their radii.

† Angle of lock, British waggon =  $35^\circ$ ; Prussian ditto, =  $45^\circ$ .



short? I have not seen any such, nor do I believe it ever exists—to such an extent, at all events, as to give anything like an adequate return for the disadvantages attending small fore wheels and the lock-hole.\*

*The Dish.*—The outward inclination of the spoke is called the dish. It is given to a wheel to enable it to withstand lateral thrusts. As ambulance waggon wheels are exposed at times to these, it is an essential.

*The Tyre.*—The 3-inch tyre of our waggon wheels worked well, and did not allow of the sinking that the 2-inch tyre of the Prussian waggons did in soft ground.

*Metal Naves.*—These are recommended for waggons brought under fire, and may therefore be adopted in the case of ambulance waggons. The new Prussian medicine waggons have them.†

(c) *The requisite Elasticity* (ελαστε, a spring; ελαννω, I draw).—A spring is defined to be a mechanism applied for the purpose of preventing shocks from the collision of hard bodies. In all modern waggons of every description it has been found expedient to add to solidity, elasticity, secured by the application of steel springs as well; solidity, to withstand shocks, and elasticity, to diminish their transmission. These are transmitted prin-

\* To build a carriage with a lock-hole, one of two things must happen: either the capacity (cubic space) is diminished, or the total length of the waggon must be increased, in itself a preventive to sharp turning.

† At Sedan the Sanitäts Detachment of the 22nd Division was brought under fire, and had a horse killed by a shell; at Artenay I saw that of the 17th Division removing the wounded immediately in left rear of a battery of artillery, and exposed to shell fire. And in many other instances I have heard of the same happening. This exposure follows from the long range of modern projectiles, and from the fact that destruction and relief, so to speak, to be effective, must go on almost side by side; for if not, how can "the Detachment" continue to march with the division?



cipally in three directions—vertically, laterally, and horizontally, and may be familiarly instanced by a waggon crossing a furrow. When its fore wheels cross the furrow at right angles, and drop into it, a vertical shock is transmitted to the front of the waggon; on striking the opposite border, a horizontal shock; and if the wheels cross the furrow obliquely, a lateral one. To diminish the transmission, three sorts of springs have been designed—transverse elliptical springs for lateral shocks; longitudinal and platform for the vertical, and C springs for the horizontal. To give the maximum of protection, all three sorts are required. But this plan, from its complexity and resulting liability to injury on service, is not possible for ambulance waggons.

In both the British and Prussian waggons, vertical shocks alone are provided for; in the Johanniter waggons, both lateral and vertical. Lateral shocks are the most common form to which the waggon is exposed, as when one wheel only crosses over an obstacle, then vertical ones, and then horizontal ones. It seems to be a defective arrangement which does not provide for lateral shocks; and consequently, if one system of springs is to be applied to a waggon, they should be transverse elliptical, in preference to longitudinal. It certainly has been stated in favour of longitudinal springs, that they are more portable than any form.

*The Dimensions of Springs.*

	Longitudinal Front Pair.			Longitudinal Rear Pair.		
	No. of plates.	Long. Ft. In.	Wide. In.	No. of plates.	Long. Ft. In.	Wide. In.
British waggon...	(double 4	3 7	2½	6	4 5	2½
Prussian ... ..	elliptical) 5	2 10	...	5	3 7	...



It will be seen that the springs in the British waggon are longer than those in the Prussian—that in the former the front pair of springs are weaker than the rear pair; in the latter the front pair, being double elliptical, are stronger than the rear pair. This greater strength has not been given without a reason. In the British waggon the line of the centre of gravity is over the rear pair; in the Prussian, nearly over the front pair. Double elliptical springs are ever a source of weakness (though productive of more elasticity), and, as such, unsuited for ambulance purposes.\*

(d) *The Means of diminishing the Vibration and Noise of the Waggons.*—By reason of the rear pair of springs in the Prussian waggons being clipped down on the iron axle, without any intervening non-conductor, such as exists in the British waggons, there is greater vibration in the former. This is further increased by the rigidity given to the parts of the Prussian waggon, from a perch being employed to connect the fore and hind carriage together; a connecting chain serves this purpose in the British waggon, and helps to break, not to increase the vibration. To construct a waggon with a perch is considered a retrograde principle in modern carriage building.

*Springs in Floor of Waggon.*—In some American waggons small springs are placed in the floor, so that the feet of the stretchers, when pushed home, rest on them. This of course gives additional protection to the wounded on the stretchers, and appears a somewhat desirable addition.

\* In the Prussian service a limit has not as yet been reached either with regard to the length of the spring or the number of plates; for in the last constructed medicine waggon the length is 3 feet 8 inches, and there are eight plates.



(e) *The best Position for the Centre of Gravity of the Load, with reference to its Position in the Vertical Line.*—It must not be at a great height from the ground, for there will be greater liability to upset; nor must it be low down, on the other hand, for then there will neither be sufficient momentum to take the waggon over obstacles, nor will the draught be easy on the horses. The centre of gravity of the British waggon, when loaded, is a foot or more farther from the ground than that of the Prussian. To this circumstance, as well as the larger fore wheels and wider tyre, may be ascribed the easier draught of the former.

*With Reference to its Position in the Horizontal Line.*—If it be far distant from the hame hook it places the horses at a great distance from their work, and so gives a waste of motive power. When loaded, the centre of gravity of the British waggon is over the hind axle (owing to there being a back seat for three men); in the Prussian, under similar conditions, the centre of gravity is immediately behind the coupé; thus, although that waggon is of greater extreme length, the horses are some five feet nearer their work, and consequently there is less waste of power.

Notwithstanding the greater liability to upset, I have before alluded to the desirability of having some provisional arrangement by which an upper storey of stretchers might be erected on emergencies. This could best be effected by having a permanent roof supported by standards, on the ledges of which the upper stretchers might rest.

(f) *Stores not to form part of the Load of an Ambulance Waggon.*—It is desirable that stores carried with a Sanitäts Detachment should be carried in its store waggons, and



not in its ambulance waggons. These remarks apply to water, packs, stimulants, spare horseshoes, &c. Thus the non-composite character of the latter will be strictly preserved; the waggon will be more simple to construct and more economically constructed than if of a composite character, partly adapted for the carriage of stores and partly for the carriage of wounded. Nor will the stores, if carried in the store waggons, be any the less handy, judging from the experience of the winter of 1870-71; for, like a tender to a locomotive, so was the store waggon then to the ambulance waggon; where the latter was found—I speak now of the Prussian waggon—the former was always in close proximity.

#### 6. ON AMBULANCE HORSES.

*The best kind of Horse.*—Ponies, mules, or undersized animals are worthless for this purpose. Bone, substance, and strength are required, and a height varying from 15.1 to 16 hands. The points of most importance are clean bony legs, short and strong back (*i.e.*, a short way from the shoulder to couplings), with, if possible, a certain amount of breeding to give endurance; the same stride and action in each pair of horses; and, lastly, the horses must be aged, young horses suffer on exposure so much from cold and influenza. Heavy animals will not do, nor will thoroughbred weeds. Cavalry or horse-artillery horses are not wanted, rather those used in field artillery—a compact, thick-set class of animals, with endurance, strength, and soundness, for prolonged exertion for the most part at low rates of speed, occasionally at rapid rates. The shape recommended will allow the weight, never excessive, to be drawn with the least waste of motive power. The best



horse in the British Ambulance was a "kicker," with good action and shoulders, standing 15.3, powerful and compact, with a fair show of breeding. The Prussian horses were thoroughbred weeds or cobs not over 15 hands high, and quite too light for the work.

*Riding Postilion-fashion versus Driving from a Box.*—The great objection to the former is the additional fatigue it causes to the near horse. If the horse be of the right stamp, this need not be feared; the few good horses in the British Ambulance carried their drivers day after day for weeks; a horse unable to endure such fatigue is unfit for transport. Besides, the precision in driving the waggon which, on the line of march or in forming up, is required, can never be attained by driving from a box. Driving from a box is a speciality, and requires great practice and skill; whereas riding and driving is considered so very little different from riding, that little or nothing has been laid down on the subject of the former. During the war I had opportunities of practising to ride and drive myself; the art seems not very difficult to acquire. As it is much more easy to find a number of men on the outbreak of war to ride and drive than to drive from a box, it seems desirable to retain the former method.

*The Pole versus Shafts.*—For the pole it has been advanced that the work of the horses is equally divided with it, for in shafts the shaft-horse has more work on hilly roads and in backing. This is partly true, but the latter movement is rarely requisite, and then only for short periods, and even then the shaft-horse is assisted by half the breeching of the near horse; the former cannot be a constant, so that in reality, for three-quarters of the time with shafts, the horses have not unequal work. Besides, if the near horse (with shafts) carries the driver,



the fatigue is equalised. If the near horse (with the pole) carries the driver, the work of the horses is unequal. If the near horse (with the pole) does not carry the driver, and that he drives from the box, then certainly the horses have an equal share of work. It has, however, been already shown that driving from the box is open to great disadvantages. It is also said shafts are difficult to mend and bad to extricate a horse from. In the ambulance a shaft was once broken (the shaft-bar is the most vulnerable part of the shafts); a neat splice was in a short time made on the road-side. As to extricating a horse, if the old rule of sitting on his head and unhooking the traces and breeching be followed, little difficulty will ever be experienced.

### CONCLUSION.

Though of rough exterior, with solid and unfinished look, and uncomfortable to a degree for a winter campaign, when a Prussian surgeon wished to have a friend transported, he placed him in the British waggon. Its easier draught, and greater freedom from noise and vibration, made him prefer our waggon to his own. Its faults are to be found more above the flooring than below, for, for the easy draught of an ambulance waggon, there must be below the line of the stretchers, besides strength (without a rigid connection of parts, such as a perch gives) and elasticity, high fore wheels, high point of attachment of trace, and high, as regards the position of the horses, adjacent centre of gravity of the load; and above the line of the stretchers, for the comfort of the



wounded being transported, there should be such an arrangement of the parts of the roof and sides of the waggon itself as will admit of its use at all seasons of the year. This, in winter at all events, can best be secured by a stout partition completely separating the recumbent and sitting occupants.

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# CHRONOLOGICAL TABLE OF MARCH WITH THE 22ND DIVISION.

Date.	Distance, miles.	From	To	State of Weather, Roads, &c.
Nov. 17	14	Chartres ..	Marville-le-Bois ..	Weather mild—Good level roads.
" 18	14	Marville-le-Bois ..	Château Neuf ..	Rainy weather—Roads across fields, soft and clayey—Narrow lanes with deep ruts and plough had to be crossed—Engaged French at Saint Ange.
" 19	10	Château Neuf ..	Saint Ange & back	Conveyed the wounded to Château Neuf—Arrived at 9 p.m.
" 20	17	Château Neuf ..	La Loupe ..	Rainy weather—Level good roads.
" 21	16	La Loupe ..	Brettoncelles ..	Heavy rain—Carried village at point of bayonet from French marines—Roads good but hilly—Field hospital established in schoolhouse.
" 22	15	Brettoncelles ..	Berthuis ..	Rain—Bad, rutty roads—Clayey tracks through woods and high hills.
" 23	11	Berthuis ..	Bellisme ..	Dreadful rain—Steep mountainous road—Obliged to make frequent turns off the road to make way for other transport.
" 24	14	Bellisme ..	Nogent ..	Retiring over the same road—Weather mild.
" 25	12	Nogent ..	Authon ..	Good roads, narrow and hilly—Mild—Plenty of forage at Authon.
" 26	12	Authon ..	Brou ..	Bye-roads and hills—Clayey and sticky to Cocharde.
" 27	15	Brou ..	Bonneval ..	Halted outside Bonneval at Angonville—Bridge over Loire cut—Crossed temporary bridge, and then forded the river higher up afterwards—Saw village of Allues burned—Fog and cold wind.
" 28	14	Halted for the first time.	Immonville ..	Cold wind, but dry—Passed in review by Prince Albrecht, the General of cavalry division, and was understood to express his approval.
" 29	14	Bonneval ..	Immonville ..	Good roads, level; but dreadful cold winds.
30	14	Immonville ..	Champilly ..	Hard frost—Cold piercing wind—The halt made at a farm.
D.c. 1	12	Halted ..	..	Hard frost—General action—Field hospital established at Onaux, a farm—Roads paved and level—Visited by General Wittsch, who gave his thanks in the name of Prussia to Mr. Manley, R.A.—85 wounded conveyed off the field to the farm by the two British waggons.
" 2	12	Champilly ..	Pouprey ..	Was present on the 3rd with the Sanitäts Detachment of the 9th Corps d'Armée at Artenay, having that day returned from Versailles.
" 3 & 4	..	Halted at Onaux ..	Onaux ..	Assisted the Feld Lazareth here with the wounded—Hard frost.
" 5	1	Onaux ..	Bayneux ..	Halted here until the 15th, when proceeded to overtake 22nd Division.
" 15	20	Bayneux ..	Bayneux ..	Mild, but bad roads—Marched with Feld Lazareth.
" 16	32	Coulmiers ..	Coulmiers ..	Good cross-country roads—Mild.
" 17	18	Beaugency ..	Beaugency ..	Raw fog—Roads rutty and bad.
" 18	14	Oucques ..	Oucques ..	Variable weather—Narrow, bad, hilly roads cross country.
" 19	21	Halted at Cloyes ..	Cloyes ..	Overtook the division.
" 20	21	Cloyes ..	Moree and back ..	Cold wind and rain—Bad roads—I took two British waggons and forty country carts from Moree to Cloyes with 260 wounded—Left at 12, arrived at 2 a.m.
" 21	45	Cloyes ..	Chartres ..	Hard frost—Cold wind—Good roads—Took 300 hours' continuous travelling without a halt 2 p.m., arrived at Chartres at 6 a.m., or sixteen hours' continuous travelling without a halt—In a week after the B division separated from the 22nd Division, having marched 341 miles in twenty days' marching.
	341			



IN MEMORIAM.

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EDMUND ALEXANDER PARKES:

An Address,

READ BEFORE THE MEMBERS OF THE SOUTHAMPTON MEDICAL SOCIETY,

ON TUESDAY, MAY 2ND, 1876,

BY

JOHN ORSBORN, M.D.,

FELLOW OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND; FELLOW OF THE MEDICAL  
SOCIETY OF LONDON; PRESIDENT OF THE SOUTHAMPTON MEDICAL SOCIETY;  
VICE-PRESIDENT OF THE SOUTHERN BRANCH OF THE  
BRITISH MEDICAL ASSOCIATION.

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*Printed at the request of the Members, and for private circulation only.*

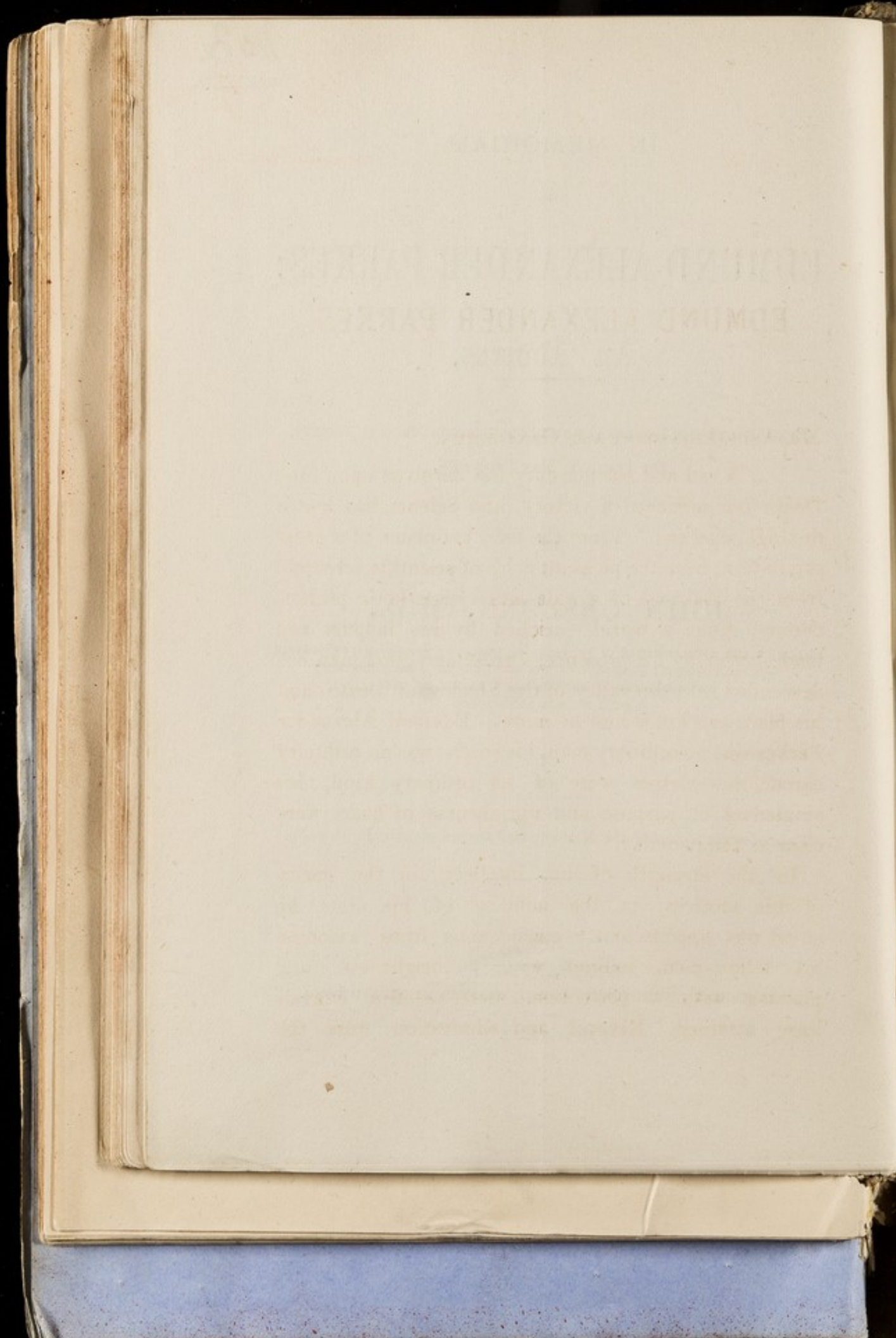
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MDCCCLXXVI.







No. 3.

## EDMUND ALEXANDER PARKES.

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MR. VICE-PRESIDENT AND GENTLEMEN,

A sad and solemn duty has devolved upon me ; Death has achieved a victory, and Science has lost a distinguished son. From the lofty eminence of a great reputation, from the pleasant fields of scientific research, from the platform of a wide and sympathetic philanthropy, from a world enriched by his labours and made better by his presence, a great and good man has descended into the valley of the Shadow of Death, and his place can know him no more. Edmund Alexander Parkes was no ordinary man, his career was no ordinary career, his virtues were of no ordinary kind, his singleness of purpose and uprightness of heart were clear as the noonday.

In the strength of his intellect, in the purity of his motives, in the nobility of his aims, he stood out unconsciously conspicuous from amongst his fellow-men, radiant with a brightness, and glowing with a perfection such as few mortals have attained. Respect and admiration were the



gentle, susceptible nature received the imprint of aught that was evil,

For nought of ill his heart could understand.

The rays of life, from whatever points they may have converged, as they impinged on his pure nature became of necessity blended into the one white ray of "sweetness and light." Physically fragile, he was morally and intellectually one of the strongest of men; the frail frame that seemed to have so feeble a hold on life was ennobled by a soul that knew only high resolves, and animated with a mind to obey its lofty behests.

In memory's inmost recesses, in the mind's eye, will long dwell the vision of that finely-shapen brow, on which was stamped in unmistakable characters, "Intellect," "Intellect;" of those exquisitely chiselled features, of that soft yet penetrating gaze, of that expression, having less of earth in it than heaven—a true index to the mind within—of that assemblage of characteristics, to which but few of the sons of men are born to be heirs; and behind all this there dwelt a steadfastness of purpose, an energy for labour, an inflexible will, an uncompromising devotion to truth and duty. Expediency found no dwelling-place amongst his motives, and policy usurped not the place of righteous dealing. It was these characteristics, orbbed into a perfect whole, which gave him the commanding influence he possessed. That he might err in judgment was a condition he shared in common with all mankind; that his principles were at fault, or that he could swerve from the path of rec-



titude no one ever ventured to suggest. The contemplation of a moral beauty such as his is good for the spirit of man, for as it has been well said, "To exercise the imagination on the lives of great and good men, brings with it a double gain; for by this exercise we learn at a single stroke, and in the most effective way, both what was done and what ought to be done," and to aim at a high ideal not unfrequently engenders the faculties with which to attain to it, kindles a desire for the beautiful and the good, and purifies the soul of some of its earthly dross. It was the high prerogative of him whose loss we now deplore to have realized this ideal perfection; to have attained to a height of moral greatness which gave to his opinions a weight, and to his character an influence, which never failed in making themselves felt in all matters submitted to his judgment individually, or in concert with others. His was the voice that stilled the raging waters of tempestuous discussion; the voice that was heard only on the side of reason and of right; that could calmly exclaim, when in deliberation on a momentous question, where expediency and right seemed to be in conflict, "Let the Institution perish, but let us do only the thing that is right." These high moral qualities won for him universal respect and admiration, they were known and appreciated far and wide, and their general recognition led to his being regarded as "the most popular man in the Profession;" such hold had he obtained on the hearts of his brethren. But it was those only who had



the privilege of an intimate acquaintance with him, who could fully estimate his high moral worth; who could see in their full measure those qualities which illumined his daily life, and made it

"A thing of beauty, a joy for ever,"

qualities which were to him, as a crown of glory, a rich diadem, worn nobly, but with that true humility which ever attends upon worth and greatness; for he well knew that "the scornful nostril and the high head gather not the odours that lie on the track of truth." Highly sensitive, his moral nature was tremulous to the finest impulse for good, and vibrated in unison with all lofty thought and purity of conduct; and yet with such sensitiveness it was adamant in its tenacity and strength of purpose.

In full consonance with his moral nature was his intellectual. Gifted beyond most men he addressed himself earnestly to the interrogation of nature, and strove to wring from her by patient enquiry solutions of some of her most difficult problems. The careful training of his early life fitted him for such enquiries. Those of his fellow students, of which number I had the privilege of being one, who will flit back on the wings of memory to their College days, will have no difficulty in reviving a remembrance of him as he daily appeared in the Medical School and Hospital of University College. I see him before me now, with his slight figure, his fine features, his "good" expression, his gentle unassuming manner, his steady



and earnest devotion to his work ; characteristics which won for him, even then, the affectionate allegiance of not a few of those around him. I had not at that time the happiness and advantage of being one of his intimate friends. I could nevertheless admire him at a distance and appreciate his high qualities. It was clear even at that time that he was destined for no ordinary career, that he possessed the requisites for obtaining high, if not the highest, distinction in the profession to which he was devoting himself. No small advantage accrued to him from the advice, assistance, and support given to him by his uncle, the late Dr. A. T. Thomson, who was then one of the professors at the College, and physician to the Hospital. But he had at all times easy access to each and all of the other professors, whose respect he won, and whose interest he secured. His steady application, his receptive mind, his high intelligence, secured for him a successful career as a student, and so far as the acquisition of prizes and rewards can indicate intellectual status, we may justly infer from the number of these that fell to his lot, that his attainments were even then of a high order, an inference fully justified by his subsequent career. From the notices that have appeared in the several Medical Journals we have all become tolerably familiar with the history of his early professional life. It was in 1840 that he became a member of the Royal College of Surgeons of London, and in 1841 he passed the examination for M.B. at the University of London,



having taken honours in anatomy and physiology, in chemistry, in materia medica, and comparative anatomy. Now the acquisition of these honours in those days was indicative of great industry, and of high acquirements; for it was a very large School of Medicine, in which competition was keen, and competitors numerous—amongst these being several who made for themselves, in later years, a name and reputation of no mean order. In estimating the honours he then acquired, we must not forget that they were won on a hard-fought field, against opponents not easily vanquished. From the Hospital he entered the Army as Assistant-Surgeon of the 84th regiment, from which he retired after a service of three years. But this brief period yielded him opportunities of enlarging the boundaries of medical science, by contributions on Dysentery and Cholera, which were rich in important facts and inferences, and were the prelude to other labours of the highest value. Upon these I need not now dwell; every individual familiar in the smallest degree with the literature of our profession will readily call to mind the subjects that have received elucidation from his researches, prominent among his scientific contributions being his Gullstonian Lectures on Pyrexia, his Croonian Lectures on the Elimination of Nitrogen, wherein he has ably and clearly set forth the view that the liver is a centre of urea formation; his papers in the Transactions of the Royal Society, on the elimination of



Nitrogen during muscular activity, and on the effects of Alcohol on the system; his exhaustive article on Influenza, in Reynolds' System of Medicine; and last, though not least, his elaborate work on Practical Hygiene, which at once took full possession of the minds of all interested in the subjects of which it treats, and was admitted to be the most complete, comprehensive, and accurate treatise that had ever been published; and it must, I think, be conceded that to his efforts we are mainly indebted for the position to which the study of Hygiene has attained in this country, and for the general and practical application of its principles that now obtains. His authority and teaching gave to it an influence that eventually became irresistible, and the laws of health are now no longer shrouded in an ignorance worthy of the dark ages. Ignorance has been in a measure vanquished. There yet remain the foes of prejudice, parsimony, and cruel indifference.

It is impossible, within the time at my disposal, to refer to his numerous other labours; to the services publicly known, and others not publicly known, that he was constantly rendering to the Government, to his unwearied application to the duties in connection with his Professorship, to the extensive correspondence that his reputation entailed upon him from all parts of the world, and to the many other duties which he voluntarily assumed whenever he thought he could render useful aid. It would, however, be a great



omission if I were to pass by, without mention, the important services he rendered to the Profession in his capacity as member of the Medical Council, to which he was appointed by the Government ; an indication of the estimation in which his judgment and abilities were held by those in authority. It is now familiar knowledge that there at one time prevailed a great laxity, or at all events, great imperfection in the system of examination pursued by some of the medical examining bodies, and that for the greater care, and the more rigid tests now generally adopted, we are indebted, if not entirely, in a very large measure, to the persistent endeavours of Dr. Parkes. This is but one instance among many of the zeal which actuated him, and on all points his views were clear, practical, and enlightened ; with him the old was not good simply because it was old, he required other reasons than simple antiquity to win his assent. To mention all the subjects in whose discussion he has taken an active part would be well-nigh to write the history of the proceedings of the Medical Council from its commencement. His services have passed into the History of Medical Politics, and have therein made their abiding mark.

So fertile and versatile was his mind that he was equally at home with his subject, whether demonstrating some deep matter of science, or leading captive an audience with some popular lecture. There was the same impressive yet gentle manner, the easy flow of graceful speech, illustration apt and appropriate, con-



clusions logical, facts unimpeachable. Facts were the staple food of his intellectual life, he cared little for theories ; and left these to be woven by others. I do not remember a single theory that will be associated with his name, but many and important are the facts that are, and will be long so associated, and be regarded as stable elements in the fabric of science. The tendency of his mind was analytical, not synthetical ; and he cared not to soar into the realms of speculation lest the fate of Icarus might befall him. He was scrupulously exact in the acquisition of facts, and judicially calm and impartial in their interpretation. He required that his facts should be real facts, that they should stand out as it were four-square to the light of day, and be visible to every beholder. As I have already said, he cared little for theories or speculative opinions ; they were alien to his mental constitution, and could not be assimilated. Zealous in the pursuit of Truth for Truth's sake, he feared lest her fair form might be obscured by being clad in an attractive yet delusive apparel of hypothetical speculation. A charming and thoughtful writer of our own day, the late late Sir A. Helps, has well observed "More stress ought to be laid than has been on the intellectual requisites for truth, which are probably the best part of intellectual cultivation ; and as much caused by truth as causing it," for "Truth, which is one of the largest creatures, opens out the way to the heights of enjoyment, as well as to the depths of self-denial." I remember quite well



on one occasion when I read a Paper before this Society on "Alcohol" his first enquiry of me on our way home together was "Why did you not give us more facts, such as those you have related to me in conversation, and less of theory?" And he then pointed out to me, in his kind and considerate manner, two or three errors, into which I had fallen in quoting certain authorities in support of my opinions, whose statements had been controverted by subsequent experiments and observations. And it was, perhaps, fortunate for science that he was not wedded to theories, inasmuch as his great powers were not wasted in the attempted verification of doubtful or altogether groundless hypotheses, but were left to expend their full vigor and acumen in releasing from the tangled web of phenomena, coherent and congruous data, which, in the alembic of his acute intellect, became crystallised into transparent facts which were forthwith incorporated into the general mass of scientific knowledge. His experiments and observations on the effect of alcohol on the system, and on the elimination of urea, are models of the method in which such enquiries should be conducted; and although the results obtained from the experiments on alcohol would have been deemed sufficient by many to justify the enunciation of a decided opinion, he nevertheless, in spite of his personal convictions, restrained himself from giving utterance to any views for whose support and justification the evidence seemed to him to be inadequate. And amongst the many other causes for regret at his



premature decease, this is not the least, that a question of such vital importance as the use of alcohol in health and disease cannot now have the advantage of his inestimable labours in its elucidation. The obscurity and uncertainty which have so long prevailed will still continue to prevail, for a time at least, and that which might have been made clear by the light of his intellect, will now probably have to struggle into existence through the mists of prejudice and the adverse influence of traditional authority, inveterate habit, and gustatory indulgence. Though fully aware that "the original and proper sources of knowledge are not books, but life, experience, personal thinking, feeling, and acting," he was nevertheless a great reader, reading for the purpose of enlarging his views and conquering personal prejudices, those "idols of the cave," as Bacon terms them, which are so apt to stand in the way of methodical and impartial observation. But he attached to books no undue value, and yielded not up to authority the independence of his own intellectual powers. He felt with the Poet

The parchment roll is that the holy river,  
From which one draught shall slake the thirst for ever !  
The quickening power of science only he  
Can know, from whose own soul it gushes free.

The rapidity and ease with which he could master the contents of a volume constituted in him a remarkable gift, and evinced a great power of memory ; and it was a great privilege to listen to his clear and accurate resume of the contents of a work after its perusal. It was not in the power of any author to lead him captive



in the chains of a fascinating and seductive eloquence; his judgment would assert its supremacy, and conviction required for its realization, logical conclusions flowing from unimpeachable premises. From this honesty of purpose and scientific caution there sprang up that general and entire confidence in all that he said and did which was but a just tribute to the majesty of Truth, as it sat enthroned in the beautiful temple of his serene mind.

And let us not forget that this great and good man was one of ourselves—that our Profession claims him specially as its own; and we are proud to know and feel that he was pre-eminently the skilled and accomplished Physician. It was in the pursuit of medicine as a science and an art that his great powers became developed, and as a dutiful and grateful son, he reflected back on the science, in whose fields he had achieved great triumphs, a glory and honour that will long remain. We, the members of this society, ought especially to revere his memory. No longer ago than last year he occupied this Presidential chair, and gave to our meetings a weight and an *eclat* which his presence never failed to impart. He always manifested a deep interest in our proceedings, and during his period of office he spared no pains or trouble in promoting the objects we have in view. Not one amongst us can have forgotten the able, eloquent, and practical address on the study of Therapeutics, which at a very short notice he delivered as our annual address. In our



discussions his opinions were listened to with great attention, and were regarded with the highest interest. When a failure of health unhappily interfered with his regular attendance, he did not cease to take an interest in our society, but rendered us all the aid he could, and it was to him a matter of deep regret when he was no longer able to be personally present amongst us. As an illustration of such interest, as well as of his kindness of heart, and self abnegation, I will read to you a letter that I received from one of our members this morning only. Dr. Griffin, writing from Weymouth, thus expresses himself:—

Weymouth, May 1st, 1876.

My dear Orsborn,

I much regret not being able to hear your paper on poor Parkes. I, however, cannot refrain from bearing my testimony to the great and quite uncalled for kindness which he has on more than one occasion shown to me. It was at his suggestion I wrote the last annual address, some of the outcomes of which were the previous pamphlet on "Pauperism," the establishment of the Charity Organisation Society, and the opening of the eyes of the Southampton public to the evils of the present system of charity. It was at Dr. Parkes' suggestion those pamphlets were printed. During their composition he *frequently*, and *unasked*, sent me quotations from papers, books, and other sources, as well as books and blue books of other nations which he thought might be of assistance. To a man in his position to have troubled to look out and send books if asked for them would have been a great kindness, but in every instance to have done so without having been once asked by me, shows a sympathy with other men in their work as rare as it is divine.

With kind regards, believe me,

Yours sincerely,

R. W. WAUDBY GRIFFIN.

Although a failure of health in his earlier career led to a disappointment of legitimate and justifiable hopes,



at a moment when a great prize, in the way of professional advancement and personal distinction, was well nigh within his grasp, he nevertheless remained faithful to his calling, and his allegiance did not for a moment waver. He was content to pursue the even tenor of his way, although this lay in other fields wherein, if there may have been less of pomp and circumstance, Nature was none the less willing to unfold her secrets, and Science became none the less fruitful of results. The serene depths of his mind were not permanently disturbed; at the most they were but broken into transient ripples, and a strong sense of duty soon restored them to their wonted calm.

I have said that he was a skilled and accomplished Physician. Every one who has had an opportunity of seeing him in this capacity will at once re-echo this sentiment. His gentleness and sympathy at the bedside were in keeping with his entire character, and the fullest consideration for the convenience and sufferings of the patient influenced all his proceedings, yet his high sense of the importance of his vocation would not suffer him to be content with a perfunctory and superficial examination. Guided by an extensive knowledge of disease, he soon perceived the salient points of a case, and with much address and exact method proceeded to its investigation. He was not ashamed to recognize and confess difficulties, nor would he assume a knowledge he did not possess, and so cover by a confident dogmatism, a lack that might really be the result



of the, as yet, imperfect condition of medical science. Such difficulties, however, were few, and in the majority of instances, he succeeded in making obscure points less obscure, clear points more clear, until that which may have been hitherto a perplexing fragmentary history became woven into a connected whole, through which was seen the true nature of the disease. He was scrupulously careful in arriving at a diagnosis, and was commensurately accurate. His suggestions for treatment were based on extensive practical experience, and were generally crowned with success, at least in those cases which had not passed beyond the limits of our art. He inspired patients with confidence, secured their gratitude by his patient attention, and won their esteem by his gentle and sympathizing manner. His whole demeanour in a sick room was indicative of the Man of Feeling and the Man of Knowledge, and was in every way worthy of imitation; in his whole bearing there was seen the kind and accomplished physician, the in-born gentleman. Specially with regard to him might have been written those fine verses which we read in Ecclesiasticus "Honour a Physician with the honour due unto him, for the uses which ye may have of him, for the Lord hath created him. For of the most High cometh healing, and he shall receive honour of the King. The skill of the physician shall lift up his head, and in the sight of great men he shall be in admiration" (Eccles. chap. 38).

But the end hath now come upon all this greatness,



all this goodness ; his sun hath gone down while it was yet day ;

The shadow cloak'd from head to foot,  
Who keeps the keys of all the creeds

hath encompassed him, and given to the Grave, the victory.

As in life so in death—its long forecast shadows had for him no terrors, they brought upon his soul no gloom, nor did they eclipse the brightness, nor disturb the calmness of his stable mind. When in the course of his protracted illness there at length stood clearly revealed before him “the shadow feared of men,” he quailed not, neither did he mourn ; it was to him but a veil behind which he expected and hoped to see beautiful realities, such as eye hath not seen, nor ear heard, nor hath it entered into the heart of man to conceive. The grave was to him but the portal to those bright regions where he would no longer see things as in a glass darkly, but behold them face to face ; when with enlarged powers, greater capacity for good, and exalted purity, knowledge will no more present itself to the mind in the bud only, but will blossom with a fulness and beauty that shall satisfy the soul's longings. The sacred precincts of death's chamber must not be rudely invaded, nor ought the revelations—the holy aspirations of life's last days to be lightly disclosed. I may, however, without transgression say, for the satisfaction of not a few, that Edmund Alexander Parkes, this good man, was endued with a deep religious



feeling, and a firm faith ; mysteries which to many are a stumbling-block and rock of offence, were received by him in a child-like spirit, and afforded him no small measure of consolation. His acceptance of religious truths was not a simple passive assent to certain dogmatic teaching, but was the outgrowth of patient thought and enquiry. Within a comparatively recent period, before his health had begun to fail, he had given no small amount of time to the investigation of the historical proofs of the death and resurrection of Christ, with the result of establishing a firm faith in his own mind in the Gospel narratives ; and had his life been spared, amongst other important works it is highly probable that he might have given to the world one embodying the results of his calm and dispassionate enquiry into this subject. But alas, the hand has dropped, and the voice is still ! There were lessons to be learned from his death as from his life :—Fortitude, resignation, meekness, patience, gentleness ; and as we watched his slow descent to the yawning grave we felt that fell disease had seldom slain a nobler victim. Few death-beds have been so beautiful ; murmurings and repinings were heard not ; but the voice of gratitude resounded with an earnestness that gave a yet sweeter savour to the duties of friendship and affection. If ever to any one, to this estimable man might it have been permitted to say with St. Paul “I have fought a good fight, I have finished my course, I have kept the faith.”



This imperfect estimate of his character and work, uttered in the feeble accents of one who loved him as a brother, will not be regarded as the exaggerations of ardent friendship, but as a truthful though inadequate testimony to his transcendent worth, nor will it be assumed

That the haze of grief  
Makes former gladness loom so great.

Or that the past will always win  
A glory from its being far ;  
And orb into the perfect star  
We saw not when we moved therein.

Amongst the green spots in memory's waste some of the greenest and loveliest will be those whereon rest the recollections of my friendship and intercourse with this wise and gifted man, the influence of whose holy life may, I trust, have wrought for good upon one far less worthy.

I cannot refrain from incorporating with this imperfect effort of my own the following tribute, so beautifully expressed, to the memory of him whose loss we now deplore. In a letter very recently addressed to me, our late President, Mr. Dayman, thus expresses himself:—"It is said that the pure in heart shall see God. It is permitted only to such men as Parkes to penetrate nature's Holy of Holies ; to interpret the hidden meanings of the Author of our existence, and thus to come as it were face to face with the Deity. We ordinary mortals fall short of this privilege ' Non lucem, sed lucidas res videmus.' The great men of the



earth with their true humility see more than luminous things merely. They spend their lives under the sunlight of truth. Many fall victims beneath its rays, and, like Milton, become 'dark with excess of light.' The name of Edmund Parkes appears as the youngest martyr on the calendar of science. My personal grief must be of necessity ephemeral, for he has bequeathed to me a bright and beautiful memory. You, my friend, will long dwell in sorrow on your loss. In this I can sympathize with you, but the evil days will pass away from you, and by-and-by you will only think of the inestimable benefits your soul has reaped by having been brought in contact with a spirit so intellectual, so noble, so pure as that of Edmund Parkes."

Edmund Alexander Parkes ! Science mourns for you as one of her noblest sons ; your Profession laments you as one of its brightest ornaments ; your friends, grieve for you as for a brother ; your country knows not yet the full measure of its loss ; sorrow must endure for a season, but joy cometh in the morning, joy buoyant on the wings of hope that you will reap your reward.



## POSTSCRIPT.

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I cannot refrain from adding as a Postscript the following extract from a biographical notice of Dr. Parkes, by Baron Mundy, of the University of Vienna :—"All the armies of the Continent should, at parade, lower their standards craped, if only for a moment, because the founder and best teacher of military hygiene of our day, the friend and benefactor of every soldier, Edmund Parkes, is no more."



no. 4  
no. 4

RECOLLECTIONS

OF

SEDAN.



By F. CRESWELL HEWETT,

SURGEON BRITISH ARMY.

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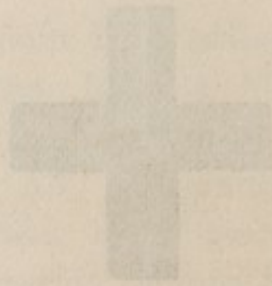
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SEDAN



BY F. CRESWELL HEWITT

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I owe an apology to my readers for the imperfect manner this pamphlet has been presented to them. At best, the experiences narrated, are fragmentary, and crudely rendered; but as delivered in a reading for the redemption of the Debt of Christ's Church Dartmouth, I have published them with the hope of further lightening the burden.



I owe an apology to my readers for the imperfect manner this pamphlet has been presented to them. At best the experiences narrated are fragmentary and artistically rendered, but its delivery in a reading for the redemption of the Mass of Christ Church Dartmouth. I have published them with the hope of further lightening the burden.



## RECOLLECTIONS OF SEDAN.

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PAST miseries drift so quickly from our recollection, and events since the Franco-German war, have followed each other with such frightful rapidity, that its scenes have become to us almost matters of history ; and we are already in some danger of forgetting the many war lessons to be learnt from the sufferings of 1870—the utter break-down of the centralised system of Intendance, of which the French were so proud, and which we were beginning to imitate in our own service—the fatal effects of the want of sanitary precautions, in both German and French field-hospitals and ambulances alike ; even the intolerable misery among the peasants, inflicted by an army whose discipline was stricter, and whose arrangements more civilized than any which ever took the field. War, however of itself is so brutalising a thing, that, as was once said by a Prussian officer of high rank, “if two armies of angels were set to fight with each other, in six weeks they would become devils.”

The English did their best, both for the wounded in hospital and the peasant victims of the war. About £600,000 was received by the different societies in money subscriptions alone, and it is hardly possible to estimate the value of the goods contributed besides. Little gratitude has been felt or expressed abroad for our exertions, except in individual cases by those who have themselves seen the work or have been benefited personally by them. The feeling that nationally we have indeed “done what we could,” and the experience which we ought to gain for our own use, in the management of our War Services, are the only rewards of our labours which we shall get, or indeed can expect.

Our interest was at that period centred around Paris, “one of the eyes of the world,” as she must always be, in spite of her errors and her crimes ; yet nothing has happened more remarkable than the sudden capitulation of 70,000 men, and the instantaneous fall of their master from being one of the greatest potentates on earth down to the “Man of Sedan ;” and the first days of September,



now nearly seven years ago (a year indeed for the world to look back upon), must always preserve their painfully dramatic interest, culminating in the summary punishment of the chief offenders for bringing on the war.

The following "notes" were taken on the spot, and at the time, I being actively engaged in the work described at and about Sedan and Bazeilles:—

Sedan is a pleasant town in French Flanders, situated on the Meuse, in the heart of the beautiful scenery of the Forest of Ardennes. The town is surrounded by low hills, covered with orchards, vineyards, tobacco-fields and corn, backed by the great woods of oak, beech and pine, which extend on the side of Luxemburg and Belgium for forty or fifty miles continuously. There are scarcely any roads, only great ridings, through the forest, where wolves and boars are hunted every winter, and deaths from wild beasts are not uncommon.

In July the town was an extremely well-doing community, of about 12,000 inhabitants, with several large manufactories of cloth, whose origin dates as far back as the sixteenth century. These have descended, as ancient family properties, from father to son, and a great deal of old friendly feeling exists between the masters and workmen, instead of the fierce class antagonism which has become so general at Paris, in the north of France and elsewhere.

When the war broke out, the good people of Sedan were quite out of the probable line of attack and defence, and took things easily, wove their cloth, prepared to gather in their grain, and dry their great tobacco leaves; and, in spite of the pacific influence of trade, upon even the French mind, expected, "with light hearts," news of the "promenade à Berlin." Even when the tremendous events at Wörth and Gravelotte happened, it did not occur to them that their pleasant places could be wrecked and torn by becoming a battle-field. At length however, the great hordes of soldiers, pursuing and pursued, apparently on the direct road to Paris, doubled back suddenly from Chalons. The Emperor did not dare to return to the capital without a victory to back him; "the language of reason was not understood there," he complained bitterly. The great army of MacMahon, supported by the defences of Paris, could scarcely have been beaten, but strategic reasons were not allowed to hold good against the interests of the dynasty. MacMahon, sorely against his will, and against his better judgement,



was forced by direct orders from the Empress and Council of State, to attempt the relief of Bazaine, shut up in Metz—"a measure of the greatest imprudence," he declared, and that his "soldiers were discouraged and mutinous." An army of 100,000 men was thus marched into the small town of Sedan, utterly unprovisioned and unprepared for a siege. The food of the inhabitants had been always procured from the surrounding districts, no stores had been laid in, when thousands of mouths were thus suddenly added to the consumers, while the usual sources of supply fell into the hands of the enemy. For three days before the battle the shops had been completely cleared, not even a candle or a drop of oil was to be had.

On the 30th and 31st of August there was fighting near the town, and the French, outnumbered from the first, found themselves penned in close to the Belgian frontier, with no means of escape. On the 31st the Emperor, Machamon, and the whole *Etat major* or staff entered the place, followed closely by the ambulances of the English Society for the relief of the Sick and Wounded. The suite of imperial carriages and servants was enormous. "All Napoleon's pomp as if he had been at St. Cloud"—britzkas, barouches, broughams and coaches defiled, one after the other, and the progress of the whole army was stopped till they had passed along the road.

It perhaps made little difference in the end, for the disorganisation was by this time universal and complete. Food, ammunition, everything, had run short, and the disheartened officials, civil and military, had given up even the attempt to restore order, *e, g.*, a supply of provisions broke down on the railroad, within a few miles of Sedan, and the military authorities were told that if a fresh engine could be sent out, the trucks might easily be brought into the town, in about twenty minutes. No measures were taken to secure them, and in a few hours the train was seized by the Germans. Yet, even at that early period, there was already something like famine among the French troops; hardly half a ration had been served for four days, and it was in this condition, half-starved, discontented, and out of heart, having taken seven days to perform the fifty miles from Rheims, that they were called upon to resist two German armies, that of the Prince of Saxony on one side, and that of the Crown Prince on the other, who, by wonderful forced marches—the last of twenty-five miles in one day—had caught up his retreating foe. "Scarcely ever, it was said, had such marching been seen as that of the Prince and his men."



A complete circle of fire gradually closed in round the town, as the different corps, composed of men representing most of the German States, came up. The great woods were so fitted for defence by sharpshooters that the Prussians could hardly believe in their own good fortune as they made their way through the forests on the steep slopes, expecting a gun in ambush behind every tree, and positively reached the crest of the hills, and looked down into the "kessel," or basin, in which lay the town, without having met with a single interruption.

There had been a rumour among the Germans that Louis Napoleon himself had entered the place with the rest of the French army, but it was not believed. "*Il a fait bien des fautes,*" said Bismark, "*mais il ne sera jamais allé se fourrer dans cette souricière.*" When, soon after reaching the summit, the news was known to be true, the army set up such a hurrah "that we thought it must have been heard in Sedan itself." "Now we have him!" said the soldiers, joyfully,

The extraordinary discipline prevailing among the German troops, from the King down to the smallest drummer-boy, seems to have struck the French most forcibly. A Prussian is no doubt hard and cold, said they, and makes himself wonderfully disagreeable; but the power given their arms by this universal sense of duty was marvellous in their eyes. "It was a great body with one soul, *Molke*." Grand dukes, princes, generals; high and low, obeyed implicitly, whatever might be the order. "If we are told to go and look down a cannon's mouth, about to be fired, we go and look down it," said a young prince, an officer of high rank, while in the French army, every man was as good as his neighbour, the soldiers caring nothing for their officers, and showing them neither respect nor obedience. On the other side, the want of interest of the officers in their men was painfully remarkable to observers belonging to neutral nations. It was mentioned at Orleans later in the year, as a great advance in discipline that the "soldiers were really learning to salute their officers." At *Wörth*, *MacMahon*, hard pressed, sent to *De Failly* for reinforcements. He is said to have replied that he was a marshal of France, as good as *MacMahon* any day, and had no orders to receive from him—no troops were sent. Nothing and nobody were in their place. At a critical moment in the same battle *MacMahon's* ammunition ran short. He sent in hot haste to the rear for more—two large supply waggons galloped up—they were found to contain boots and bread.



The crowd of French soldiers in and about Sedan, after their first battle, was little more than an armed mob ; the fortress had so many defenders as to be indefensible. From the moment indeed that the French found themselves unable to carry the war into Germany, all their plans seemed to collapse. There was, moreover, no real head ; since even after the Emperor had nominally resigned the command, he kept up a sort of tacit control over everything, and the marshals felt that their orders were liable to be countermanded.

All the maps possessed by the army were of Germany, and the ignorance of the officers concerning their own territory was complete. The Emperor, on the 31st, had posted himself on a hill near Sedan overlooking the battle. As he lay on the ground smoking, with his favourite Zouave beside him, Macmahon, with two aides-de-camp, came riding violently up. "Sire, la journée va mal, elle ne peut pas plus mal aller," said he, jumping off his horse. They then began to discuss the question of whether or not there was a bridge across the Meuse higher up. No one of the party knew anything about the matter, when a bystander called out that they had better ask the proprietor of the ground on which they stood, who was present. He was summoned up to give the required information, and afterwards told the story. At that time there was scarcely a lieutenant in the Prussian army who had not a map of the ground, and a knowledge of the bridges in question.

On the first of September the batteries were in position, and the bombardment began at 4 a. m. It was a very sultry day, and in the early morning the mist lay so thick as to interfere for some time with the firing. Every man and every officer in the Prussian army, from the King downwards, was at his post by three o'clock ; while the indifference of the French generals to their duty was such that one of them was known to have continued tranquilly in his bed till seven, and another not to have sent for his only horse till twelve. The guns of the Germans, six hundred in number, were posted on the heights surrounding Sedan, from two to two and half miles away, and the fire went on increasing with fearful violence, a veritable *feu d'enfer*, while the two armies were soon engaged all round the town, hemming it in from Bazeilles to Donchéry and Floing.

The great ambulance of the English Society for Sick and Wounded had fortunately reached Sedan the night before the battle, and



we were put in charge of a barrack, the Caserne d'Asfeldt, 300 feet long; which was converted into a hospital, and contained 384 beds. It stood on the highest ground within the fortifications, sixty or seventy feet above the river, and had a splendid view over the town and the neighbouring country; and the Prussian battalions and guns could be seen coming into position on the hills around, the bayonets and spiked helmets gleaming in the hot sun above dense masses of dark blue. About ten o'clock the firing became incessant and furious; for six or seven hours the town was regularly shelled; shells struck the barrack several times, burst in front, behind, above, and on each side; fortunately none entered the hospital, but one of the infirmiers just outside the door was blown to pieces, and another wounded. All this time the wounded were arriving in hundreds. Those who could walk were sent on into the town, and only those most gravely injured were admitted. During the whole day, from early morning till dusk, we performed capital operations in the direct line of fire; and the continual whizzing of the projectiles, and the noise of those bursting close at hand was tremendous. Every moment it was expected indeed that a bomb would burst in our midst, for though the barrack was very strong, and the roof bomb-proof, there was nothing to prevent a shell from entering by one of the large windows facing the batteries. The sensation of relief when the fire slackened was delightful.

The operation cases did well on the whole, but the attempts at conservative surgery, and what is called resection, were hardly ever successful.

The testimony by those who only saw a few cases, concerning the nature of the wounds caused by different guns is very conflicting. "Wounds from the chassépôt are more serious than those from the needle gun. The fractured bones were so comminuted that it seemed as if one were handling a bag of nuts," says one witness. "The needle guns had wrought dreadful havoc; the bullet is egg-shaped, and the external wound bears no proportion to the injury it makes. It is heavier, and makes a worse wound than does that of the chassépôt." But the truth is that the nature of these wounds differs considerably according to the manner in which the projectile strikes and its velocity.

The majority of patients brought in on the first day had been injured by shells, as Sedan was the centre of the Artillery fire. A wound from the mitrailleuses is rarely seen, as few of those struck



ever survive, their lateral range is small, the balls do not spread, but each is  $1\frac{3}{4}$  oz. in weight, twenty-five to each discharge, and troops within their murderous range are completely riddled at fourteen or even fifteen hundred yards distance. Between the villages of Balan and Bazeilles, which were taken and retaken four times, to which spot I had gone early in the day to assist Surgeon Major Frank, a number of Bavarian soldiers were found lying literally torn in pieces by discharges of mitrailleuses. Along this road Dr. Frank (who had a separate commission from the English society) had established himself in the hottest part of the action, the wounded (of both nations) were carried into houses so entirely under fire that we performed many operations lying on the floor beside the patients, to avoid the bullets coming in through the windows.

The men were laid wherever shelter of any kind was to be found. It was a curious commentary on Christian civilization to see a large and beautiful church crowded with wounded and dying men, some of them suffering great agony.

The difficulties from the want of surgical instruments were felt both by the Germans and French almost as soon as the war began; there were no means of mending or sharpening those which had been spoiled or blunted by use, and they were often thrown away. Birmingham and Sheffield had been stripped of them, and at one time not even a pair of artery forceps was to be bought. Food during the first three days of September was very scarce; both medical men and patients had to be content with bread and water, with a little wine—trying enough in the face of the work to be done.

As the week went on a great number of men were brought in who had been lying on the field for four or five days,\* and untended for two days in tents. Of those whose injuries dated back a week scarcely one was saved, and it was striking how, in proportion to the length of time before help was obtained after the wound had been received, was the patient's chance of recovery. Tobacco was found very useful in soothing the nervous system after the excitement of a battle—particularly when defeat had rendered the reaction more intense it became almost invaluable.

After the battle of Sedan fourteen thousand French wounded were brought into the town and the ambulances. Some of the cases were fearful to see. A cavalry officer had had both legs and both

\* It is interesting to compare Sir Charles Bell's account of the fearful sufferings of the French wounded whom he attended after Waterloo, and sad to see how little progress has been made after all in our war arrangements.



arms amputated. and made a good recovery ; a ball had struck his leg, passed through his horse, which it killed, to the leg on the other side, while a second went through both his arms. The amputations were performed by his own surgeons, in spite of his entreaties to be left to die.

All the cases admitted at the Caserne d'Asfeldt were most severe:—

Wounded, registered . . . . .	593
Sick and wounded, not registered . . . . .	200
Extra patients during battles of 31 Aug. and Sep. 1 . . .	400

1193

One hundred and seventeen deaths were from gunshot wounds, 30 at least from pyemia, out of 77 amputations 30 were fatal, 40 deaths after other operations. The ventilation of the place was very imperfect.

With regard to the success of the surgery of the two nations, great things had been expected of the Germans, from the high position held by the profession in the scientific world; but their practice did not appear to be good ; and the wounded, hospital stores, and the like, are evidently looked upon by the military authorities as mere impediments to operations. The French surgeons were better, but the excessive centralisation of their medical service, and the manner in which the Intendance undertook a combination of duties of all kinds made a break down at head-quarters fatal. The dangers of the hospitals were indeed such, from fever, gangrene, and erysipelas, and the torture of transport so great, that the chances of recovery for the poor fellows who crawled under the cover of the hedgerows were greater than for those lying in the foul infectious atmosphere of over-crowded surgical wards. There was little such disease in the huts, field ambulances, or temporary edifices, which admitted of the freest possible ventilation, and a rope-walk in fine weather was found to be the most healthy shelter of all. The testimony to the value of fresh air is very remarkable. It is an old experience. When the French army in Spain was retreating on one occasion, they prepared to leave their wounded behind in hospital ; the men, however, preferred to run their chance and accompany their comrades, and in spite of the suffering attendant on the rapid travelling, the constant change of air had such virtue that a larger proportion recovered than in hospital. But neither French nor German authorities have as yet realized this fact in sanitary science. There are few subjects on which the two nationalities were agreed; but here, at least, was one point in common : "Fermez



les fenêtres," cried the French doctors whenever they entered wards cared for by the English Staff. "Kein Engliches zug hier," said the Germans sternly when they saw the open windows; as if a draught were an English manufacture, like flannel or cutlery. According (as we should say) the proportion of deaths in hospital was very large. This however, is no new feature in the French medical military annals. In the autumn of 1813 one-half of the patients perished in some of their hospitals, a third or fourth in the best. "In the Crimea the failure of the French medical service was complete. In a death-roll of 95,615, only 20,000 men died in the field or of wounds, more than 75,000 of disease. In the brief Italian campaign, the deaths in hospital far out-numbered those in the field, and the wounded were sometimes left for days uncared for after the battle was over. There was an insufficient supply of surgeons—not even one doctor to 1,000 men—and an utter neglect of hygiene. Drainage, disinfection, good nurses and abundant food were required to reduce the fearful mortality of the hospitals; but in all these the French administration was utterly deficient;" and at Sedan the Intendance was hopelessly disorganized.

The absence of sound sanitary arrangements was generally still greater among the Germans; except in rare instances, such as the Crown Princess's admirable hospital at Homburg, almost all necessary precautions were entirely neglected; typhus and low fevers prevailed in their hospitals to a grievous extent from the dirt, the sickening smells, and utter want of care even thus early in the campaign.

There has been great unwillingness on the part of the German authorities to allow the full extent of their losses from sickness during the war to be known—"the health of the army" was always announced to be "excellent." A semi-official statement has however at last been made in Berlin, by which it appears that the Central Bureau under the highest military authorities has authenticated 633,000 cases of sick and wounded; of these 78,000 belonged to the French, the remaining 555,000 to the German army. "These frightful figures," says the *Volkstaat*, "are far below the truth. If the wounded are reckoned at 100,000 in round numbers, we shall be within the mark if we estimate the unwounded sick at half a million. How many of these have died, how many will drag on incurable sickly lives, we have as yet no means of judging—the figure must be a terrible one."



The great field hospital for the Bavarians was the Chateau de Bazeilles. Three thousand of them were collected there on the 2nd of September, distributed in the buildings and under the trees and sheds. The ground was literally saturated with wound secretions while a great number of men and horses had been buried in extremely shallow graves about the gardens and immediate neighbourhood. A second country house close by was nearly as overcrowded, and as pestilential.

The Meuse was in a fearful state from the number of corpses of men and horses drowned there, or thrown in to be got rid of. It was indeed only wonderful that more disease was not engendered, for the stench in the town and the neighbourhood was terrible and dangerous. The English surgeons suggested the lighting of great peat fires, but the authorities were paralysed, and nothing was done.

For days before and during the battle of Sedan the French soldiers had been fearfully underfed, while enduring the greatest physical strain in a prolonged fight, ending in a disastrous and most depressing defeat, which told much upon the chance of cure. Where amputation of the lower limbs took place, few patients recovered; "of thirty-four cases of operations of the knee-joint, all were fatal."

Diarrhoea and dysentery were very troublesome, causing directly and indirectly many deaths. In the Caserne d'Asfeldt this was increased by using the water of a well into which the dead bodies of three Zouaves had been thrown. And it was curious what a dislike we entertained for water for sometime after the discovery of the bodies. Grievous loss of life was occasioned by the transport of the wounded; often in common country waggons without even straw for the patients to lie on, "the system of the Prussians being to order removal as soon as possible, in many instances before any idea could be formed of the case." Frightful hardships were sometimes undergone from the want of horses to forward these long lines of miserable sufferers on their way. In one case four hundred peasant waggons, filled with wounded, were left out all night, without shelter, wet through, after travelling two days from the field of battle near Metz.

As at Sedan the number of wounded increased hour by hour, the Protestant pasteur offered his church as shelter for twenty-five men. He then sought up and down the town for bedding materials, but scarcely anything could be either bought or borrowed. The state of the streets was almost indescribable; a perfect hail of shot, shell,



and bullets was falling, from which the soldiers were sheltering themselves under the walls of the houses, swearing, half starved, furious, and miserable—the variety of hideous noises, the hurtling bomb of the cannon balls, the hissing of the shells, the peculiar and terrible sounds of the mitrailleuses,—the dreadful smells, the bones and entrails of dead horses lying about in every direction, the ribs showing raw and bloody, their flesh having been, the instant they fell, cut off by the soldiers—who could get no other food; if they could manage to cook it they considered themselves lucky, if not, they ate it raw—the whole scene utterly wretched and hopeless.

The wounded began to arrive at the church; but the few mattresses were soon exhausted, and they were laid on the floor, on the benches, almost on each other, with a little straw under them, and perhaps a hymn book under their heads; some sat on the pulpit stairs. Instead of the twenty-five patients prepared for, one hundred and seventy were sent in during the course of the day and night, and were laid down in the schoolroom, the little yard, the sheds; the altar was seized as an operating table by the military surgeons, of whom at first only one could be spared for the work, and the three sisters of the pasteur dressed the wounds as well as they could, and helped to pull off the shoes and wash the feet of the men, which was some refreshment, but pretty nearly the only relief which they could give. No food was to be had for them except a few cases of chocolate and Liebig's extract until the next day, when the Intendance sent in the soldiers' meagre rations; these were cooked in great caldrons in the open yard by the ladies and distributed by them. Two shells burst one after the other over the church and the presbytère, and the surgeon insisted on the wounded being carried into the crypt, where the children of an orphanage had, however, already been taken, and it was represented to him that the men would be stifled. "Then," said he, "we will be buried alive under the ruins, *tant vase crever*." The prospect was not reassuring, but there was nothing to be done. A white flag had just been hung up as protection when a third shell struck the church; "Oh!" cried the women tumultuously crowding up from the houses near, "pull it down, it draws the fire, it is a mark." It was, however, their best chance of escape, the pasteur held firm, and the church was not again disturbed.

At first the French wounded were extremely depressed, but their spirits soon revived. The Germans on the contrary, as the time



went on pined for home ; and the idea of being incapacitated for future labour, with the extremely small pensions allowed by the Prussian system, seemed to pray on their minds. Their superior education was very striking ; the sick men were trying to learn French, studying maps of the country, &c. One day an infirmier besought me to come to a wounded German who he felt sure was mad, or "communicating with spirits, for he was making cabbalistic signs." I found a young fellow repeating his Euclid by heart, and making the figures in the air as he went on.

The extreme ignorance of their enemy shown by the French people and army alike was such that the men were almost paralysed at finding the Germans, whom they had been taught to despise, were better soldiers than themselves. It is necessary to turn back to the dismal tragi-comedy of the French newspapers after the puerile attack upon Saarbrück to realize the state of feeling at the beginning of the war. "The backs of the Prussians was all that they allowed us to see of them." "They positively ran at the first discharge of the mitrailleuses," was repeated in every variety of jubilant key. It was so self-evident a truth that a Frenchman must beat a German, that when Paris heard of a battle it was taken for granted that it was a victory. After the engagement at Wörth, a friend of mine, a gentleman arriving from its neighbourhood, found the Rue de la Paix dressed with flags, and a crowd marching about with songs of triumph for "a great victory." "But," observed he, "it was a great defeat ; I was there." No one would listen to him and he was advised to hold his tongue, it was not safe to hint at such an opinion, he would be taken up as a Prussian spy. The system of illusions and delusions was carried on from the highest to the lowest ; things were "made pleasant" to the Emperor, but they were equally "doctored" before being made known to the Paris mob. "How can you put news in your paper which you know to be perfectly false ?" was said to a French editor. "Il leur faut absolument des victoires, il n'y en a pas, il faut que je leur en fasse," was the answer, and accordingly they were manufactured to order in every variety. Nothing was too wonderful to be believed. "The Crown Prince had been taken with half his army !" "Two corps d'armées, 40,000 Prussians, had fallen into the quarries of Jaumont, shot down and buried under stones hurled in by an indignant peasantry," the veracious narrator declaring that "the groans still filled his ears ;" a splendid coloured print was publish-



ed of the event, which continued to be sold till the end of the war. One paper told how "a lieutenant-colonel wounded had just returned to Paris, and related that such had been the slaughter of Prussians that he was able to protect his guns behind a parapet of Germans slain; we repeat that the source from which this account was received rendered it perfectly authentic." Other writers accused the English papers of having "invented not only French defeats, but battles which had never taken place and places which did not exist." The wife of a late English ambassador, writing from Vichy three days after the news of the capitulation of Sedan had been heard of at New York, observed that "as the French had been successful everywhere, she should return by Paris and spend some weeks there."

Under the necessity of a victory at all hazards, MacMahon and his army had marched, as it were, into a trap; crowded into a town where it was impossible to stand a siege, without supplies, food, or ammunition. The general was wounded early in the day, and De Wimpfen, who "took command of an army already beaten," as he complained bitterly, proposed to the Emperor to cut his way into Belgium. The slaughter, however, must have been tremendous, and after the fearful losses of the previous weeks, Louis Napoleon, sick and dispirited, seems to have felt that any end was better than the continuance of such dreadful scenes, and fancied (we may give him at least the credit of believing) that his abdication would end the war.

His interview with the ruler of kings, Bismarck, took place in front of a labourer's cottage in a village near Sedan. The Emperor in the undress uniform of a general and a *kepi*, the Chancellor in his white cuirassier coat, fur cap, and long boots, sat on a stone bench before the door on a slope close to the edge of the dusty *chaussee*, which stretched far and straight into the distance, bordered with the inevitable poplars. One who was present described how the Emperor went on pulling the vine leaves from the trellis one by one, and scattering them on the ground as the interest of the conversation increased, whence they were picked up by the bystander after the interview was over.

The hard part of the bargaining having been done by Bismarck, the meeting with the King of Prussia to receive the Emperor's abdication took place at Belleville, a country-house in the neighbourhood. There is a certain dignity given by circumstances to per-



formers in really important events, if they do not strive after any such effect; and the behaviour of both emperor and king is described as having been calm and "digne" on the occasion. Louis Napoleon refused to pretend to be able to compromise the future of France, though he and his army were compelled to surrender unconditionally, and next day he was forwarded to his place of captivity.

But it is after the chief performers have removed off the scene that some of the worst horrors of war have to be faced. The prisoners remained to be disposed of, the frightful hosts of wounded still left on the battle-fields to be tended, the hideous remains of those who had passed away to be put out of sight. "Three clear days after the fighting was over I found eight or ten men lying with both arms fixed in position, as if they were raising their guns to the shoulder to fire, though the majority of the corpses lay on their backs with every muscle relaxed." "Here lay a group of dead horses, there a line of dead men with heaps of broken weapons, the meadow on the hillside was full of mangled horses and dead cuirassiers. For days these remained unburied, as the peasants were either afraid to interfere, or too little accustomed to act without orders to volunteer service of any kind."

The scene on the battle-field was *unusually* terrible. "No human eye ever rested on such revolting objects as were presented by the battle fields around Sedan. Let them fancy masses of coloured rags glued together with blood and brains, and pinned into strange shapes by fragments of bones. Let them conceive men's bodies without heads, legs without bodies, heaps of human debris attached to red and blue cloth, and disemboweled corpses in uniform, bodies lying about in all attitudes, with skulls shattered, faces blown off, hips smashed, bones, flesh, and gay clothing all pounded together as if brayed in a marter, extending for miles, not thick in any one place, but recurring perpetually for weary hours; and then they cannot, with the most vivid imagination, come up to the sickening reality of the butchery. No nightmare could be so frightful. Several times I came on spots where there were two horses lying dead together in harness, killed by the same fragment. I several times saw four, five, and six men, four, five and six horses, all killed by the explosion of the same projectile; and in one place there lay no less than eight French soldiers who must have been struck down by the bursting of a shell over a



company, for they lay all round in a circle with their feet inwards, each shattered in the head or chest by a piece of shell, and no other dead being within a hundred yards of them. A curious, and to me unaccountable phenomena, was the blackness of most of the faces of the dead. Decomposition had not set in, for they were killed only the day before. Another circumstance which struck me was the expression of agony on many faces. Death by the bayonet is agonising, and those by steel, open-eyed and open-mouthed, have an expression of pain on the features, with protruding tongue. A musket ball that proves at once fatal, does not seem to cause much pain, and the features are composed and quiet, sometimes with a sweet smile on the lips. But the prevailing expression, *on this field*, of the faces that were not much mutilated, was one of terror and of agony unutterable. There must have been a hell of torture within that semi-circle in which the earth was torn asunder from all sides with a real tempest of iron *hissing, and screeching*, and bursting into the heavy masses at the hands of an unseen enemy.

The difficulty of guarding such an unexpected number of half-starved prisoners as had fallen into the hands of the Germans was immense. Seven hundred of them were confined on a peninsula surrounded by the Meuse, the neck of land being commanded by a Prussian gun. Their sufferings from want of food were sad, and the Pasteur of Sedan, having collected what little was to be begged or bought (what could it be among so many ?) took it down to them. "You had better drive well into the midst, or you will be pushed into the river," said the German sentry. The carriage was literally stormed, and he was in danger of his life before the distribution was over. Mr. Trench, who also attempted to supply the poor wretches, is loud in his blame of the German authorities ; but it must not be forgotten how suddenly and unexpectedly they were thus called on to feed a second army.

The French had been for four days on the shortest of rations from the bad management of their own commissariat, one day almost without food of any kind ; they were thus thrown entirely upon the provisions of their enemies, who were of course totally unprepared for such an unexpected addition to their mouths. The Germans seem to have done their best, and their own men were stinted till fresh provisions came up. At the beginning of the war there is no doubt that their captives were treated with humanity, and



the French peasants dreaded the approach of their own soldiers as much or more than that of the more disciplined Germans ; but, as the struggle went on, the bitterness on both sides increased to a frightful extent, and the war exactions around Paris and in the north of France have been terribly severe. "I hardly recognize my good quiet Germans," said one of their own officers at Versailles towards the end of the time.

After this frightful week the great wave of events rolled on far away from Sedan. The Emperor had been taken to Wilhelmshöhe, the eighty-six thousand unwounded French prisoners "interned" in Germany, the sick had been disposed of in distant hospitals, or had disposed of themselves in quiet graveyards, the great German army had marched on Paris, and poor Sedan was left to itself and its miseries

Everything had been swept away ; provisions, crops, fuel were gone ; the houses were shattered, whole villages ruined ; the "hopeless misery of the burnt Bazeilles, once a flourishing suburb of Sedan, with a population of about three thousand persons, now the most utter ruin that can be conceived, surrounded with the wrecks of beautiful little villas," was the most dismal of all.

The cloth manufactories having been built within a walled town, and much cramped for space, were in the habit of distributing their looms among the villages near, which were thus dependent for work upon Sedan itself. Such were the heavy contributions demanded by the Germans that there was no money for wages, and no buyers for the cloth if it had been woven. Provisions were not to be bought, the autumn sowing could not take place, neither food nor work were to be had, and whole villages were on the brink of starvation. Great soup-kitchens, supported by money sent out from England, were organized by the indefatigable sisters of the pasteur, who arranged working parties of women to make up warm clothing, which was afterwards given away. Many of the sufferers had been well off,—accustomed to give, not receive charity. Often a portion of the food and clothing received was given back, with a kind word for others : "Our neighbours are as poor as we are, may not this be sent to them ?"

The assistance given by the different societies has done excellent service in keeping body and soul together among these starving sufferers till peace could allow work to be resumed. Charity, however, is a demoralising thing if it continue long enough to dis-



courage men from exerting themselves (as we are now finding to our cost with the poor of London), and there has been some difficulty in preventing the usual results of cheating and quarrelling among the recipients of the relief from England. But the grain supplied for spring sowing, and the idle looms which have been set to work have, it is hoped, helped the peasants and artisans to help themselves. The men were thoroughly disheartened by the system of requisitions. Obligated as they were to use their own little horses and carts—the pride of an industrious peasant—to draw goods for the army of their enemies, they put no heart into their work, and got into habits of idleness. The German soldiers and horses passing to the front had to be lodged and fed by those who had nothing left to seize, so that they scarcely dared to put their houses or gardens in order. Although, however, there has been much talk of cruel exactions, true no doubt in individual instances, “in general there was but little taken in the neighbourhood of Sedan by the German army except according to the bond of the fearful system of requisitions; there had been hardly any of the plundering of bad old wars, and none of the still sadder outrages on women,” says one eye-witness. “The German soldiers had in general genial, good faces, with square, heavy chins, and, keen, shrewd eyes, and almost all kind to children. I saw one day a big, stolid fellow seize a baby out of its terrified mother’s arms, cover it with kisses, return it to her and silently go on his way.”

The villages, for two miles or more round Sedan, suffered much in the battles of September. At Givonne the branches of the trees had been carried away by cannon shot—the groups of houses “nestling in their sleeply hollows, which looked so happy last year, now lie grey and cheerless, the stone walls broken by shot and shell, the sides of the cottages peppered with bullets, hardly any smoke to be seen from the chimneys,” while the forests were cut down and the timber sold to a great extent by the German authorities. At Mézières, about twelve miles off, worse horrors took place. It gives some slight idea of the frightful proportions to which the war miseries attained, that its bombardment passed almost unnoticed amidst the great excitement of watching the movements of the army of the Loire and the siege of Paris. Two lines or so in a telegram “Mézières is besieged,” “Mézières has capitulated,” was nearly all the notice which it received. Yet the description of its sufferings makes one’s heart ache. The fury of the fire seemed



to have driven the people wild, the noise, the crumbling of the houses under the shells," said one of the members of the relief committee. Men and Women, silent and dazed, were passing up and down the wretched streets, which looked like nothing but a quarry of stones; out of five hundred houses only a hundred and twenty were standing. A crowd had collected round one pile of ruins on the bitter winter's day; the house had fallen in upon the cellar, where thirteen persons had taken refuge from the fire. They were all dead, from the old grandmother to a baby. In another an unhappy woman had sheltered herself to give birth to a son; the walls had, in like manner, crumbled, and she was found charred and burning, with the little one carefully wrapped in her petticoat.

The help sent from England assisted numbers of these houseless, starving people. The soup-kitchens have supplied hundreds of families during the winter, and the work given out from the *Daily News* and other funds to the women, constituted pretty nearly all each household has had to live on. Many women came ten miles to fetch it, and refused all money help. "We have always worked," they say; "all we want is work, not charity!"

The stories of some of these poor creatures, given to "les dames de la soupe," are piteous. "A young woman, from Thelonne, came on Friday for the first time. I never saw a face with such an expression. It was as if she had cried so much that there were no tears left. She was alone, she said, out of seven. 'Where are the others gone?' 'They have all died in the war. On the "Day of Bazeilles" my father-in-law was shot; my mother-in-law died of the shock soon after. I had read in the papers that it was better not to forsake one's house in time of war, and we staid on, my husband and three children.\* They came and set fire to the house. I don't know what happened then. All of a sudden I woke up in the cellar, and heard the cries of the soldiers, and saw an officer who was trying to protect us from them. I turned round and found my baby, eight months old, dead by my side; and, when I looked on the other side, the second child was dead too. Then they took my husband away to shoot him. They carried him about from place to place; but he got away at last, and hid himself. I escaped to my parents, at Thelonne, with my little boy,

\* The Bavarians, who burnt the town, believed that the peasants had fired on them from their houses; The officers did their best to restrain their men, but the havoc was frightful, although the commander, Van der Tann has of late denied the worst part of the outrages. I saw none but those incidental to war.



six years old, in my arms. My husband came in a few days after ; but he fell sick, and died of his troubles, and the little one too,' and the tears fell slowly down her pale, thin cheeks. She was only twenty-seven years old. There was a dead silence in the room while she was telling her fearful story ; the other women looked at each other with terror.

It is by details of such individual miseries as these that we realize the horrors endured by "war victims," and are made to feel greater sympathy than by any amount of general descriptions or bare lists of numbers and statistics of deaths.

Such, ladies and gentlemen, were my experiences of Sedan ; placed before you in a fragmentary and imperfect manner, for after all, to those actively engaged amongst the wounded and dying, war presents a special feature difficult to describe, and differently described by each participator in the action, each one's experience is fragmentary. The blended narratives of many, not only show this, but more, they also all tend to show to the peaceful citizen the hardships their defenders have to undergo, and to strike a chord in each heart, that while ready to defend our hearths and homes from the enemy, that we must be tender and womanly in our care of the wounded and sick—not only of our countrymen, but of our adversaries, and according to their means at the fitting moment to act the good Samaritan, each according to his power, for the alleviation of their sickness and distress.



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No: 5.







Professor J. Longmore C. B.

with Dr. Cutler's kindest regards.

"IN MEMORIAM:"

No. 5

AN ADDRESS

ON

OPENING THE THIRTY-SIXTH SESSION OF THE  
ARMY MEDICAL SCHOOL,

AT THE ROYAL VICTORIA HOSPITAL, NETLEY,  
APRIL 3, 1876.

BY

WILLIAM AITKEN, M.D., F.R.S.,

PROFESSOR OF PATHOLOGY IN THE ARMY MEDICAL SCHOOL;  
CORRESPONDING MEMBER OF THE ROYAL IMPERIAL SOCIETY OF PHYSICIANS OF VIENNA, AND OF  
THE SOCIETY OF MEDICINE AND NATURAL HISTORY OF DRESDEN;  
PATHOLOGIST ATTACHED TO THE MILITARY HOSPITALS OF THE BRITISH TROOPS AT  
SCUTARI IN TURKEY DURING THE CRIMEAN WAR.

Printed by Request, for Private Circulation.

GLASGOW:

PRINTED BY BELL & BAIN, 41 MITCHELL STREET.

1876.



MEMORANDUM.

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"THE Summer Session of the Army Medical School (the thirty-second since its inauguration) was opened on Monday, the 3rd instant, at the Royal Victoria Hospital, Netley, with an introductory address delivered by Professor Aitken, F.R.S. The recent decease of Dr. Parkes, the distinguished Professor of Military Hygiene at the School, gave a special and melancholy interest to the occasion; and this was increased by prevailing rumours that the Government had come to a conclusion (among other changes in the Army Medical Department) to abolish the School altogether. There was a large assembly in the Lecture Room, including the military and medical staff of the Hospital, the Professors of the School, and several gentlemen who appeared to be present as visitors. The printed list shewed that thirteen candidates for the Royal Navy, and twenty-three candidates for H.M. Indian Service, together with two senior surgeons of the Indian Army, and one staff-surgeon of the Royal Navy, had arrived to go through the course of instruction. Two Bavarian Staff-Surgeons, Dr. Wille and Dr. Renk, for whose attendance during the Session permission had been given to the Bavarian Government, were also present; as was also Staff-Surgeon Dr. Sellerbeck of the Prussian Army. There were no candidates for Her Majesty's Army Medical Service."—Extract from *British Medical Journal*, April 8th, 1876.

The following Address was delivered, which is now printed, as desired, for private circulation only.

NETLEY, April 16, 1876.



## *"IN MEMORIAM:"*

### AN ADDRESS INTRODUCTORY TO THE THIRTY-SIXTH SESSION OF THE ARMY MEDICAL SCHOOL.

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COLONEL GORDON AND GENTLEMEN :—

I address myself, in the first instance, to those candidates of the Indian and Naval Medical Services of the Queen, who are here for the first time.

I presume you have each made acquaintance with the Departmental Order Book, and have observed the daily routine of duty to be done throughout the Session. In this order book you would notice that each subject of the curriculum of instruction is arranged for a lecture here at this hour on a particular day, and that the subject of Pathology is fixed for Mondays. As this Session happens to begin on a Monday (and for no other reason), it devolves upon me, in the ordinary course of events, to bid you welcome to this place, and I heartily do so on my own behalf and on that of my colleagues.

You might also have observed in the order book that no formal lecture introductory to this, the thirty-sixth Session of the School, would be given; which means, that it had been arranged, for various reasons, that each Professor should at once commence the usual work of his course.

But with our grief yet green from the loss by death of a dearly loved colleague, feelings of a painful nature necessarily mingle with the pleasure of our meeting on this occasion, and which also recall the memory of those whom we have lost.

It is nearly sixteen years since the first lecture of this School was delivered at Fort Pitt, Chatham, by my colleague, Professor Longmore; and many are the changes connected with it which have taken place since that time. The School had not been long in operation when death removed its distinguished founder, the eminent statesman, Sydney (Lord) Herbert. A few more years and Sir James Gibson, the Director-General of the Army Medical Department, and President of our Senate, was no longer amongst us. He and



Lord Herbert were both present at the opening lecture sixteen years ago. Sir James Gibson died, as his predecessor Dr Alexander died, and as Lord Herbert died—at the post of honour and of duty in the public service—overborne by the great and continuous strain of official work. It killed them all; and truly has it been written, “Uneasy lies the head that wears the crown.” The post of Director-General to a great public department, like that of the Army Medical Service, is by no means an easy one. Although chief of a department, he is not his own master. He is only one of many chiefs who ought to work together for the public good; for the army consists of many departments, all of which are subordinate to the Secretary of State for War—at whose bidding the Medical Director-General may have to act even against his own better judgment in matters which concern his administration. But whatever he does, it is our duty to believe that it is done for the public good, and for the benefit of the army; and that, therefore, he ought to have the sympathy of the officers of his department in the administration of it, and the moral support of all right thinking men in the very responsible and often harassing duties of his office. This crown of office has too often been “but a wreath of thorns,” bringing dangers, troubles, cares, and sleepless nights to him who has worn it; for upon his shoulders each man’s burden in the department is placed; while he has but the inward satisfaction of knowing that his honour, virtue, merit, and chief praise lie in the fact, that for the public good all this weight he bears.

A third great loss we sustained at the close of 1874, by the death of Sir Ranald Martin, Physician to the Council of India, and its representative on our Senate. He was a distinguished physician and medical officer of the Indian service. A veteran prince of sanitary reformers, he was one of those men who took an active part in the organisation of this School, all of whom, with one exception—another distinguished pioneer in sanitary science, Dr. John Sutherland—are now no more. Sir Ranald Martin was a member of the Senate of this School from the commencement up to the time of his death, a year and a half ago. He was a man of noble presence, possessed of a kind and genial disposition, who by his writings and by his indomitable energy and perseverance, contributed greatly to the formation and establishment of this School, having been a member of the several sanitary commissions which eventually led to its organisation.

Now we have just sustained the last, and to us the greatest loss of all, by the death of Dr. Parkes, which took place nineteen days ago, after a lengthened illness, borne with his own characteristic patience



and resignation ; and I feel it is incumbent upon me, on this our first official meeting since his death, to bring to your notice and to acknowledge to ourselves the very great loss which the Army Medical School has sustained, and which Sanitary Science has sustained by his untimely end. Not only is he a loss to this School, but in him the medical profession has lost one of its brightest gems, and the country has lost one of the most useful, intelligent, zealous, disinterested, self-denying and trusted of public servants.

Greatly beloved in his life-time, he is now lamented in his death by all who had the good fortune to know him as we did. We all feel as if we had lost a brother—as if part of our very selves had been torn from us, and which we very sorely miss. Indeed we have not yet come to realise the loss we have sustained by his death, more especially when such radical changes are being made in the medical service of the army, and when the very existence of the School itself is threatened, the prosperity of which was one of the most cherished objects of his life. With the single exception of the last opening day of Session, when he was too ill to come, this is the first time for nearly sixteen years that we have met without him. Many are the interests (both private and public, besides those of this School) which will miss his wise counsels, his fostering care, his gentle tact, and that special charm of disposition and influence which was always ready to pour the oil on the troubled waters. Thus it is that as “Night brings out stars, so sorrow shews us truths.”

But those who are here to-day for the first time cannot be expected to enter into the feelings of grief and sorrow which weigh upon us in the loss of a much loved colleague, with whom we have lived in friendship unalloyed for nearly sixteen years ; and whose life shews that on a much shorter acquaintance he endeared himself to every one who had the good fortune to be associated with him in any kind of work. Sorrow for the loss of such a man is a natural human tribute paid to his memory, and is called forth by the irrepressible feelings of the heart. In all respects, I think Dr. Parkes was one of the most lovable of men—from some indescribable charm of manner and sweetness of disposition ; and his life amongst us, beautiful in its simplicity and self-denial, has always suggested him to my mind as the “ideal” of a “perfect man.”

You cannot have passed through the curriculum of your professional education at the schools of medicine without having often heard the name of Parkes ; for it has been a household word in our profession for nearly thirty years, and now death hath opened still more widely for him the gateway of Fame. Under the circumstances, therefore, in which we are met together to-day for the first



time, perhaps the most fitting tribute I can here pay to the memory of Parkes, will be to endeavour to help you to realise the nature of the man you and we have lost—the lessons taught to you and to us by his life and works—whose personal teaching you have the misfortune to forego, and whose loss is a loss to the profession and the world.

Parkes' character may well afford to us all many a useful theme of contemplation; and although it was most alien to the nature of the man, that his name and his virtues should be blazoned to the world (for he was a man who would never court applause); and although we know he deprecated anything like a memoir or biography of himself being written, we owe it to ourselves not to forget those who deserve to be remembered; and I hope, in the fulness of time, that some one who may have known him well will give to the world as full a biography of Parkes as it is possible to obtain. It cannot fail to be of great interest and of great usefulness to many. But so little did he "let his left hand know what his right hand did," that it is a question whether he would not have preferred entire oblivion (if that were possible) to anything like a public eulogy.

Happily it is not possible that the name of Parkes can remain in the oblivion of the past; and as it is not now possible to flatter any vanity he may have possessed, nor yet to insult the inborn modesty of his nature—if, therefore, a biography can furnish us, as we are sure it can, examples to be followed by those he leaves behind, who are trying with all their might to tread in his footsteps, and to follow out his aims, surely there is all the more reason that we should have the means of knowing and studying the characteristics of what we know to have been a noble and beautiful life.

I well remember a most eloquent lecture delivered by him on an occasion such as this is, when he personally opened the Session of this School at Fort Pitt, Chatham, on October 1, 1862. The lecture I refer to was published in the *Lancet* of October 11 of that year. I mention this that you may all read it when you can obtain it, for it concerns the main subject of your study here—that of Hygiene, and it is distinguished by the greatness in the breadth and scope of view which he himself took regarding the science he so loved to teach and to explore. His views were most eloquently expressed and spoken; and the lecture is, moreover, distinguished by the very delicate gracefulness and easy elegance of its composition. These were characteristics which distinguished all his public lectures; and in addition to the one I have just referred to, I would especially also mention, as examples for your benefit, the Gulstonian Lectures on



Fever, which he delivered to the College of Physicians in 1855, and subsequent Croonian Lectures at the same college in 1871, and notably his address to the British Medical Association when it met in London three years ago. You may well study these, not less for the information contained in them, than as models of composition on professional subjects of the deepest philosophical character, usually considered and rendered too abstruse for easy reading, but which are there made easy.

But there is another reason why I bring this lecture in the *Lancet* to your special notice *now*. It is because I think we may read and see in it an ideal of Parkes' own pure and noble life, imbued and impressed, as it ever was, by the dignity and importance of the subject of Hygiene—the subject which he taught here, and the one of all others he was most deeply interested in. You cannot fail to perceive running throughout this lecture the very high ideal he set before himself and before us all. He had, indeed, a very great and abiding sense of responsibility. "Moral responsibility" with him was no mere phrase. In his own emphatic words—"It is an actual obligation which all will have to meet;" and he himself, as we all know, from first to last, did his work with all the thoroughness of which it was capable. Whatever his hand found to do, he did it with all his might and strength of body and mind. Every duty that fell to his lot he did thoroughly and as well as it could be done, always with his whole heart devoted to his work—working "as ever in the great Taskmaster's eye."

With his finely-balanced mind he worked as if he desired to know all that he could possibly learn in the wide range of medical and sanitary science, so that he might do all that could be done for the relief of human suffering, for the sanitary benefit of the army, the country, and mankind. We know that he passed through a severe course of study as a student, and a thorough practical training for his profession at University College, London, where he afterwards became one of its most distinguished and useful practical teachers as Professor of Clinical Medicine. The subsequent details of his life and works have been more or less fully given in our weekly medical journals, therefore I will not now dwell upon them. But if you ask—as the question is often put regarding successful men—"What was the secret of his success?" I think I may answer that there was no secret with Parkes in this respect; but in accomplishing all he did, several great qualities, no doubt, contributed to it, and upon these I would like to dwell.

The first of them is *resolution*. He clearly set before himself the objects and the aim which characterised the purpose of his life, and which he resolved to achieve.



In his scheme and method of tuition here and at University College, he clearly shewed the *second* great quality he possessed—namely, “that *directness of aim*” which characterised him. He seemed to have set a great goal before himself which he aimed at reaching, so that steadfastness of purpose to reach this goal was ever before him, and sustained him to the end. With such steadfastness of purpose and directness of aim his success as a teacher and a lecturer was real and genuine, mainly by his resolution and determination to succeed, and his charming manner of tuition. He did not multiply nor change the objects of his life, although circumstances led him to give up, sixteen years ago, the arduous practice of a London physician, to become the first Professor of Hygiene in this School, and the most successful cultivator and teacher of Preventive Medicine who has yet lived. In fact, he has made the science of Hygiene what it now is; and in teaching its practical application, especially in matters pertaining to the sanitary condition of the army at home and abroad, and in making the science generally available for the public good, he reduced it to order and system from the great confusion in which it had hitherto been, and organised that course of practical tuition here which exists nowhere else, and which his able coadjutor, Dr. De Chaumont, will now carry you through. Dr. Parkes’ great work on *Practical Hygiene* will be your text-book—itself a monument of industry, of exact results, and of practical usefulness.

When the history of Hygiene and of Sanitary Science comes to be written, Parkes’ name will stand out as one who was born for the occasion and was equal to it. Fortunately we know not what is in the future, but it is difficult to realise that such great changes will take place in the next twenty-five years as have taken place in the past quarter of a century. Great, very great changes there no doubt will be in the course of events; and so far as sanitary progress is concerned, such changes, I dare to say, will be found to have their starting point from the writings, the teachings, and now the death of Parkes. Already the transitions in science, the great facilities of mental and personal intercommunication, the uprooting of old ideas, and the establishment of more stable principles, based on more accurate knowledge, have been unparalleled, except at the time of the Reformation. At that time principles were seen to develop themselves which began to operate at a later day; and just as the bough, when it breaks from the parent stem, bears to the earth its living blossoms, which, germinating in their turn, produce trees whose branches overshadow the land, so it is with the present reformation which has been awakened by the systematic teachings of Sanitary Science. The whole civilised world,



and this country in particular, has awakened from a sense of indifference and ignorance to the consciousness of a mighty influence for good in the practical teachings of Hygiene. It has really become a science itself, and a study worthy the efforts of the greatest intellectual exertion—efforts which are now being recognised at some of our most ancient and renowned seats of learning in this country. Such a recognition cannot but have a powerful influence for good, affording as it does a test of the progress of knowledge in Hygiene, and of the practical application of its principles to the daily wants of life. But let us not forget the brilliancy of the spark in the widespreading flame it has served to kindle; and who has been so influential as Parkes has been in extending the sanitary reformation of the day? The host of sanitary reformers he has been the means of educating here and elsewhere for the past sixteen years have carried far and wide into every region of the civilised world the practical teachings of Parkes.

We all know how he possessed in his method of teaching a most princely gift, which operated like a charm upon his pupils, who were indeed ever prepared to follow him, as soldiers follow their leader when he waves the banner of their native land before their eyes. In every climate and in many lands his pupils have enrolled his name on the banners of Sanitary Science, which they have been privileged to unfurl in the service of their Queen and country; and his teachings will doubtless go on to bear their fruits through generations yet unborn. He had very great faith in the future usefulness of what he taught. Faith walked by his side, and kept him ever cheerful in his work under all vicissitudes, and with a sweetness of temper, at once the envy and admiration of all.

With such good works as he has achieved, fresh in our memory, can we doubt, that now he is dead, he will bear through future ages

“A lofty name,  
A light, a landmark on the cliffs of Fame.”

Gentlemen,—The hope of such enduring fame (stamped as it must be by the judgment of the future) ought to be to you and to all of us a powerful incentive to follow in his footsteps; and you may well suffer the banner of Sanitary Science, with the honoured name of Parkes inscribed upon it, “to float before your eyes as a vision that will refresh you in the future battle of life—second only in power to the influence of your conscience and your God.”

*Thirdly.* Perseverance and continuous industry were other great and very marked characteristics which Parkes possessed. No one knew



better than he did, that "the work is long and that life and time are short;" but such thoughts never daunted him, and so long as his mind and body could think and work, he thought and laboured on. He was always found prepared for delays and disappointments, impediments and difficulties. But he took them all as matters of course. They impaired not his resolution, nor affected his expectation or his temper. His determination was always to finish the work he had taken up to do, and however long and patient the toil, its constancy and arduousness were to him simply the conditions under which he knew he had started in the race of life.

These characteristics were markedly brought out in the patience, perseverance, and industry with which he steadfastly worked for years and years at the trials of the Knapsack and Valise Equipment Commission; and also at those innumerable experiments and observations on which the results were founded of his papers to the Royal Society, as well as his numerous reports on different matters which were from time to time the subject of his investigation at the instance of the War Office authorities.

*Fourthly.* The many letters I have received since his death, from those with whom he had been associated in numerous and varied official interests, all unite in bearing testimony to the faithfulness, loyalty, and trustworthiness of his personal character, his sterling good sense and prudence, the calmness and impartiality of his judgment, and the steady, serious gravity with which he gave his mind to the consideration of all matters submitted to him. To do good in his generation was the aim of his life, and to do right at whatever cost to himself was a governing principle of his conduct.

"His loins were girt about with Truth."

Reality of character, sincere earnestness of purpose, and thoroughness of devotion to duty were the links which bound together this inestimable girdle, which adorned his walk in life.

In a military hospital and school such as this is, breaches of discipline have occasionally arisen, and in connection with the inquiries into such breaches of discipline by the Professors, these characteristics of Parkes which I have just named, always stood out most prominently. That most ancient of sentiments seemed to be ever present in his mind—"In righteousness shalt thou judge thy neighbour." He always leaned to mercy's side, a tendency which doubtless arose out of the inborn goodness of his feelings; and hearing reports of evil imputed to others, his earnest desire was that they might prove exaggerated or untrue. His mind was so disciplined, that its habitual feeling on learning of any breach



of discipline being brought home to a man, was that of unfeigned sorrow.

In all the inquiries here into breaches of discipline, and in so judging his neighbour, he was ever jealously alive to the motives which might corrupt the judgment. Keeping his passions cool and unbiassed, he was ever alive to the infirmities of our mortal nature—carrying into all differences a candid, liberal, and forgiving spirit—exhibiting the purest and most impartial justice towards every opponent—fully exercising his own right of decision, and denying not that right to others; and while obeying the results of deliberation, he still always remembered how much even the truth may be mistaken, exceeded, or distorted.

Thus, in the investigations into breaches of discipline, he generally, and as it were naturally, became the defender of the accused, so far as consistent with justice and with duty, carefully considering the degree of credibility due to evil report, the temptation to misrepresentation, and the chances of mistake. He took the facts with all their most favourable colours and extenuating circumstances, and in weighing the answer and position of the accused, he insisted upon all the good that had been previously known of him being fully recognised.

These are unmistakable evidences of a naturally good, noble, and Christian disposition, ever cherishing a fixed concern for human happiness—a phase of life and character in Parkes which practically teaches us, that it is our duty to receive with reluctance the imputations of evil, to guard against every impulse of prejudice or passion which may bias the judgment, to defend where we can do so consistently with duty and justice, and never to believe in evil report, except upon the most satisfactory evidence. Thus we may hope to secure, as he did, the purest and most perfect of all pleasures—self-approbation and respect—raising the mind to such an elevation of virtue as to gain, as he did, the love and admiration of all who knew him, while every one felt his honour and good name were safe in his keeping. Here, again, he followed by his teaching and example the method and the dictates of the Great Teacher, “to judge in mercy, and to love our neighbour as ourselves.”

These characteristics of Dr. Parkes, which I have thus prominently but feebly brought to your notice, are such as will always either prognosticate or explain a career of success in any man.

It is this “possibility of achieving greatness” which is open to every man, according to his ability, that constitutes one of the most glorious features in the constitution of our country.

Learn, therefore, from the life of Parkes, to believe in the



sufficiency of intellectual and moral excellence for the attainment of great success.

The late distinguished statesman, Sir Robert Peel, when addressing, as Lord Rector, the students of Glasgow University, made use of these memorable words:—"There is a presumption amounting almost to a certainty, that if any one of you will determine to be eminent, in whatever profession you may choose, and will act with unvarying steadiness in pursuance of that determination, you will, if health and strength be given you, infallibly succeed."

Another not less distinguished statesman has spoken in this same strain—"That it is in man himself, and not in his circumstances, that the secret of his destiny resides." For you that destiny will henceforth take its final bent towards good or towards evil, from the habits of mind, habits of thought, and habits of life which you will form during the coming early years of your military medical service.

The life of Parkes stands out conspicuous for its great amount of labour and accomplished work, and for the exemplary way he did it. So quietly and unobtrusively did he go through the laborious details of work, that I never knew him to name any particular investigation he was specially engaged upon till it was finished. He was extremely reticent in this respect. There is also reason to believe that to get through so much work as he did he regulated his time with a severe economy—redeeming many hours at night—consuming the midnight oil into the early morning—hours which others give to sleep.\*

As to his own bodily constitution and physical fitness for such constant work, I think he illustrated by his life and premature death the quotation from Roger Bacon with which he so emphatically commenced that eloquent lecture "On the Cure of Old Age," to which I have referred. The quotation is this:—"There is a *nature* assumed from the parent which has an utmost term of existence which cannot be surpassed; so there are numberless instances of age which comes before its time—of a body decayed even before its term of maturity has been reached—of strength gone—of death commencing at a term of life when, according to Nature's laws, the body should be in all its vigour and the mind in all its strength."

Parkes' death was a premature death of this kind, at the age of fifty-six, when the body should be in all its vigour and the mind in all its strength. That dread disease was upon him "which so prepares its victims, as it were, for death, which throws around familiar looks unearthly indications of the coming change—a dread disease in which the struggle between soul and body is so gradual, quiet, and

\* See Appendix for epitome of work done by Dr. Parkes.











solemn, and the result so sure, that day by day, and grain by grain, the mortal part wastes and withers away, so that the spirit grows light and sanguine with its lightening load; and feeling immortality at hand, deems it but a new term of mortal life:—"And so he passed away! There is every reason to believe that he impaired by over-work that originally feeble "nature assumed from the parent," and if it did not shorten the term of his life, almost fixed the manner of his death.

That he has been taken from us so soon is, no doubt, the result of his incessant devotion to work and chivalrous devotion to duty, utterly regardless of himself, and with too much indifference in later years to the requisite nutrition and rest of body and mind.

But while his life was thus in all respects a pure and beautiful life, his death was that of a self-denying hero; calmly resigned, and at perfect peace with all, he died with expressions of kindly remembrances of every one he could think of lingering on his lips, when he could scarce do more than whisper a name.

Such a walk in life as that of Dr. Parkes could do none other than lead to perfect blessedness; and I speak not words of course when I say that those who knew him as we did here "will never look upon his like again."

Gentlemen,—I cannot more fitly bring to a close this feeble tribute to the memory of our departed colleague than by reading the closing paragraph of the lecture to which I have referred, and which I specially address to those who are here for the first time. It is in these words:—

"By attention to what is taught in this School you will be prepared to enter on your service, and to perform its multifarious duties with success; and in performing them with success, you ought to find, and will find, your chief happiness. You will be in a position of great usefulness—'a helper of man,' as the old motto has it, literally, 'throughout the world.' And in all the varied phases of that famous military life which you will accompany and witness, officers and men should alike turn to you with confidence, as able to do for them *all that can be done* in their hours of sickness and peril. You will then be recognised as worthy associates in that grand English army which is now engaged all over the world in the work of peace; which everywhere is the servant of justice and of right; which watches over the youth of infant nations; which in the East and in the West alike represses anarchy, repels aggression, and in the midst of turbulent and disorderly nations maintains the rights and advances the cause of humanity. No nation has performed such a work since the Roman legions recoiled before the barbarian hordes. To do one's part worthily in so great a labour, and to spread



throughout the wide range of the British possessions those rules of health which render both mind and body better instruments in the great work of improvement, is surely a career which might satisfy the ambition of any one. Such a career is now open before you, if you have strength enough honestly and loyally to fulfil its duties; and these duties possess happily something of the divine quality of mercy, which we are told carries a twofold blessing—blessing the giver and receiver. In endeavouring to preserve the health of others you will ensure your own; and when old age comes it will not be as an evil to be cured, but as an ending which worthily crowns a life of labour—an ending which has been anticipated without repining, and will be endured without regret."



## APPENDIX.

### EPITOME (NECESSARILY IMPERFECT) OF WRITINGS BY DR. PARKES.

- On the Dysentery and Hepatitis of India. 8vo, 1846.
- On Asiatic and Algide Cholera. 8vo, 1847.
- An Inquiry into the Bearing of the Earliest Cases of Cholera which occurred in London on the strict theory of contagion. London, Churchill, 8vo, 1849.
- Lectures on Clinical Medicine delivered at University College Hospital, published in *Medical Times and Gazette*, commencing vol. xx., 1849, p. 469; continued in vol. xxi. for 1850; also in 1852, April 22, and July 8, 1854, and Feb. 28, 1857. [These lectures are models of diagnostic analysis, abounding in sound and far-seeing pathological exposition, full of suggestive hints in therapeutics and in the curative and preventive management of diseases. They are well worthy of reproduction in any collected edition of Dr. Parkes' works.]
- The editing and completing of a posthumous edition of Dr. A. T. Thomson's *Treatise on Skin Diseases*. 8vo, 1850. [Dr. T. had completed this work (of 440 pp.) up to p. 304, and had left in MS. the chapters on Acne and Sycosis. With the exception of these two chapters, Dr. Parkes wrote the remainder of this work of his relative, from the commencement of "The Tubercular Eruptions."]
- On the Decomposition of Chloride of Sodium by Acetic Acid in the presence of Albumen. *Medical Times and Gazette*, vol. xxii., p. 84, 1850.
- Lecture introductory to opening of Session of University College, London, Oct., 1851. Published in *Medical Times and Gazette* of that date.
- Editing articles in *British and Foreign Medico-Chirurgical Review*, 1852, *et seq.* [For this periodical he wrote many reviews anonymously, which for obvious reasons cannot be named here.]
- On the Formation of Crystals in Human Blood. *Medical Times and Gazette*, vol. xxvi., 1852.
- On the Precipitation of Albumen by Acids and Neutral Salts. *Medical Times and Gazette*, 1852.
- On Recurrent Watery Diarrhoea with Choleraic Attacks. *Medical Times and Gazette*, 1852.
- On the Elimination of Lead by Iodide of Potassium. Article in *British and Foreign Medico-Chirurgical Review*, Ap. 1853, p. 522.
- On the Action of Liquor Potassæ on the Urine in Health. Article in *British and Foreign Medico-Chirurgical Review*, Jan., 1853, p. 258; continued in same journal for Jan., 1854, p. 248; and again, in relation to its Influence in some Chronic Diseases, in same journal for Oct., 1854, p. 498.
- Review of Dr. E. J. Waring's work *On Abscess of the Liver*. *British and Foreign Medico-Chirurgical Review*, July, 1855, p. 1.
- Gulstonian Lectures on Pyrexia. Published in *Medical Times and Gazette*, vol. xxxi., 1855.
- Critical Days in Pneumonia—Value of Bleeding. *Lancet*, 1855, vol. i., p. 36.



- Treatment of Pneumonia by Wine and Ammonia. *Lancet*, 1855, p. 128.
- Report on the Formation and General Management of Renkioi Hospital on the Dardanelles, Turkey, during the Russian War, 1854-56. Addressed to the Right Honourable the Secretary of State for War. Published in 1857.
- On Pigment Deposit in the Skin (so-called bronzed skin), without disease of Supra-Renal Capsules. *Medical Times and Gazette*, vol. xxxviii., Dec. 11, 1858.
- On the Value of Albuminaria as a Symptom of Kidney Disease. *Medical Times and Gazette*, Jan. 1, 1859.
- On Acute Sthenic Pneumonia left without Treatment. *Medical Times and Gazette*, Feb. 25, 1860.
- Composition of the Urine in Health and Disease, and under the Action of Remedies, 1860.
- Introductory Lecture at University College, on the Influence of Self-Training by the Medical Student. Published by Walton & Maberly. Oct., 1856. [There were at least three hundred auditors assembled in the large theatre of the College, and it is written in the *Lancet* that "the lecture was elegantly composed and well delivered, and was altogether much more appropriate, as an introduction to a Session, than those which for some years past we have chanced to hear on similar occasions."—"This lecture," says the *Medical Times*, "was written with great elegance and delivered with much feeling, elicited frequent marks of approbation, and was much applauded at its conclusion." It cannot fail to be worthy of reproduction now.]
- Review of the Progress of Hygiene; commenced in 1861, at the request of the then Director of the Army Medical Department (Sir James Gibson), and contributed by him annually to the Medical Reports of the Department up till 1875, the commencement of his fatal illness. [They are models of *précis* writing, and a most valuable record of the progress of Hygiene.]
- Report on "*Carniset*," a concentrated food. [This report is signed by the Professors of the Army Medical School; but the work was really done by Dr. Parkes, and published in Vol. I. of Departmental Reports for 1861.]
- Lecture on opening Fifth Session of the Army Medical School—"On the Cure of Old Age." Oct. 11, 1862.
- Report on Liebig's "*Extractum Carnis*," in Departmental Reports, Vol. V., 1863, p. 455.
- A Manual of Practical Hygiene, prepared especially for the use of the Medical Service of the Army. 1864. Four editions have been published.
- The Detachment of the Epithelium in Cholera. Aug. 25, 1866, in *Medical Times*.
- Report on the Power of Disinfectants in Preventing the Putrefaction of Sewage. *Loc. cit.*, vol. viii. for 1866, p. 318.
- Report on Dr. Hassall's "Flour of Meat." *Loc. cit.*, vol. x. for 1866, p. 242.
- Reports on Filters. 1867 and 1868.
- Report on Three Samples of Water received from Pembroke Dock in March, 1870. *Loc. cit.*, vol. xi. for 1869, p. 361.
- Report "On a Cape Tent;" with Report on it as tried in the Autumn Manœuvres, by Assistant-Surgeon Lane, 4th Regiment. *Loc. cit.*, vol. xii., 1870, p. 260.
- Croonian Lectures on Nitrogenous Elimination. Published in *Lancet*, 1871.
- Royal Society Papers (*Transactions*), "Elimination of Nitrogen during Muscular Action." 1867 to 1871.
- Effects of Alcohol on the Human Body. 1870, 1872, and 1874. *Transactions of the Royal Society*.
- A Scheme of Medical Tuition. Published in the *Lancet* of 1868, p. 441, *et. seq.* It was afterwards published and dedicated to Dr. Geo. Borrow, President of Council.
- Address to British Medical Association at meeting in London, 1873.
- On the Issue of a Spirit Ration during the Ashantee Campaign of 1874. London, Churchill, 1875.



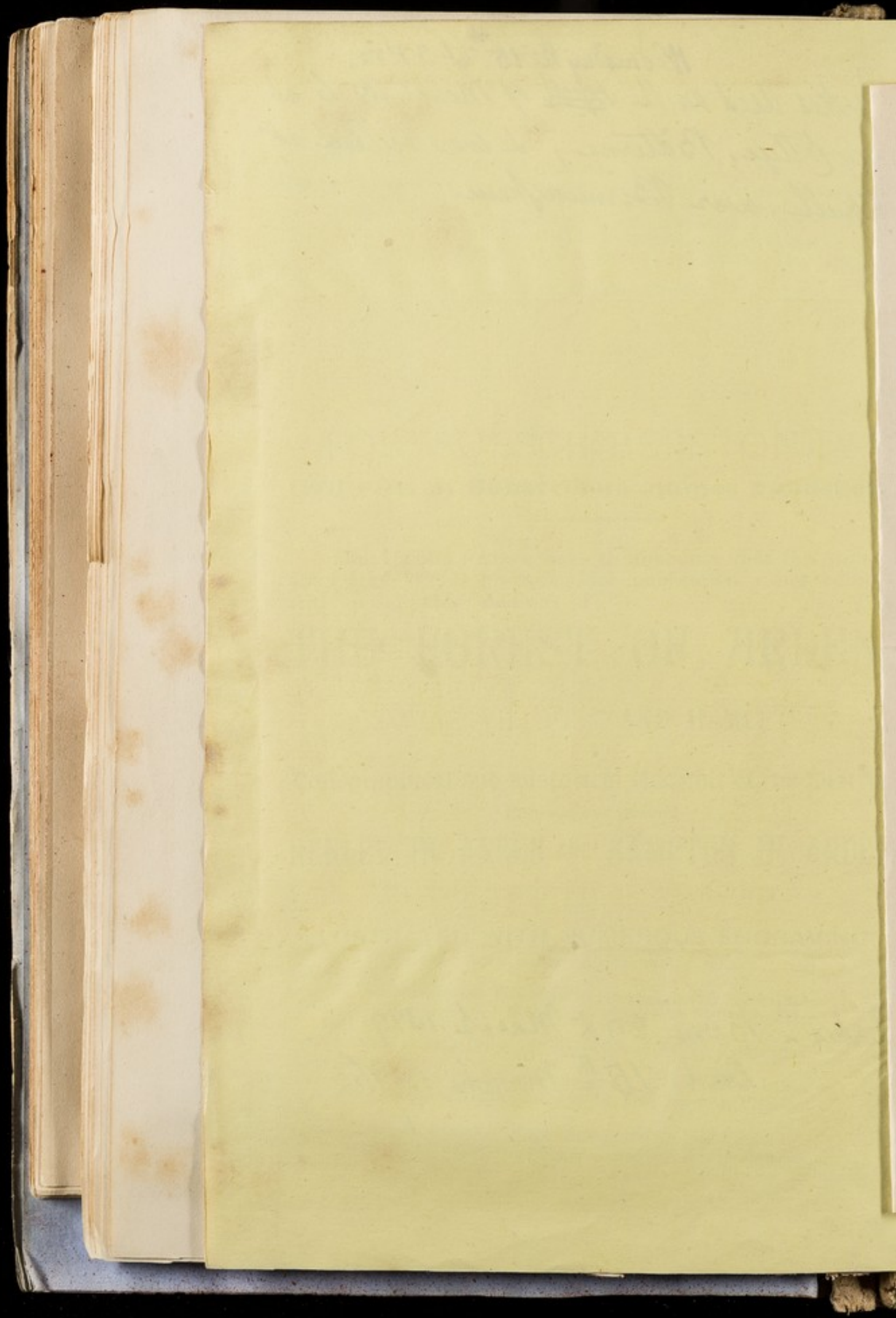
Wednesday the 15<sup>th</sup> at 3 P.M.  
Dr. Parkes died on the ~~14<sup>th</sup>~~ of March 1876 at  
Sydney Cottage, Bitterne, & was buried at  
Solihull, near Birmingham.



SOLIHULL CHURCH—NORTH-EAST.

Dr. Parkes - Born 29<sup>th</sup> March 1819  
Died 15<sup>th</sup> March 1876.







W. S. Lawrence

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Spencer July 10 1892



+ after the record of her  
birth & death, it goes on

"Also of

Edmund Alexander Parker. M.D.  
F.R.S.

Professor of Hygiene, Army  
Medical School, Netley.

Born March 29<sup>th</sup> - 1819 - Died March  
15<sup>th</sup> - 1876 -

Blessed are the dead which  
die in the Lord - they rest  
from their labours - Their  
works follow them: - Rev 14<sup>th</sup>



There is no tablet to the  
Memory of Dr. Parkes in  
Soham Church, only  
the inscription on the Stone  
near the vault where his  
remains lie - & which is  
very near the Church, in  
the pathway of the Church-  
yard leading to the  
West Door — The same  
stone bears the two inscriptions  
to his Memory & that of  
his wife who died Apr. 17-1873.

See adjoining page -- +

Spencer July 1892





*Spencer July 1892*

# PARKES MEMORIAL PRIZE.

SEVENTY-FIVE GUINEAS

GOLD MEDAL

IS AWARDED EVERY THIRD YEAR TO THE WRITER OF THE BEST ESSAY ON A SUBJECT CONNECTED WITH HYGIENE.

The Competition is open to the Medical Officers of the Army, Navy, and Indian Services, of Executive Rank on full pay, with the exception of the Assistant Professors of the Army Medical School during their term of Office.

THE SUBJECT FOR THE NEXT PRIZE IS THE FOLLOWING:—

**"MALARIAL FEVERS: THEIR CAUSATION AND PREVENTION."**

(to be illustrated, as far as practicable, from the personal experience of the writer)

Essays to be sent in to the Secretary of the Parkes Memorial Fund, Royal Victoria Hospital, Netley, on or before the 31st day of December, 1894. Each Essay to have a Motto, and to be accompanied with a sealed envelope bearing the same Motto, and containing the name of the Competitor.

By order of the Committee of the Parkes Memorial Fund.

(Signed)  
Sir T. LONGMORE, C.B., Surgeon-General, President.

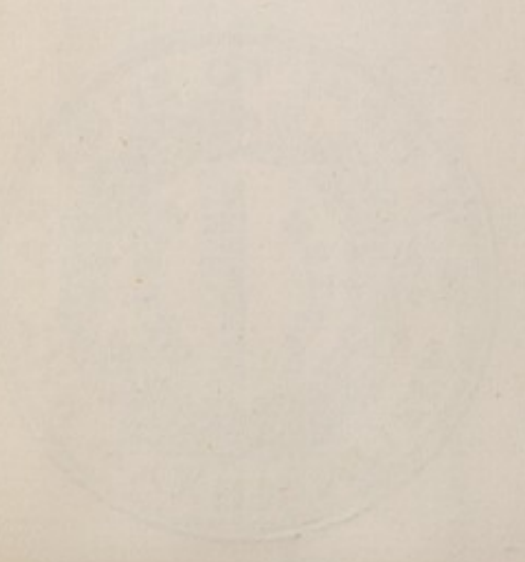
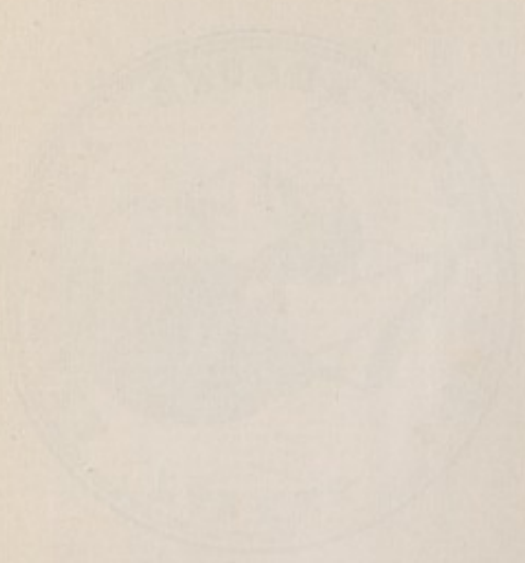
Professor J. LANE NOTTER, M.A., M.D., Treasurer.

Surgeon-Captain A. M. DAVIES, Medical Staff, Secretary.

*Prize withdrawn £100 + gold medal; reduced owing to depreciation of £750. Investments*



to the Secretary of the Navy



SEVENTH FIVE AGRIHENS  
BY THE MEMORIAL PRIZE



*The Langmore*

*No. 6*

AN ADDRESS

ON

ARMY MEDICAL STUDIES AND  
MILITARY HYGIENE.

*Delivered at the opening of the thirty-third Session of the  
Army Medical School, Netley.*

BY

F. DE CHAUMONT, M.D.,

PROFESSOR OF MILITARY HYGIENE.

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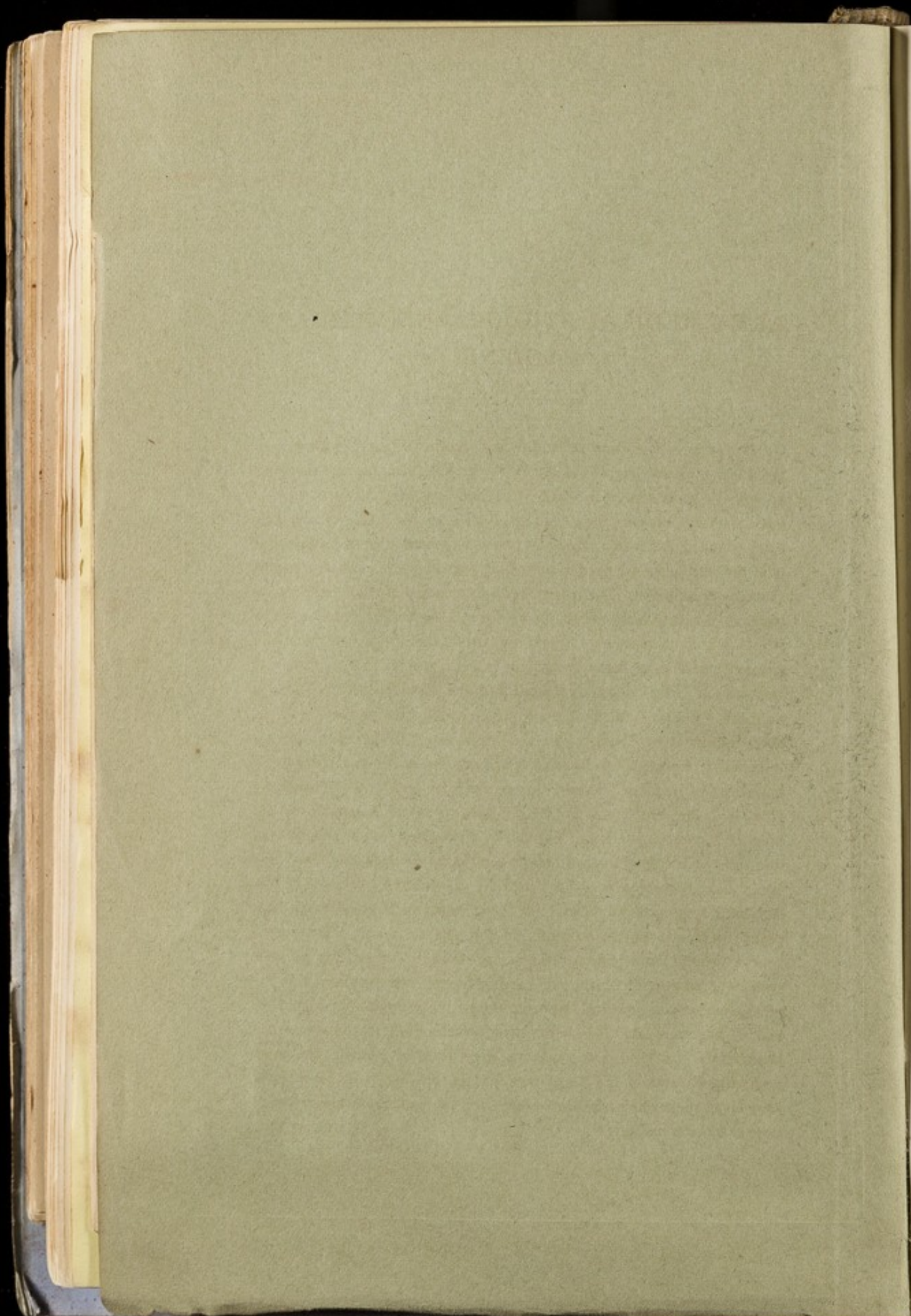
[Reprinted from the BRITISH MEDICAL JOURNAL, Oct. 28, 1876.]

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LONDON.

1876.







No. 6.

## ARMY MEDICAL STUDIES AND MILITARY HYGIENE.

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GENTLEMEN,—The duty of addressing you on this, the opening of the thirty-third session of the Army Medical School, having devolved upon me, I must commence with what both custom and courtesy dictate; namely, by welcoming you to Netley in the name of my colleagues and myself. And this I do not as a mere matter of routine, but with the strongest wish on our parts that your stay here may be pleasant as well as profitable. That it has been so to many of your predecessors we have reason to know, from the kindly and even affectionate terms in which they have spoken of Netley in after-times. That we have not always been able to please everybody, is simply to say that we have not been able to effect an impossibility; but the most frequent conclusion has been, I believe, that there are a good many worse quarters than this, even though it be coupled with the irksomeness of lectures and examinations. Some of our critics, both in and out of the public services, have been inclined to question the necessity of lecturing and teaching at all to men who come as you do with legal qualifications for the practice of your profession. To this we may reply, that we in no way lose sight of the fact that, although here so far *in statu pupillari*, you are in a very different position from that of students in school or college under ordinary circumstances. You bring with you (or are supposed to bring, which, however, in some cases is not synonymous) such a general knowledge of the science and art of healing as your systematic instruction on the one hand and your own experience on the other—where you have had opportunities of gathering it—have enabled you to acquire. But this is not wholly sufficient for the work you have before you; and it was with the view both of making you more profitable servants of the State, and also of making it more easy for yourselves to perform the duties required of you, that this course of instruction was instituted.



When a young medical man proposes to start for himself in civil life, he must serve an apprenticeship in some shape or another before he gets into the full tide of practice. He must be an assistant to some other practitioner; or, if his means allow, he must bide his time and gain experience slowly and laboriously on his own account. Even when a young man can step into a practice ready made, he but rarely commands the confidence of his *clientèle* at once, and not unfrequently suffers from the want of those nameless but necessary qualifications which can only come by matured experience. Some acquire them sooner than others, but they must be acquired for true success. Again, if a practitioner desire to take up any speciality in the profession, how much training must he go through, and how long a time must generally elapse, before he can make himself a sufficient reputation to induce the public to employ him! In former days, this preliminary acquisition of knowledge and experience the medical officer in the public services had to work out for himself. He passed a time, varying in length as the exigencies of the State demanded, at Chatham or Haslar, and was then sent to doctor soldier and sailor "with all his imperfections on his head". No instruction was given in military surgery, in the dietary or exercise of troops, the duties in camp or field, the precautions in epidemics or the like; whilst the man who was to take service with John Company went out to India without the slightest prejudice on the subject of tropical disease, his mind on that subject being usually a perfect blank. That mistakes were made on all sides we know well and freely acknowledge; but the blame certainly attached less to the medical officer than to the system that placed him in so anomalous a position. The truth is, the position of an army or navy surgeon is a most peculiar one, for there is no other man in the medical profession from whom so much may be demanded at any time, and who is so frequently thrown upon his own resources. Of course, to the mind of the public, when his name is mentioned, the first idea that occurs is the cutting and carving of his fellow-man on the field or in the cockpit; but this, important though it be, can, in the nature of things, be but a part, and only an occasional part, of his duties. Although it is for war that we are instructed, retained, and paid, yet we are not and cannot be always in the field; whilst many most valuable and professionally distinguished officers have never seen a shot fired in anger. But the medical officer has to deal with medical as well as surgical cases, and with varieties of them such as are likely to puzzle a novice or one who has not received special instruction in the matter. He is



also bound by the regulations to investigate the cause of death, as well as to diagnose and treat disease; and therefore he must be prepared not only to make *post mortem* examinations, but to give an intelligent and rational account of what he finds. Were these all his duties, they would be considerable; but they would not be far different from what an ordinary practitioner has to do in many cases, except in degree and variety. But there is still another wide and most important field of work, and that is the prevention of disease. Even at the risk of appearing to magnify my office as a teacher of this department of study, I may call it, without hesitation, *the most* important work; and it is here very specially that your duties differ from those of practitioners in civil life, whose main work is treatment, and to whom prevention means loss of money. It is, however, to the lasting honour of our profession that, as a body, they have ever been foremost in promoting the health of the people, without a thought that by so doing they were really taking the bread out of their own and their children's mouths. Still it is obvious that the duty of preventing disease cannot properly be carried on by a practitioner in active practice; and this has been, though imperfectly, recognised by the State. Unfortunately, in this matter, too much has been left to local and interested authority, and we see, as we do in this county, the Poor-law surgeon entrusted with the functions of health-officer, which he has not time to exercise properly; besides the fact that it places him in a position of difficulty, in having to deal with conflicting interests. Now, this duty of prevention of disease the army and navy surgeon is especially called upon to exercise, happily without the difficulties in most cases that surround his civil brother, although he has his own troubles, as you will, doubtless, find hereafter. Let me briefly point out the work before you in this line. You will be called upon to give opinions on the salubrity of sites, on the sufficiency and means of ventilation, on the quantity and quality of water-supply, on the sufficiency or otherwise of dietary, on the quality, purity, or adulteration of food and beverages, on the amount of work to be demanded from men, on the amount and character of their clothing; on the arrangements of camps and cantonments; on the precautions in time of, or in anticipation of epidemics; besides the special duties in time of war which occur in almost endless variety. To those I may add, for the naval officer, the various specialities of a sea life in addition. Besides all these, there are constantly questions cropping up which are referred to the doctor, not because they properly belong to his province, but because no one else can



answer them. Now, I may confidently ask, which of you is prepared to undertake, without previous instruction, the multifarious duties I have thus briefly sketched forth? It would, of course, be easy to give an opinion on those or on any subject; but, now-a-days at least, a man requires to give a reason for the faith that is or is not in him; and empty words without true knowledge are more or less quickly detected. I can only record my own experience, and I am sure it has been that of many of my contemporaries, that I was frequently called upon, when I first entered the service, to decide upon questions of which I not only knew nothing, but of which I had never had any opportunity of learning anything.

In a letter I received recently from a distinguished teacher of hygiene, whose name I shall frequently have occasion to mention, viz., Professor von Pettenkofer of Munich, he says: "It becomes more and more clear that the duties of a military surgeon form a speciality just as much as ophthalmic surgery or obstetrics, and that hygiene forms a most essential part of that speciality. Hitherto the young practitioner has too often had to plunge into the practice thereof without ever having received instructions in the principles." The speciality of the military and naval services has long been recognised in this country by those most competent to form a judgment, and it is now more than a century since the foundation of a school such as this was urged upon the Government of the day by the renowned Robert Jackson. At that time, however, the Government was too much occupied in wasting the country's substance in useless wars and alienating the affections of its own colonies, to have any time or money to spare for the establishment of an institution that had only public utility to recommend it. Who can say what blood and treasure were lost in consequence?

From that period down to the Crimean war, the history of the public services has been one of struggle on the part of the respective medical departments to get the authorities to recognise what was for the true interest and efficiency of their fleets and armies, and in this our Government did not stand alone; it was the history of all, and it has only been after bitter experience and a waste of both men and money that would amount to an appalling total, that the victory of science has been won.

It was after a long period of peace, unbroken in Europe by anything like a real war, that the terrible disasters of the Crimean campaign awakened the rage and shame of the nation. An army which had left our shores amid much excitement and in high hope was, in a few months,



reduced to a mere shattered remnant of scurvy-tainted and typhus-stricken scarecrows. The hospitals on the Bosphorus were crammed, whilst in the field whole regiments were represented by a corporal's guard. In the meantime, the casualties in action were comparatively few; and the people of England had the mortification to learn that, while money had been freely supplied, their soldiers were perishing from sheer want of administration and neglect of the simplest precautions. While 22,000 men perished in the campaign, barely one-sixth of those fell by the hands of the enemy. It is gratifying to know, however, that much as the medical department was blamed, it was really the one that least deserved it; for the late Sir Andrew Smith was able to show that he had not only foreseen the possibility of what occurred, but had actually warned the Government of it without effect. The same fate followed the medical officers of the French army, who foretold the terrible outbreak of typhus which occurred in 1855-56, and who were not only snubbed and their warnings unheeded, but in too many cases themselves fell victims to the very visitation they had too surely foreseen but had been powerless to prevent. Out of evil, however, good often comes; and those sad disasters were the cause that, as soon as peace was declared, a Royal Commission was ordered to sit and inquire into the health of the army and the organisation of the Army Medical Department. The body of evidence brought together is of a most valuable kind, and may be profitably consulted by medical officers of both services. The recommendations were very numerous, and, in many cases, have been carried out with most marked good effect. On some other points, however, they were before their time, and will only bear fruit when the people, and especially their rulers, are educated up to them.

One of the recommendations concerns us very specially to-day, for it is to it and to the enlightened efforts in carrying it out by the late Lord Herbert of Lea that we owe our being here to-day. It was, in fact, to give effect to the old suggestion of Robert Jackson and establish a school of instruction for the army medical officer, in which he might learn at least the principles that should guide him in the performance of his duties, which principles he had neither time nor opportunity of learning during his ordinary curriculum. Accordingly, the Army Medical School was established in our old quarters at Fort Pitt, Chatham, and opened with an address by my colleague Professor Longmore exactly sixteen years ago. On that occasion, its illustrious founder, Lord Herbert, was present, and said a few weighty and earnest



words in wishing God speed to an institution, which was a new, but destined to be a most successful, experiment. The school was peculiarly fortunate in its constitution, but especially so in the selection of those who were to fill its chairs for the first time. It would, of course, be unbecoming in the presence of my colleagues, who still happily fill some of them, to say much of them ; but there is one in whose praise too much could not be said, and who, alas ! is no longer here amongst us. Of those who were present on the opening day of the school, three have gone to their rest—Lord Herbert of Lea survived but a short time to see the success of his work ; Sir James Gibson, our then director-general, died about eight years afterwards ; and, six short months ago, the grave closed over Edmund Alexander Parkes, who may be truly called the founder of the science of hygiene. Of his pure and guileless life, his wonderful sweetness of character, and his scientific worth, my colleague Dr. Aitken gave us a most touching and eloquent account at the opening of last session, and since that the subject has received treatment at the skilled and loving hands of Sir William Jenner, Dr. Orsborn, and others of his friends and admirers. He was a man who never lost a friend and never made an enemy. Of his worth as a writer, you will have ample opportunity of assuring yourselves, as his work will be in your hands. Of the personal charm of his presence, which you, alas ! can now never know, I can speak, having worked with him so many years ; but it can only be to record what must remain a life-long regret, that the place that knew him can know him no more for ever. It is accepting no light responsibility to undertake to fill the chair of such a man, and I can only do so in the hope that I may be able to impart to you some of the principles he taught in the spirit that he brought to all he did, even although I may fall far short of so great an example. But to him I may apply the beautiful apostrophe of Lucretius to Epicurus :

“ E tenebris tantis tam clarum extollere lumen  
Qui primus potuisti, illustrans commoda vitæ ;  
Te sequor, *nostræ* gentis decus, inque tuis nunc  
Fixa pedum pono pressis vestigia signis,  
Non ita certandi cupidus, quàm propter amorem  
Quod te imitari aveo.”

Of him truly in matters sanitary might be said :

“ Tu pater, et rerum inventor ;”

and his words may well be called—

“ Aurea dicta,  
Aurea, perpetuâ semper dignissima vitâ.”

The apostrophe is especially applicable, seeing that, before the publi-



cation of his *Manual of Hygiene*, twelve years ago, most thick and palpable clouds of darkness surrounded the whole subject, and hygiene, both public and private, was for the most part a mass of scattered and ill-digested material, a mere jumble of empty sayings or else a farrago of absurd and ridiculous maxims. That facts and observations had been accumulated is true ; but, unless facts be made use of and reduced to some sort of usable order, they are unproductive. So well, however, was this done by my renowned predecessor, that his book has been the model of all others, the authors of which have done little else than copy the form, whatever they may have supplied in the details. It is a trite saying that there are no classics in science, and happy it is that it is so. It was not so once, when authority was allowed to have a voice in matters of fact ; now, happily, we believe the facts, and, if the authority be at variance with them, we reject the authority. But, if there can be such a thing in science as a classic, at least for a time, we may certainly accord that high place to the work of Parkes, for our generation, at all events. And this is due, not only to the industry in collection and the judgment in selection of data, but to the remarkable absence of bias displayed and the eminently judicial character of his mind, which permitted him to give every fact and statement its full value. As one of his friends said, in speaking of his writings and researches, "He died without a theory"; not that he was not fully alive to the importance of theories or the advantages even of hypotheses as aids to investigation, but he was so anxious to establish a sound basis of fact that, with a wisdom as rare as it is valuable, he left the theories to take care of themselves.

On this point let me not be misunderstood : when a man sees a *law*, he is not only entitled but he is bound to enunciate it ; but if he cannot distinguish between a law proper and a crude generalisation, his enunciation of it will only result in his own confusion, unless he take his stand like the famous Abbé who wrote a certain book, and, when he was informed that facts were against his conclusions, replied, *Tant pis pour les faits, mon livre est fait*. Theories wane and disappear, unless they are really the expression of laws ; but facts, if they be facts, are eternal, and he who establishes one furnishes at least one stone for a *κτῆμα ἐς αἰῶν*. The work of Parkes, both as a teacher and inquirer, was a good type of the kind of instruction it has been the endeavour to give at this school, where the effort has always been to make practical work its most prominent feature. Of course, principles must be taught as far as they are known, but in a profession like ours a practical ac-



quaintance with all parts of it is the only means of becoming a valuable member of it. I have already referred briefly to the work in general that lies before you in the public service ; but, although the same principles must guide all of you, there are differences of detail in each branch of it.

For you, gentlemen, who are about to make India your home, there lies before you a varied and useful career, of which the more especially military duty will form only a small part, the greater part of that being discharged by your brethren of the military service. But to you will be entrusted another and not less important work—namely, the care of the health and well-being of all those millions that crowd the teeming land of the East. You will have opportunities of exercising every department of your profession, both practical and scientific ; you will be the civil surgeons of the country, not only trusted in ordinary practice, but those to whom the Government will look for advice and information in everything that concerns the health of the people. On you also will devolve the instructing of the native population in science—natural, physical, and medical—a duty certainly not the least important and valuable when we consider that it probably forms the sole means of breaking down that superstition and prejudice which in all lands, but especially in India, are the great barriers to human progress. I look upon it that the office of the Indian medical officer is one whose importance can hardly be exaggerated : he is, above all others employed there, the true pioneer of civilisation. Descartes has said that if the perfectibility of human nature be possible, it will be through the medium of the medical sciences ; and it will be certainly through their influence that the deepest and most lasting traces of our rule will be left on the vast empire of India. Although the distribution of State honours and rewards has been but meagre in the Indian Medical Department, there is this to be said for the Government of India, that it has shown enlightenment in the fact, that it has been seldom slow to recognise a good man, in whatever branch of the state service he might be. A man, therefore, who will really work, and has a fair share of ability, may be well assured that he has in that country a career of both honour and profit before him. This has been so well recognised, that the service has never wanted men eager and ready to engage in it, and a long roll might be made of names great in science and literature, administration and diplomacy. The position of the medical officer in the navy or in the home army is so very different as hardly to be comparable with that of the Indian officer : all three are servants of the state ;



they have much the same grades and titles, and all may be called upon to serve in India among other stations ; but there, I conceive, the resemblance ends. With the exception of the first few years of his service, during which he is liable to a good deal of knocking about, the Indian officer has a fixity of tenure in his posts which is next to impossible elsewhere ; and, unless his health fail him, he rarely leaves a good post except to better his condition. In the navy, on the other hand, "knocking about" is, so to speak, the normal condition of the surgeon during the greater part—in fact, I may say up to the closing years—of his career. When to this came to be added other well grounded reasons of complaint, it was not to be wondered at that men were slow to respond to the call of the state for naval surgeons. Now, happily, many of those causes of complaint have been removed, and old-standing grievances redressed, so that now, although not all a bed of roses, the naval medical service offers a good career to a man who likes a sea-life, and especially to a man with a taste for travel and scientific inquiry. Apparently, however, the attractions of a sea-life are not so great as to induce many to adopt it at the time of life when medical men can enter. When a lad enters young, like a midshipman, he gets inured to his condition in the plastic period of life ; but it is difficult in later years to accommodate oneself to the inevitable annoyances of shipboard, among which, speaking for myself, I should include a continual tendency to sea-sickness, from which, however, neither Nelson nor Collingwood was entirely exempt to the end of their career. Another thing that has had an influence in limiting the supply of naval surgeons has been the monotony of life on board, the work being, under ordinary circumstances, comparatively small. On this point it is important to urge upon you all as much as possible to have some occupation or hobby with which to fill up vacant time. Many of your predecessors in the service have done this most successfully, and become distinguished both in art and science. Some occupation is certainly necessary, were it merely to check the tendency to pipes and grog, which is too often the outcome of idleness and vacancy of mind.

The medical service of the army, like that of the navy, has of late years suffered from a dearth of applicants ; and we have seen the curious fact, that although better paid as a whole than other branches of the service, the number has fallen short of the requirements, whilst there are for every commission vacant in the line three or four candidates, poorly paid though it be. For this there are several reasons : in the first place, the comparatively late period of life at which the



medical officer enters ; in the second place, the increasing market value of his services, on account of fewer men proportionately to the population entering the profession, and the numerous new openings in civil life in all parts of the world ; and, in the last place, the possibilities open to him are few, in this point differing materially from his Indian brother ; whilst in the case of the subaltern there is, theoretically, no limit to his advancement, or the nature of his employment. Of course, only the few draw the prizes of life ; but still there is a chance for all, and this forms an element of attraction which has been too often lost sight of.

The above are probably the fundamental causes of the difficulty, but there are of course others, among which we may reckon the frequent moves to which the army surgeon is exposed, a condition that will always operate more or less unfavourably. The consequence has been that the changes in the service have been numerous and frequent of late years, various plans having been tried and proposed. You are now, gentlemen, about to enter upon a career in the army which is novel in character, and of which, as such, it is impossible to say very much, bearing in mind the maxim of the American humourist, "Never prophesy unless you know !" It remains to be seen whether or no the present will be better and more successful than the schemes that have been already tried. The success or otherwise of the scheme is, however, a matter so far beside the question that it does not in any way alter the duties and responsibilities that will be thrown upon you. To you will be entrusted the care of the health of the army, by means of which we not only guard our own country, but also retain the dominion of our vast Indian empire and protect those of our other possessions that are exposed to the attacks of a foreign foe. Compared with Continental forces, our army looks small on paper, but, small though it be, it is a most costly article, and, therefore, its health and strength require to be husbanded with most jealous care. Our troops are estimated to cost about £100 a man *per annum*, our army vote for home and colonial service (excluding India) being between £14,000,000 and £15,000,000. We keep generally about 60,000 men in India, so that we must add at least £6,000,000 for them, but in reality far more, for the cost of a white soldier in India is very great. There are, therefore, at least £20,000,000 *per annum* required to keep our army on its existing footing. When war breaks out, I need hardly say the value of the soldier is greatly enhanced, and the importance of your services in the prevention of disease vastly increased.



Let us consider briefly what has been done of late years for the health of the soldier. The Royal Commission, appointed after the Crimean war, showed that our troops were dying at home, up to the date of that war, at the rate of nearly 18 per 1,000, or more than double the rate of men in civil life of the same ages. Had this continued, we should now be losing by death about 2,400 men annually, or a body equal to three battalions. As it is, the death-rate has now been reduced to one-half, so that at least a battalion and a half annually are saved; and, during the twenty years that have elapsed since the close of the Crimean war, a whole *corps d'armée* has been preserved to the state. In India, again, the death-rate was (in the prehygienic age) about 69 per 1,000, although the more violent fluctuations render it difficult to state an average with more than approximative accuracy. Now, the death-rate in India has been reduced below *one-third*, so that in round numbers 50 per 1,000 may be considered saved to the state. As we keep an army of 60,000 there, this means 3,000 men a year saved, who, under other circumstances, would have died. We have thus a body of more than 5,000 men annually, who are preserved from otherwise certain death by the more enlightened measures taken for their protection. In a mere money point of view, this represents an annual sum of half a million sterling, or more than the whole medical staff of white troops at home, in India, and in the Colonies, costs the state in pay and allowances. We may safely conclude from this, that, whatever may be his faults, the army medical officer has not been an unprofitable servant.

It may be useful to inquire into the causes of so advantageous a change in the health of soldiers and of so great a saving to the state. These have been carefully set forth from time to time in different ways, starting from the first report of the Royal Commission above referred to, and passing through the various reports, works, and papers that have appeared since. Although one cause appeared to be paramount, yet there were, as may well be supposed, several which worked together to the same end. The inquiry was instructive, because England was not alone in the position it held with regard to its army. The same thing existed in France, in Germany, in Austria, in Russia—in short, everywhere where the exigencies of defence or attack compelled the keeping of a standing army on the modern footing. In every case, the soldier died more rapidly than the civilian of his own age and class, even including the most unhealthy—and excluding the most healthy trades and occupations—such men as night-printers, bakers, miners,



night-policemen, watchmen, etc., had all a less serious mortality. Two diseases mainly caused this difference, neither of them, however, by any means strangers to the civil population; these were phthisis and enteric (or typhoid) fever. Now, although to these many influences contribute, there are certain master-causes which statistics and experience have shown to be especially powerful. For phthisis, crowding and bad air; for enteric fever, bad sewage and indifferent drinking-water. To know the cause of a disease is to be at least half on the road to its prevention, and accordingly an intelligent and enlightened use of the knowledge obtained from careful inquiry has resulted in the great reduction of mortality above referred to.

Although much, very much, remains to be done to reach the standard of perfection we hope one day to attain to, the results as yet have been so encouraging that we need not fear that we shall be less successful in our further attempts. Thus, the amount of fresh air at present supplied to the soldier is not much more than one-third of the amount we believe to be necessary, still it is a great advance upon his former condition, and the statistics of phthisis show us the good effects. What may we not hope for hereafter, when the full conditions of sanitary dwellings are attained to? Again, we have in too many cases much left still to desire in the matter of drainage in many stations, but such improvements as have been accomplished have reduced typhoid or enteric fever to an amount that would have seemed almost hopelessly small not many years ago. There seems, therefore, no reason to despair of stamping out that dreadful disease entirely, perhaps at no very distant date.

Other causes of amelioration of the soldier's condition may be found in his better dieting, especially in its variety and cooking; his improved clothing; and the better arrangement of his accoutrements, and the weights he carries. By these ameliorations, several diseases have either disappeared entirely or else become of extreme rarity. Among these, we may note all those of a scorbutic character, and the true contagious exanthematic typhus. Scurvy in any form is now hardly ever met with in the army; and typhus, which was by no means uncommon in my own recollection, is only met with on very rare occasions in time of peace. That the same causes will produce the same effects has, however, been shown again and again; and the amount of typhus and scorbutic dysentery in the Crimean war was a warning that our administration can never afford to disregard again, except at the peril of the indignation of the whole people. On the subject of diet, we have still



much to desire, the constituents being but badly arranged, here redundant and there deficient—the same mistakes occurring in other armies as well as in our own. With regard to the knapsack and accoutrements, the improvement has been great; and for this the greatest credit is due to the Committee which so long and so carefully inquired into the question, of which Committee my distinguished predecessor was the most active and useful member. We have now in our army a pack and a set of accoutrements which will challenge favourable comparison with that of any army in the world. Indeed, we may say that, other things being equal, men will go further and do more without distress, if equipped on our present plan, than under any other conditions that a soldier could be placed in on service. As regards the influence of the old style of equipment, I may refer you to numerous papers and monographs, especially the writings of Dr. Parkes and the Commission before referred to; those of my colleague Dr. Maclean, and the work of Mr. Myers of the Coldstream Guards.

As regards the question of drinking-water, it is less possible to point to positive improvement than in other things; still, much more interest is being taken in the matter, and extended investigations are being made. In places where the water was bad or doubtful, new sources have been opened up, either of a special character or by obtaining water from existing companies whose supplies were presumably pure. The same march of improvement has taken place in India, with equally gratifying results, and to a great extent in those Colonies where we still retain a garrison. Unfortunately, it has in many cases been uphill work; for we have had to contend, not only with difficulties of a physical and local character, but still more severely with the ignorance and prejudice of both uneducated people and those who are called educated. Perhaps the latter are the more dangerous of the two. The former may be got to follow a leader, if an enlightened man of strength of mind and steadfastness of purpose can be found; the latter, in their pedantic ignorance, assume a cynicism that tries to pooh-pooh the earnest efforts of science, and to push them aside with a little ridicule—often a fatally effectual method with the vulgar mind. We have, however, this consolation that, no matter what rebuffs we receive, science is progressive, and the future belongs to her and to those who worship reverently at her shrine. As it is, much ground has been gained, although in some cases we are merely recovering that which was lost (at least in Europe) during the period of darkness that followed the collapse of the Roman Empire. The precepts of personal hygiene are laid down with much



judgment and with wonderful precision, considering their opportunities, by both Celsus and Galen, not to speak of others even older. But, when dirt became the odour of sanctity, under the influence of fanatical devotees, personal washing went out of fashion, and every other sanitary precaution with it; and it was not till the revival of learning that people began to think that a little water, judiciously applied to the skin, might be rather beneficial than otherwise. How different from the days when Seneca exultingly spoke of the amount of bathing in cold water that he indulged in—"Tantus ego psychrolutes."

Again, the principles of the hygiene of camps are very well laid down by Vegetius; but how many scores of armies have perished since then from their sheer neglect! Aristotle carefully advises a separate source of drinking-water to be obtained—different from that used for other purposes. In how many modern cities is this attended to? Perhaps in one or two places, where dire necessity compels it under penalty of the most terrible consequences—such as Holland and such like places. To some extent it has also been done in Paris. The consequences of all this neglect was that the middle ages were devastated by plagues and epidemics, of which we find no recorded parallel in classical times. Throughout all the histories of Greece and Rome, the plagues there noted took place in times of forced circumstances, such as sieges, famines, and the like; but even then they pale before the records of the black death or the sweating sickness of later days. Even now, the reappearance from time to time of, as yet, mysterious maladies, but apparently resembling some of those so dreaded formerly, is a warning of what might befall ourselves if we took no precautions to ensure our sanitary condition. Fortunately, such precautions are being taken more and more carefully, so that now the cholera, or even the plague itself, would in all likelihood make but little way, if either did reach our shores. Even since our last serious visitations of cholera, we have acquired more sure grounds to work upon, and more extended knowledge of the conditions favouring the propagation of disease. The choice of a good site for a habitation has been insisted upon, from time to time, for many ages back; and what constituted a good site was a point but vaguely understood. Although the solid material of the ground is a matter of great importance, it is not the only point in the question. We now know that we have a subterranean as well as a superterranean ocean to deal with; that there is, at a varying depth beneath the sur-



face of the ground, a vast sea, which makes sober fact of the imagination of the poet, when he said that

“ — Alph, the sacred river, ran,  
 'Midst caverns measureless to man,  
 Down to a sunless sea.”

We know that this sea is perpetually in motion, and that, if we allow impurities to pass into it, it is capable of returning them to us with interest, either in the water we drink or in poisonous emanations. We know also, further, that we have a telluric atmosphere to deal with as well as our ordinary meteoric one; that this atmosphere contains a variety of constituents, and that its composition forms an index of some value of the impurities to which the soil has been exposed. Indeed, so great appear the telluric influences, that a most important school of hygienists, of which Professor von Pettenkofer is the distinguished leader, is inclined to accord to them the paramount power for good or evil, to the exclusion of almost everything else as a direct cause. Whilst we cannot quite accede to this view at present with the evidence we have, we still must admit, after the researches that have been made, that the soil is at least a most powerful factor in the question. At the same time, the localists admit that other insanitary agents help, if they do not cause, the propagation of disease. But, in the case of the action of drinking-water, we can, I think, go further; for there are groups of cases where cholera has been propagated under circumstances which could hardly leave a doubt that the water was the active cause. Thus, in Holland, it was found those people who drank the water of the Polders (or reclaimed lands) died of cholera at the rate of 17.7 per 1,000; those who drank well-water, 16.8 per 1,000; those who drank river-water, 11.9 per 1,000; those who drank rain-water filtered, only 5.3 per 1,000. The city of Amsterdam itself, supplied by an aqueduct with rain-water from the downs near Haarlem, had only 4 per 1,000.

Another striking point is, that in Rotterdam during the epidemic, as soon as fairly pure water was supplied in the public streets by the authorities, the mortality diminished immediately by one half, in spite of the difficulty experienced in getting the inhabitants to take it. I shall have occasion to cite other cases to you in the lectures on water during the course.

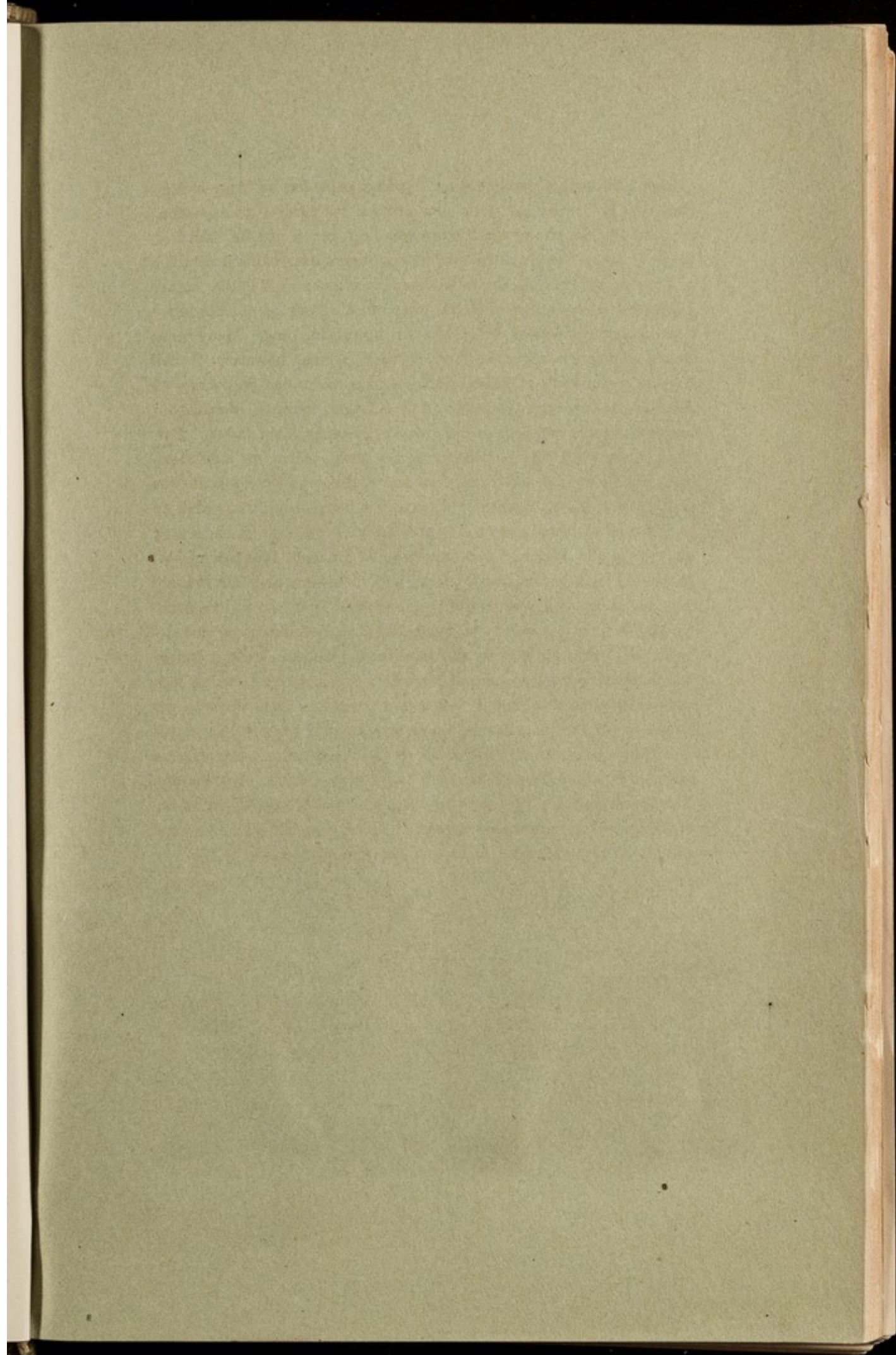
On the questions of air and ventilation, we have also certain definite data which serve as a basis of action in the supply of fresh air to habitations. So short a time ago as in the days of Arago, that distin-



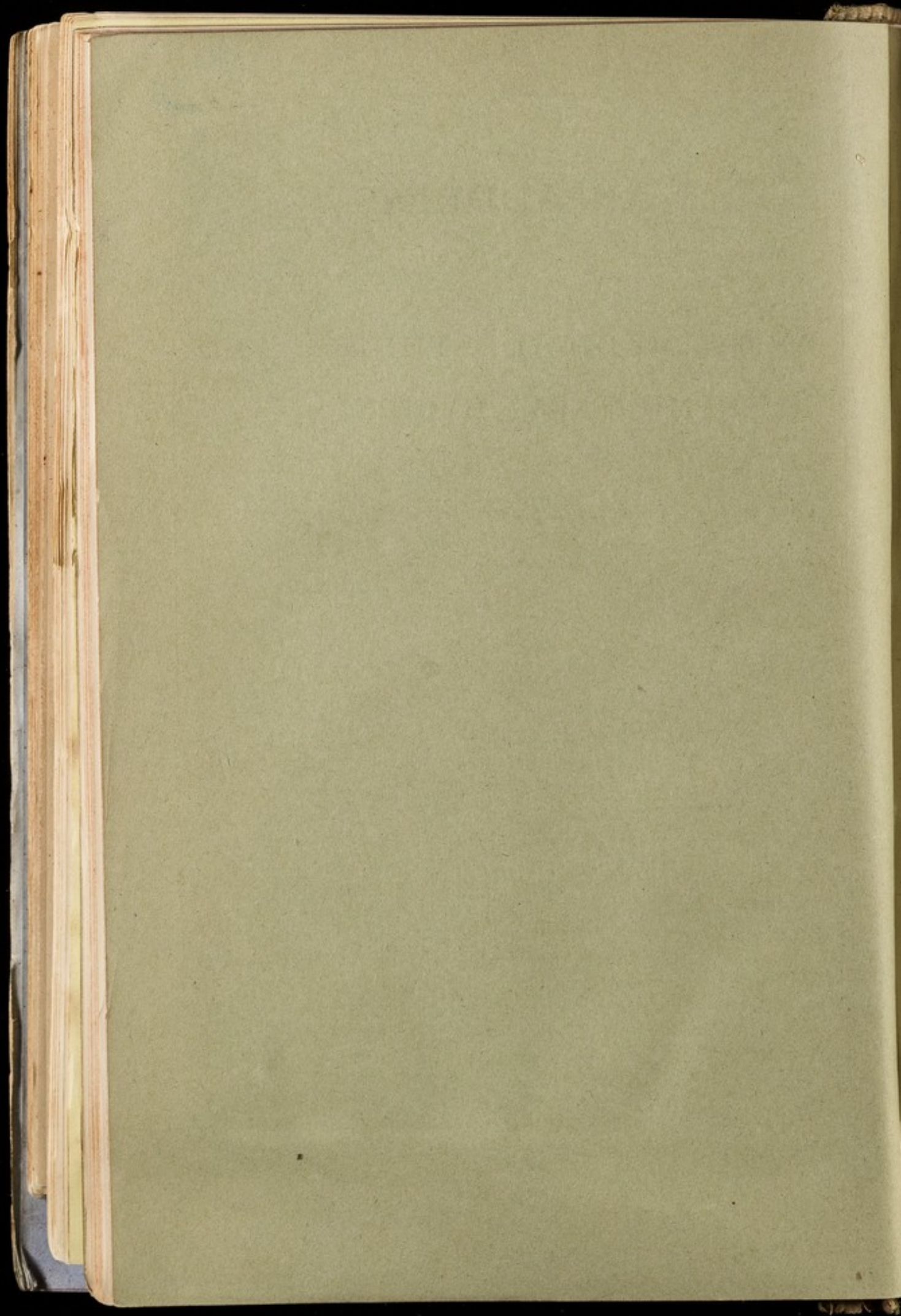
guished philosopher thought three hundred cubic feet an hour a sufficient supply for one man ; we now demand ten times that as a minimum for health, and as much more as we can get in disease. In fact, our sole object now is to imitate natural open air conditions as much as possible by removing limitations whenever we can and letting nature accomplish the ventilation itself. Of course, rigour of climate introduces special difficulties which have to be provided for. Many other points of interest might be touched upon, which, however, I shall have an opportunity of calling your attention to during the course. I may say, however, in conclusion, that a bright future is dawning for sanitary science, not only in our own but in many other lands. Formerly health was talked about and sung about, called the first blessings, *πρεσβιστὴ μάκαρων*, and what not, but comparatively little was really done. Now, however, the public is being steadily educated up to the level of knowledge, and a proof of it is the interest excited by the Congress of Hygiene and Sauvetage at Brussels, from taking part in which I have just returned. It is still in session, and has brought together many of the most distinguished men from the various countries of Europe. A variety of questions have been discussed and debated, and whatever may be the immediate practical result, it cannot fail to be the commencement of a great movement, connected as it is with an exhibition of sanitary life-saving appliances from almost every nation. The truth is, that the time may, perhaps, come, when people will think it less worth their while to fly at each other's throats, and more so to vie with each other in the common cause of humanity. Then, perhaps, they may come to acknowledge the truth of the saying of Cicero in his oration *Pro Ligario*, "Neque enim ullâ aliâ re homines propius ad Deos accedunt, quam salutem hominibus dando".

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No. 7

INTRODUCTORY  
LECTURE

DELIVERED AT THE

OPENING OF THE THIRTY-FIFTH SESSION

OF

THE ARMY MEDICAL SCHOOL,

ON

*THE 1st OF OCTOBER, 1877,*

BY

W. CAMPBELL MACLEAN, M.D., C.B.,

*Surgeon-General. Late Member of the Senate of the University of  
Madras, Professor of Military Medicine, Army Medical School.*

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*Da mihi, Domine, Sciri quod Sciendum est.  
De Imitatione Christi.*



With the Compliments of the  
Author -

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No. 7

SURGEON GENERAL MASSY, COLONEL GORDON, AND GENTLEMEN—

We are assembled to day to open the Thirty-Fifth Session of the Army Medical School. In the first years of its existence it was customary, indeed necessary, to devote the chief part of all introductory discourses delivered on occasions like the present, to explain the *raison d'être* of the school, to remove misapprehensions as to its aims and purposes then prevailing in otherwise well-informed professional circles, and to sketch the course of study on which those who preceded you on these benches were about to enter.

I have a right to assume that the misapprehensions to which I have referred, no longer exist; and my colleagues, when they meet you here, will explain to you the scope and extent of their respective courses in a more profitable manner than I can do in the brief time allotted to me. Suffice it to say for the present, that you are sent here to learn the specialities of Military and Naval Medicine, Surgery, Pathology, and Hygiene, at home and abroad, in peace and in war, and to learn the art of preventing, as well as curing the diseases to which fleets and armies are exposed in the discharge of their duties in all climates where the exigencies of service may call them, and to fit you in after years, to be the proper advisers of those in military command on all questions of health. It is to matters relating to your duties as sanitary advisers that I mean to confine myself to-day—I hope before I conclude to convince my audience that I have weighty and pertinent reasons for so doing.

There is one customary and agreeable duty which at this the very beginning of our intercourse here I must not omit, viz: to welcome the new comers, in my own name and that of my colleagues, and I am sure I may add in that of the Military Commandant, the principal Medical Officer, and all the other officers of this Hospital and School. Gentlemen, our desire is that the brief time of your stay here may be agreeably as well as profitably spent, so that in after years you may look back to Netley with feelings of pleasure, not only as the place



where you acquired knowledge found to be useful to you in the discharge of your duties, but also where you formed friendships that helped to sweeten your lives.

My colleague, the assistant Professor of Medicine, has already given you a sketch of your duties and responsibilities here. I need not therefore go over this ground again. You enter to-day on a new life, and come under conditions differing in many particulars from those to which you have been accustomed. At first some of the rules and customs of military life and discipline may appear strange, trivial, and even unnecessary ; and I do not forget that you come under the new conditions at a time of life somewhat later than those who begin a naval or military career in the combatant ranks, at a time of life in short, when there is perhaps less aptitude to conform easily to them. You must, however, bear in mind that you are not yet in a position to form an opinion of any weight on such a subject. A more extended familiarity with them will convince you that the rules and observances of which I speak are the outcome of ages of experience of their necessity in the fleets and armies of civilized nations. I may add that cheerful conformity to them is your interest as well as your duty. Your interest, because you will soon learn how much your work and relations with soldiers and sailors are facilitated by the temper and habits that under discipline become a second nature to them ; your duty, because loyal and cheerful obedience to the rules and regulations of H. M. Service, at all times, in all places, and under all circumstances, is a condition inseparable from the requirements of military and naval life. I hope it is in this spirit, so well calculated to promote your own happiness and usefulness in the services into which you aspire to enter, that you begin to-day the necessary preparation for the duties and responsibilities of Medical Officers, which it is our business to teach and yours to learn here.

In a letter written by the late Lord Herbert in his capacity of President of the Royal Commission appointed to inquire into the health of the army, which was prefixed to the Code of Regulations drawn up for the guidance of Army Medical Officers, you will find the following passage :—" We propose to commit to the Medical Officers



of the Army not only the treatment of diseases and injuries incidental to the service, but we propose, further, to invest the important function of advising commanding officers in all matters affecting the health of troops, whether as regards garrisons, stations, camps, and barracks, on diet, clothing, drills, duties, or exercises." In another passage, in the same letter, it is added, "the experience, moreover, so acquired," that is, in time of peace, "in dealing with questions of army hygiene, both on the part of commanding and medical officers, would materially aid the former in deciding questions arising during war, in which strategic and sanitary considerations have to be weighed together." In subsequent paragraphs the supremacy of the officer in command is laid down in very precise language, leaving to the adviser the responsibility of his advice only, and to the commanding officer the sole authority to decide. It is provided that when advice of the kind above indicated is conveyed to an officer in command by a responsible medical officer in writing, if that advice be rejected, the officer in command should shortly state his reasons for non-compliance in writing, so as to insure that the advice shall not have been inconsiderately rejected, and that the responsibility of the adviser may be covered when the matter comes under review by the superior military authority." These recommendations were embodied in the regulations.

You will thus see that a grave responsibility is in store for you, and another passage in the important letter from which I have quoted, intimates, that it is in the Army Medical School you are expected to receive the needful training to enable you to discharge such responsible duties wisely and well. It follows that if you desire, (taking the lowest possible view of this serious duty,) to avoid bringing yourselves, your profession, and your teaching into contempt, it is here, within the next four months, that at least the foundation of the necessary knowledge must be laid, to be afterwards extended by study, by observation and experience, to fit you to advise to good purpose on questions involving health, life, efficiency, and money.

It has been whispered that some men have gone forth from this school, whose advice, on such subjects, has not been thought worthy of the respect it is our earnest desire should always attach



to that given by men trained here. We sincerely wish that those who have fault to find, instead of indulging in inaudible whispers in corners, would come out into the light and tell us plainly what it is that has caused this discontent. I can promise them a respectful hearing from the Professors of the School; we want above all things to learn the nature and extent of these whispered short-comings; but although we strain our ears to the utmost, we can only gather vague hints that some of the young medical officers from Netley are too much given to "theory," that their advice is "unpractical," "involving the expenditure of too much money," and so on. Now, since this school was opened one thousand four hundred and eight medical officers have passed through it. I am not here to say that all of them could be pronounced safe guides on every question on sanitation that may have been referred to them. We do not profess to have discovered any royal method of teaching by means of which we can level up to one high intellectual standard men of every degree of mental capacity. Nor, in my passage through life, have I anywhere seen anything of the kind accomplished. It is not given to every man who is called to the bar to win verdicts, or to develop the qualities required to adorn the judgment seat; nor do I find that every man on whom a bishop imposes his hands, of necessity blossoms into a brilliant preacher or a sound theologian. But of this I am quite sure, in no year since this school was established have we failed to send out men capable of being sound advisers on every question of public health. We have never failed to bring such men prominently to notice, and if they are not employed in the work they are most capable of performing, the blame does not rest on us.

I have characterized the half-audible complaints that have reached us as vague. To say that the advice given by some Netley trained officers is too "theoretical" really conveys no information. It may mean merely that it was not acceptable to the person or persons to whom it was given, for reasons that may or may not be reasonable. Or it may be that the reasons for the advice, said to be too theoretical, were not appreciated or perhaps understood. The advice to issue lime juice in the Arctic regions was said to be a "medical theory," a "matter



of opinion." It was rejected; the very able and distinguished officer in command, for whom we have all the highest respect, had his "theory," his "opinion" on this purely medical question, and he acted on it on his own responsibility, in the face of a principle resting on the sure basis of rational medicine and experience, and the result we know. When the Sanitary Commissioner of Madras told Sir Richard Temple that a labourer on the famine works in the south of India, could not maintain himself in health on 16ozs. of rice *per diem*, supplemented by such additions to his ration as could be purchased by a sum of money equal to three farthings, in a time of famine, he was told that his, (the Sanitary Commissioner's opinion) was "an abstract scientific theory." Dr. Cornish replied, that he had stated a *fact*, the outcome of scientific experiment and observation, that as the human frame disposes of a certain amount of nitrogenous matter every 24 hours, a like amount must be taken into the body in food to restore that waste, otherwise the tissues of the body will gradually disappear, and that one pound of rice containing only from 68 to 80 grains of nitrogen, and a small money payment, equal to three farthings, would not suffice to enable a labourer to provide a sufficiency of nitrogenous food to restore his daily expenditure of tissue.

This so called "theory" was deduced from careful experiments by competent scientific men, supported by inquiries into the dietaries of various races in India, and by recorded observations on the effects of different diets on the persons of an immense number of prisoners in the gaols of that country. Sir Richard Temple's one pound of rice, plus three farthings theory, on the other hand, was a creation of his own brain, unsupported by any experimental or other evidence. One is here inclined to ask, "if belief based on unvarying experience is irrational, how much more irrational must belief be which is opposed to that experience?" Nevertheless his theory was put in force on the famine works. It is not asserted that as a consequence men died of direct starvation, in the way they do when all food is withheld, but Dr. Cornish proved by careful examination that in every famine camp in southern India where this diet was issued, the mortality from famine diseases was 930.8 per 1000, a death rate, as the Sanitary Commissioner explained to Sir Richard Temple, which wipes out the whole of the



living within a year. Need I ask my audience to contrast advice on a great question of health, rather let me say life, founded on rational medicine, with the action of a high functionary who prefers the rule of thumb to "scientific theory." If I were asked to give examples of the danger of divorcing sanitation from rational medicine, I could find none better than those I have given you ; and I venture to add this, that the dullest man, with the least receptive mind, that ever sat on these benches, could have forecast the danger of withholding lime juice in the Arctic regions, and administering famine relief on a scale of diet such as was ordered by Sir Richard Temple, on no principle save that of economy.\* As to the other whispered accusation that the advice given by some medical officers on sanitation was "unpractical," knowing nothing of the facts, nor the nature of the advice given, we here are not in a position to say whether it was "practical" or not. But this I can say, I have heard the same objection urged, again and again, as a sufficient answer to almost every proposal to correct sanitary mistakes that would now be regarded as a disgrace to any civilized community.

Again, it is whispered that the advice given by some Netley trained medical officers is too costly, involving the excessive expenditure of money. If the word "excessive" be rightly used here, the advice tendered must be regarded as reprehensible ; but here again, in ignorance of the facts, we are not able to say whether in any particular case the proposed expenditure was or was not excessive as compared with the importance of the end in view. It unfortunately happens that few sanitary improvements can be effected without the expenditure of money. If we build houses or barracks in insalubrious positions, or so construct them as to make them unhealthy, money must be expended to re-build them elsewhere, or to correct original faults in their construction. If we expend a quarter of a million of money in building an iron-clad, and after it is ready for sea discover that all means

\*The government of Madras finding the mortality on the famine works under the Temple diet so enormous, were obliged to cancel it, and so justified the opinion, given at the outset, by their own commissioner, an opinion which hardly needed the further confirmation given in the reports of *post mortem* examinations of the bodies of men dying in the famine camps from mal-nutrition, by Doctors Lewis and Cunningham.



of ventilating it were left out of the plan, as men cannot live without air, means must be found to supply it. This, which if thought of at first would have been a cheap and simple operation, becomes now one of the most difficult and costly problems in naval architecture. In a late notorious example an attempt of this kind to improvise a rude and inefficient system of ventilation was one at least of the factors that sent an ill-fated ship to the bottom, with a rapidity only to be achieved by an iron-clad when bound in that direction.

The subject might be illustrated in this way to any extent, for as Dr. Richardson's City of Hygeia is yet in the future, it is only by the expenditure of money that sanitation has brought our houses, our barracks, our hospitals, our workhouses, churches, and theatres, and other places of public assembly, in some degree up to the requirements of modern life, and far short as our cities may yet be of Dr. Richardson's ideal, they have only been brought into their present state of, it may be imperfect sanitation, by an outlay of means that to our forefathers would have appeared impossible and as useless as impossible.

Gentlemen, I served in India in the pre-sanitary age, when it was thought the proper and only business of our profession to cure, not to prevent disease ; therefore these mutterings, that come to us from that quarter, are not unfamiliar to my ears. It is nothing new to me to hear that the proposals of medical officers to mitigate the effects of climate and banish local sources of disease, are stigmatized as "theoretical," "unpractical," and "wasteful." Sixty-nine or seventy per thousand was the normal death rate of the European soldier in India, if the authorities were satisfied with it, their medical officers were not, and, speaking on this subject with knowledge, I assert they never ceased to argue that this terrible mortality was due to remediable causes ; to the quartering of troops in unhealthy stations, to ill contrived and unwholesome barracks, to the malposition, faulty construction, and bad conservancy of latrines that poisoned the air of the dormitories ; to over-crowding ; battalions a thousand and twelve hundred strong being quartered in some instances in buildings built for seven hundred men, to a polluted water supply, to unsuitable



and ill-cooked food, to a faulty system of dressing and accoutering the soldier, who up to the time of the Sepoy mutiny, as my colleague Surgeon-General Longmore can tell you, was dressed in Calcutta in the dog-days as if he had been serving in Canada. To want of attention to times and seasons for marches, duties, drills; to the neglect of health resorts so profusely supplied by nature, that even Hyder Ali, one of the bitterest enemies of our race in India, was amazed that we had not the sense to see their value for the protection of the European soldier from the hot and malarious plains, to the neglect of means of wholesome recreation for mind and body, and, as the outcome of all these neglects, debauchery and drunkenness. These are now matters of history, but I remember when the remedies that have been since applied, without stint of money by a liberal government, were suggested, they were scouted as the dreams of "theorists" that could never be realized. When the medical officers of Bengal declared that a system of drainage and a pure water supply for Calcutta were points of primary necessity, they were thought fit for Bedlam; the first was said to be an engineering impossibility, and both, on financial grounds were declared impracticable, yet both, at a cost of two millions, are accomplished facts. I have more than once referred to the mysterious whispers that have reached us, one more remains to be told: the remedy for "theoretical," "impracticable," and "costly" sanitation is to give up teaching hygiene altogether, to divorce sanitation from rational medicine and resort to the rule of thumb. We have already had this morning glimpses of the history of the past when this system had a fair trial, but the subject is so serious, and the issues involved in such a proposition are so momentous, that you must excuse me if I invite you to take another retrospect of the past, which I think is the fairest way to enable us to forecast the future under such a system. But first let me ask, are the people of England prepared to admit that Dr. Parkes lived and laboured in vain? are we to be told that the work he did, that the lessons he inculcated from the spot on which I stand, and which are embodied in a work that has made his name famous wherever science is cultivated, are of no value and of no account, because they are deeply rooted in scientific medicine? or, taking another view, are we to suppose that the Manual of Hygiene, the text book of sanitation here, is to be taken as a final



exposition of the laws of health, that any one can apply in practice without special instruction or training? if this be true as regards the laws of health, it must be equally so as regards every art and science on which text books and other aids to instruction have been written ; and, as regards finality, speaking as I do in the presence of those best acquainted with the sentiments of our lamented colleague on this and all other educational matters, I affirm that no one would have more strongly repudiated the notion of finality in science than Dr. Parkes, whether as regards his own teaching or that of any one else.

When I invite your attention to some of the disastrous effects that in times, comparatively speaking recent, have followed from the neglect of the teachings of science applied to health, I hope no one in this assembly will for an instant suppose that it gives me any pleasure to rake up the memory of those disasters. So much, of late years, have I regarded them as mistakes of the past, as unlikely to be repeated as the Heptarchy to be restored, that although my business here is to teach military medicine, I have of late years almost ceased to mention them, willing that in more enlightened days they should be allowed to sink into oblivion and be heard of no more. But when thus indirectly challenged, and in the face of such examples as are furnished by the late Arctic expedition, and the famine dietaries in southern India, it is made too evident that the old spirit yet lives, and only needs encouragement, or even impunity, to be as rampant as ever, I feel it my duty to recall them. My only difficulty is to know where to begin and where to stop, my only embarrassment, is the "embarrassment of riches;" let me add, that while I cannot speak with any respect of the opinions on which the acts I am about to detail were based, I hope it will not be thought that I mean to attack the authors ; most of them have gone where flattery cannot soothe, or censure wound, and so far as their characters are concerned, they are safe from both from my lips.

If ever a war was waged since the siege of Carthage in defiance of climate, of season, of food, of health considerations, as regards transport by sea, and quarters on land, it was the first Burmese war. In that expedition were medical officers of rank and experience in tropical war, belonging both to the British and Indian



armies. Whatever may have been the qualifications of the officer in command, he was deficient in knowledge of the laws of health in any climate probably, in a hot climate certainly. Seeing the inevitable outcome of the way in which the expedition was being conducted, the needful advice was tendered ; the reply was memorable, it has outlived, much in his career that its author would rather have wished remembered :—"medical advice is a very good thing—when it is asked." The commander persisted in feeding his European soldiers on meat which, as it was "cured" in the dog-days in Calcutta, was half putrid. Martin, a competent eye witness, if ever there was one, has placed on record the result, 48 per cent. of them died of scorbutic dysentery in ten months. The same authority tells us that he saw forty men in one regiment die from this cause at Prome in one night. At Aracan in the same war, five thousand, five hundred soldiers, native and European, were struck down by disease, "without reckoning the sick of the public establishments and the camp followers"; soon every one who was not dead was in hospital. Of the original force three fourths perished, and the miserable survivors were ruined in constitution—none living long after. "It is thus," as Samuel Johnson said, "that fleets are silently dispeopled and armies melt away, men being whelmed in pits or heaved into the ocean without notice and without remembrance."

If I am told that all this devastation was the unavoidable consequence of war in such a climate, the answer is obvious, we have since made war under happier auspices in climates in comparison with which that of Burmah might be regarded as salubrious, with a death rate not exceeding that of an ordinary Indian cantonment in a fair sanitary condition in time of peace.

Nearly twenty years later we made war on China in forgetfulness of the bitter lesson taught in Burmah. As a distinguished military friend of my own, who served in both campaigns, remarked to me at the time, "it is Rangoon all over again." I saw in the month of July, 1840 H. M. 26th regiment land on the wharf in the island of Chusan 900 strong. In two months the officer in command could not parade an hundred men fit for duty. They had been quartered in a corner of a filthy city, and fed on meat in the same condition as that issued to the



troops in Burmah. The result was the same—scorbutic dysentery ; with the exception of the sickly remnant above mentioned, the men of the 26th Cameronians were dead or in hospital. Take another illustration of the effects of the same spirit shown in a different way with like results, differing only in degree :—Towards the end of the same war, the 98th regiment joined the expeditionary force under the command of an officer, at that time without experience in tropical war, but who subsequently won great renown in the bloody drama enacted in India fifteen years later. This regiment landed to take part in the last military operation of the war, the capture of Chin-kiang-foo. The men disembarked in “heavy marching order,” with their leather stocks on, their coats tightly buttoned, their shackos on their heads, with their knapsacks, greatcoats and blankets on their backs, and three days rations in their haversacks. The day was intensely hot. It was pointed out that men could not march and fight in such a temperature so encumbered without enormous danger, for the obvious reason that the functions, the vital functions of respiration and circulation could under such conditions be only imperfectly carried on. The answer was, “you shall see how one of Her Majesty’s regiments should go into action.” The duty assigned to the 98th regiment was to capture a steep but not very lofty hill that dominated a corner of the city about to be attacked. This duty was gallantly performed. But before they reached the summit fifteen men fell, gave a few gasps and instantly expired—they were killed by the sun not by the enemy ; and during the day a great many more were brought to hospital suffering from heat-stroke, of whom not a few died. If you will turn to the Manual of Practical Hygiene, in all your hands, you will find a description of the scene, and to the truth of that description I am a living witness. The regiment nearest to the 98th on that day (the 18th Royal Irish, of which I was in temporary medical charge,) fought in shell jackets, open, the men’s throats bare, without great-coats or knapsacks, and not a man died from heat-stroke.

Once more—a regiment which in Spain had been under the command of a distinguished officer who won great honour by leading it in many of Wellington’s most famous battles, arrived in Madras, at a time when its old commander was in chief command there. This officer



determined that without delay his old regiment should have the best station in the command, viz: Bangalore. It was pointed out that to effect this it would be necessary to move the battalion then occupying it in the midst of the rains. Inspector-General Donald Macleod, an old friend and Peninsular companion of the commander in chief, urged delay, on the ground that to move the 62nd regiment from Bangalore to Masulipatam at such a season would destroy it. I presume this gallant and distinguished officer, a stranger to India, did not believe his medical friend and legitimate adviser on such a point. The order was given, it proved a sentence of death to many a brave man. The march was made. Dr. Macleod inspected the regiment when it reached the terminus, and reported fifty men fit to bear arms, the rest dead or in hospital, sacrificed to gratify a mere sentiment. A very few years ago an order reached the General in command at Mhow in the Bombay presidency, to send a detachment of artillery with many women and children to Poona, in the Deccan. The civil medical officer of the district which lay in the line of march, reported to the proper authority that cholera was raging in the district. This information was conveyed to the officer in command without delay, and the danger of sending men, women, and children into the tainted district was pointed out. The General did not think this a sufficient reason for delay. It was in a time of profound peace. The order to march was given. The detachment entered the "tainted district." The result was not long to wait for, a mortality of men, women, and children immediately followed so shocking as to raise a great outcry, first in India and then in England, for this did not happen in the pre-sanitary age, it entered the ear of parliament, and the General was deprived of his command.

It is not my intention to repeat here the terrible history of the Secunderabad barracks so long and persistently occupied in the face of a terrible mortality from local sources of disease, and faults of construction in the barracks themselves; I have elsewhere pointed the moral of that sad story. Let it suffice to say here, that in the face of the experience of the past, and the most urgent and earnest remonstrances on the part of competent medical advisers, the barracks were in the year 1835-36 rebuilt on the old site, with a repetition of nearly all the old faults of construction, although 2620 soldiers between 1804 and the date



mentioned above, had died mostly from dysentery within their walls, and this pest house continued to be occupied, with a mortality hardly less shocking, until after the Sepoy mutiny. The money value of the lives wasted in the buildings was computed at £150,000. Sir Alexander Tulloch, a military, not a medical statistician, communicated to Sir Ranald Martin, as the result of his inquiries, that from 1815 to 1855 inclusive, not counting casualties in war, 100,000 soldiers died in India from diseases, chiefly attributable to mistakes made in the selection of proper localities for military occupation, the money value of the loss being £10,000,000. Dr. Robert Jackson, the most eminent physician and sanitarian the British army ever produced, of whom Sir Ranald Martin said, "that he united the most active and enlarged benevolence to the utmost firmness," showed that by easily applied remedial measures the death rate among white troops in Jamaica, which for a long series of years amounted to the enormous figure of 120 per 1000, could be reduced, chiefly by using mountain ranges for military occupation and by a system of diet better adapted for a hot climate. His measures were not adopted until Lord Metcalfe was appointed governor of the island, more than a quarter of a century after Jackson's death, when the mortality fell at once to a little over 30 per 1000, and has since been reduced to a little over the death rate in England.

But enough. Let me not pursue this ungrateful theme further. There is at least one thing on which we as medical men can reflect with satisfaction when taking this sad retrospect, our profession was not responsible for these national disasters, they were not due to ignorance on the part of medical authority, on the contrary, in every instance the predictions of sanitary science, before the events, were without qualification sustained, although we cannot doubt that when the warning voices were raised, their utterances were deemed "theoretical," "unpractical," and "costly."

When dealing with a question of this kind it would be affectation to pretend ignorance of the fact, that there is a school of sanitarians in this country, not a large school perhaps, but one not without influence, holding opinions not in harmony with our teaching here, on certain points, and not unlikely to sympathise, to some extent, with those who hint



that the instruction on sanitation given in the Army Medical School is too theoretical. Now, for those who belong to this school who happen to be known to me, I entertain the utmost respect, nothing is further from my mind than to say anything calculated to offend them, but of their doctrine, I suppose I must not say their "theory," I cannot speak with respect at all. I believe it to be profoundly and demonstrably false, and if applied in practice, dangerous to the health not merely of fleets and armies, with which we have chiefly to do here, but to the whole community. This doctrine reduced to its simplest expression appears to be this. Given any unsanitary conditions, filth, over crowding, bad ventilation, bad drainage, impure water supply, and so on, the outcome is an accident, it may be small-pox, or scarlatina, or measles, or typhus, or typhoid fever, and, so far as I can understand the authors of this doctrine, even cholera. In other words there is no such thing as a specific disease, or a specific contagium, and that none of the diseases I have named are capable of being propagated from person to person. Now we teach here that the poison of small-pox can produce only small-pox, that of scarlet fever only scarlet fever, and so on, and that the diseases I have named are contagious, and under certain conditions contagious in a high degree, and we base this teaching on a mass of evidence scientific, experimental, and historical. That as regards cholera and typhoid fever, while what passes from the persons of those affected may in the first instance be innocuous, such matters after having undergone certain changes, the exact nature of which is still a point for inquiry, if allowed to mingle with drinking water become one at least of many ways in which these terrible pestilences are propagated and carried from tainted to healthy places. This doctrine is a stumbling block and a rock of offence to this school; we base it on evidence of the same kind as that already referred to, and we draw from it some of the precautions in military and naval hygiene which we deem of vital importance to the safety of fleets and armies as well as to the civil community. I know this is called "theoretical teaching." Now, I challenge those who hold that there is no such thing as a contagium of any kind, and no such thing as a specific disease to explain this fact. In India, in its great cities and centres of population, we have every unhygienic condition known to sanitarians,



and yet true yellow fever is not and never was known on the continent of India. Why is this? we say, because the specific entity that is the cause of the true *vomito* is not there; it has a zone, a habitat of its own, from whence it has been carried into regions far from its birth place, carrying with it its most notable peculiarities, its tremendous death rate, its disposition to confine its ravages within a limited area, a tainted district, and that it cannot exist or propagate itself anywhere where the mean temperature is below 72°F. On these and other facts of the same kind we here base some of the most important points in our hygienic teaching, the neglect of which in the presanitary age has been the cause of some of the most terrible disasters by sea and land. In like manner we teach that cholera is a specific disease, having in Dr. Bryden's language but one "endemic area," and that while like the terrible *pestis flava* of which I have spoken, it can make on its "tours of invasion" the circuit of the globe with destructive energy, the specific entity which makes cholera differ from every other disease is generated in one locality only. This I say is a doctrine hateful to some, and I think I may safely say to those who can at least sympathise with, I won't say the cry, I wish it were an articulate sound, but the insidious whisper of those who say that the Netley teaching is too "theoretical." Here I must pause, but before I conclude let me say to those who this day begin their studies here, that I do not wish to discourage you. We have made an enormous advance on the evil days of which I have spoken, an advance so great that I believe it is only those who like myself have lived through the old system and seen the new, that can really appreciate the difference. If the critics of whom I have spoken were to succeed for a time in accomplishing what they make no secret is their desire, to divorce sanitation from medical science, it would not discourage me, and it ought not to discourage you. I believe there are forces in this age with which, whether they know it or not, they will have to reckon, and these forces will prove too mighty for them. To borrow a stale simile, to careless observers the advancing tide may often seem to recede, but only to make fresh inroads on the land with the next impulse of the directing force. To push this well worn simile a little farther, if you stand on the beach below this hospital you may often observe that the flood tide carries on its crest some of the scum

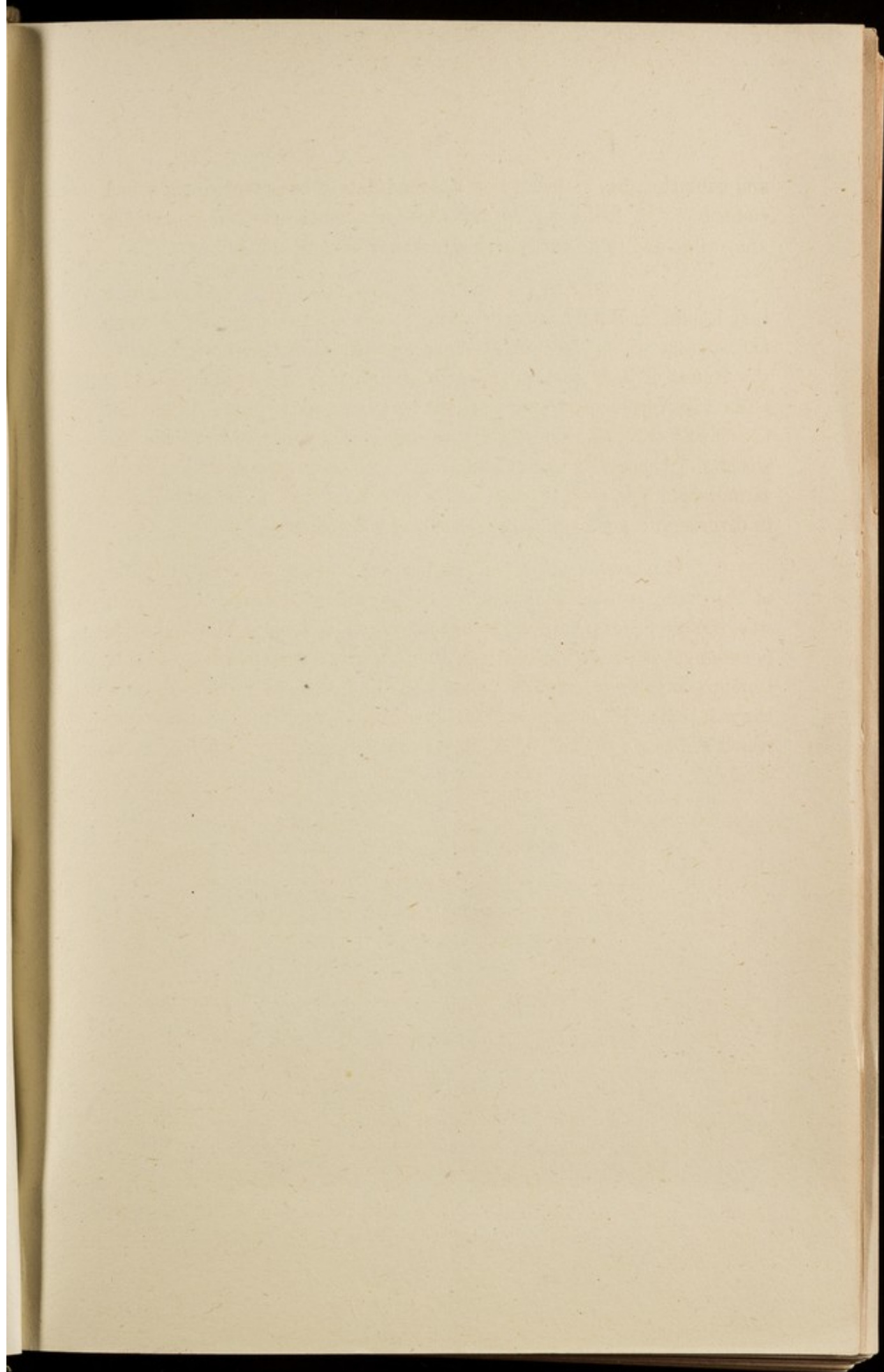


and rubbish it has picked up on the mud flats it has covered, not a bad emblem of the follies with which those whose business it is to advance knowledge and to do battle with ignorance have to contend.

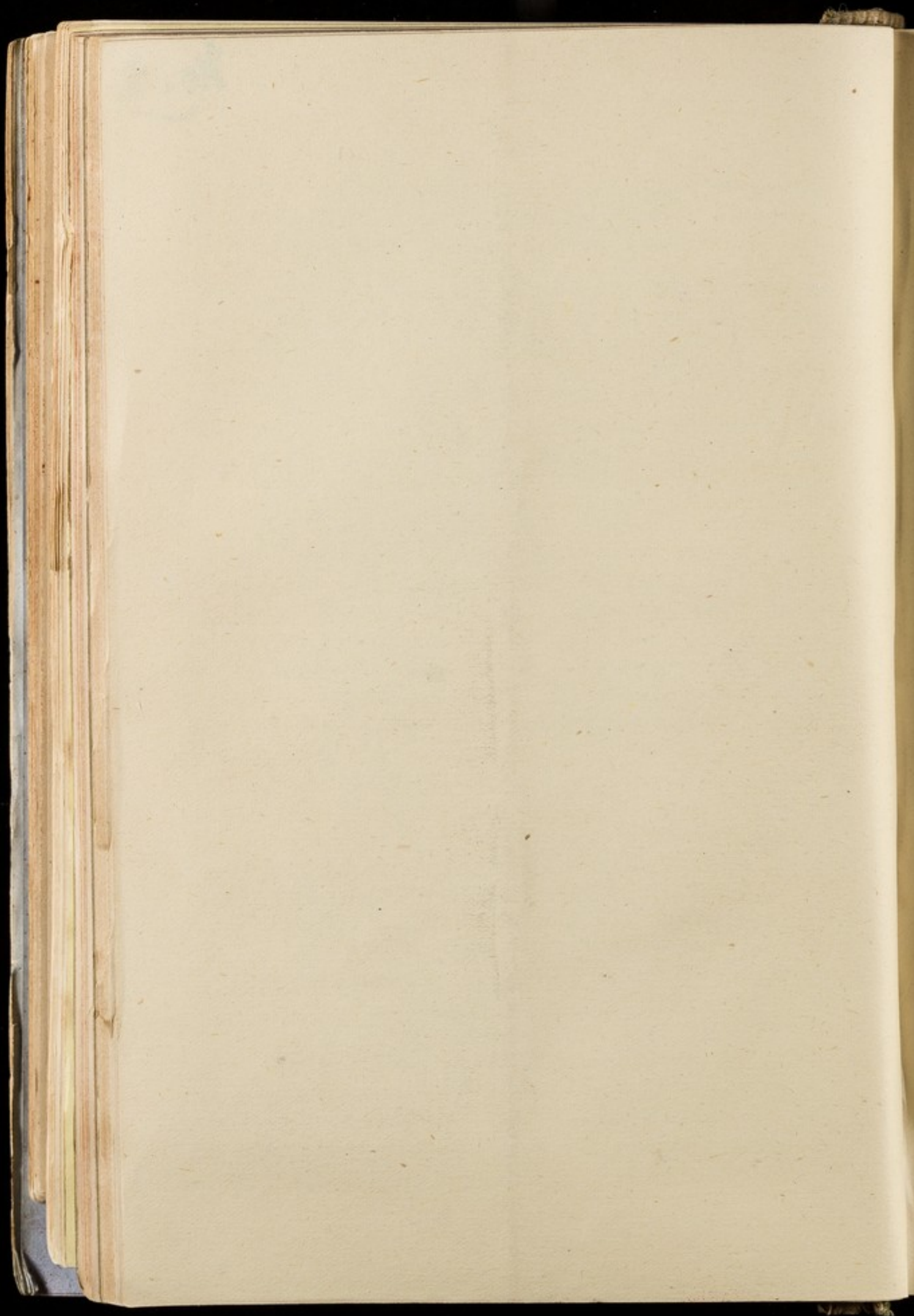
I hope none of you will leave this hall under the impression that I think it a light or easy thing to advise on the health of fleets and armies. So far from this, I urge you with all earnestness, to use to the utmost of your powers and with all diligence, the means placed by a liberal government at your disposal here to prepare yourselves against the day of trial, so that when that day comes you may vindicate the wisdom of those who founded this school, to teach you how to prevent as well as how to cure disease, and so put to silence those who desire to divorce military hygiene from medical science.

For myself and my colleagues I venture to say, that, mindful of the example of the great teacher of the laws of health in this School, who, though dead, yet speaks to us and to you, so long as Her Majesty's government is pleased to continue the confidence with which up to this time we have been honoured, we will in the future, as we have done in the past, base our teaching on military sanitation on the only foundations which will stand the test of time, viz : rational and scientific medicine.











No. 8.

# AMPUTATION;

An Historical Sketch:

BEING THE SUBJECT OF

THE INTRODUCTORY LECTURE DELIVERED AT NETLEY,  
IN COMMENCING THE THIRTY-FIRST SESSION

OF THE

ARMY MEDICAL SCHOOL,

*1st OCTOBER, 1875.*

BY

SURGEON-GENERAL T. LONGMORE, C.B.,

HONORARY SURGEON TO HER MAJESTY;  
PROFESSOR OF MILITARY SURGERY IN THE ARMY MEDICAL SCHOOL,  
ETC., ETC.

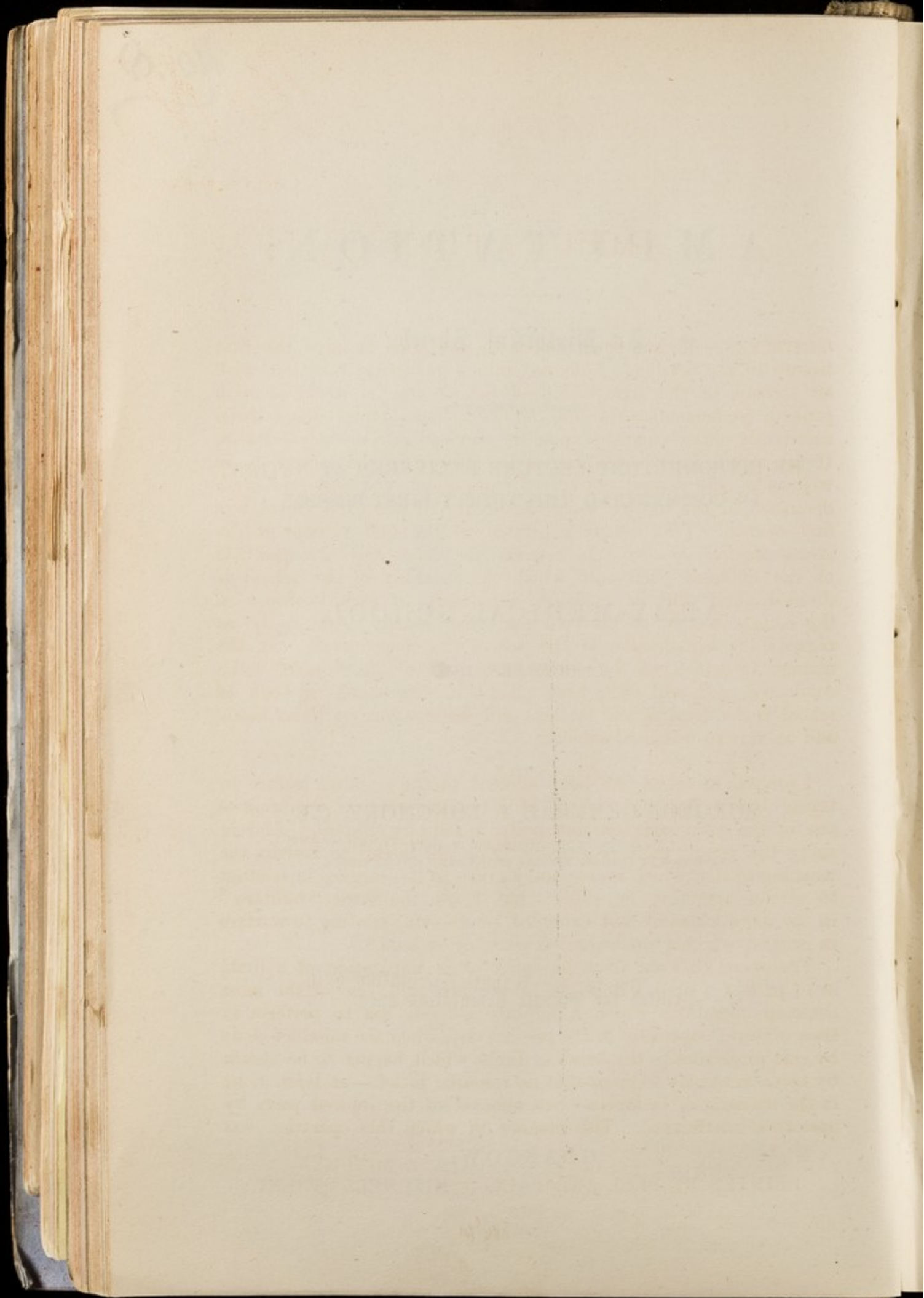
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GLASGOW:

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1876.







## AMPUTATION.

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GENTLEMEN,—It has again fallen to my turn to give the first lecture of the Session. I do not intend to occupy the time with an account of the Army Medical School and its work, or with general recommendations and advice; these topics have been sufficiently often enlarged upon in previous introductory lectures. If you care to know something of the history of the formation, as well as of the several objects of this school, you will find them described in the lecture which was delivered when the school was first opened. This lecture is printed in the first volume of the *Army Medical Reports*. As regards the aims and arrangements of the different parts into which the teaching of the school is divided, these will be explained separately by each Professor at the commencement of his own particular course. And lastly, as regards the constitution of the school, its government, and the manner in which all the duties of the school are required to be conducted, you will each have placed in your hands a book of school regulations, which contains full information on these heads and on various collateral subjects.

I propose to spend the hour allotted to the opening lecture in laying before you the history of a familiar surgical operation—one of the most common, unhappily, in military surgery. And in using the term “military surgery,” I do not intend to restrict the meaning to that which is commonly given to it—surgery in relation to armies operating on shore; but I use the word “military” in its more classical and extended sense—viz., relating to warfare in general, whether conducted on water or on land.

The operation I am about to speak of is amputation of a limb, or of part of a limb. It is, as I have just said, one of the most common operations which a military surgeon has to perform in time of war; especially in the present day, when the mischief done by rifle projectiles to the bones of limbs which happen to be struck by them, is usually so great that no resource is left—at least, none in the majority of instances—but removal of the injured parts by operative interference. The manner in which this operation was



performed in remote times, and the successive improvements made in the performance of it down to the present time, will form the chief topics of my remarks; and I hope that the survey, with the comments which it will lead to, may not be without some points of interest as well as instruction.

When we regard the performance of an amputation, we can scarcely believe that any surgical proceeding can be simpler. We can hardly understand that there can ever have been any difficulty about it. It is evident that no particular knowledge of anatomy is required in mere dismemberment, in which every anatomical structure that is brought in opposition to the knife and saw has only to be cut across. It is easy to see that one surgeon may perform the amputation more quickly, more expertly than another; that if it be a flap amputation, without due care the flaps may be a little too short or too long; if a circular operation, the division of the skin and layers of muscles may be ill or well done, leaving the stump well or indifferently covered; that the bone or bones, from want of due caution, may be unevenly sawn or even splintered; but these and some similar circumstances of minor importance, all quite under the control of ordinary handicraft and care, being excepted, it seems as if the cutting off a limb might and would have been done in the very earliest times of surgical art as readily as it is now done.

How far from the truth would be such a supposition you will see, when I point out some of the difficulties which the ancient surgeons had to contend against in amputating a limb; when I quote from surgeons of comparatively modern periods of time their descriptions of the mode of performing the operation; and when I shew you, lastly, that it is really only within comparatively recent dates that it became possible for an amputation to be done, and for the wound left by it to be healed in the manner which is now common among surgeons of the present day.

The earliest plan adopted for the removal of a portion of a limb which had been subjected to destructive crushing injury, was, as far as is known, to leave the limb until the crushed parts became gangrenous, and then either to cut through the mortified portion, or to allow it to drop away spontaneously. Hippocrates, writing in the fifth century before the Christian era, has left on record that in cases of *fractured* limbs which became gangrenous, his practice was not to amputate, but to wait till the gangrened portions dropped off, which he says they will do quickly, as the bones have yielded beforehand (are already separated); while in a case where gangrene occurred from any cause without a bone or bones having been fractured, then, as soon as the parts were quite dead and had become insensible, he removed the limb at the joint below



the insensible parts, leaving the dead soft tissues and bone above to separate of their own accord.\* In short, as to the first class of cases, he left them entirely to Nature; while in the second, he so far interfered as to remove the gangrened limb at the part at which the division could be most readily and most speedily made—viz., at a joint. Care was to be taken not to inflict any wound in effecting this removal, which evidently means that no part still alive was to be divided; for, he adds, if you cut through a part still alive and painful, there is great danger of present death from syncope. No one, as far as I am aware, has found among the most ancient surgical writings any indication of a part of a limb having been cut off from the human body, excepting when that part was absolutely in a state of gangrene, when, in short, it was already dead.†

To what circumstance must we attribute this mode of dealing with such injuries? for, although Hippocrates says that under it most cases of gangrene after fracture recovered, though less so when the fracture was situated on the thigh or arm, than when it was on the forearm and leg, and though he refers to a case where the mortified leg was removed at the knee-joint on the twentieth day, and in which the dead portion of the thigh spontaneously separated on the eightieth day, we know that such a mode of proceeding must have been followed by the death of the patients in all but very exceptional instances. We need not search far to discover the cause of the ancient surgeons amputating only through parts already mortified. They dared not cut through a living part, for they knew not how to stop the flow of blood which would have followed the operation. They could cut through a mortified part without fear, for experience had taught them—observation of the spontaneous separation of mortified parts—natural amputation—had taught them, that this could be done without a rush of blood following it. We understand why this is so; they knew the fact, without knowing the cause.

You are all well aware of the horror which is universally excited by the sight of a wound from which blood is gushing forth in streams, when the bystanders are ignorant of the means of stopping it. There is perhaps no spectacle that causes a more overpowering

\* *The Genuine Works of Hippocrates*, translated by F. Adams, London. Sydenham Socy., 1849. Vol. ii., p. 639.

† It is quite evident that among the ancient surgeons there was no notion of amputation as a set operation, such as we regard it at the present day. There was no cutting with a view to leaving a stump at a particular part, or to fashioning it of a certain shape. The word used by Hippocrates is ἀφαιρέειν, and the idea seems to be simply what this word expresses—to take away. What was kept in view was only the removal of something which had become not only useless but deleterious to the patient.



shudder, that creates greater consternation and confusion among a crowd of people, than that of a person rapidly sinking from hæmorrhage in consequence of an accidental injury. Even among educated surgeons, when cases of sudden, severe, copious hæmorrhage occur, and the source of bleeding is out of reach or surgical control, the spectacle is a sufficiently dreadful one.

We may judge, then, what must have been the position and feelings of the ancient surgeons in regard to performing the amputation of a limb, when they knew no more how to stop the flow of blood from a large vessel when divided, than the most uneducated and ignorant person in a chance-collected crowd of the present day. They were probably well aware of the large size of the vessels supplying the limbs with blood, of the large quantity of blood which would pour from them; for designed and accidental wounds in men, and the slaughter of animals, must have taught them these facts. Moreover, from not knowing the true nature or functions of arteries, from finding them after death empty, they were under the impression that there escaped from these vessels some aerial fluid of vital importance, something which they designated animal spirits, the loss of which led to syncope and death, as well as the loss of blood from the veins. We find this idea constantly recurring in surgical writings, until Harvey's investigations put the knowledge of the circulation of the blood on a thoroughly correct basis. How then could they voluntarily assume the responsibility of cutting through these vessels, of letting this blood and these animal spirits flow, when, once set in motion, they knew no means of stopping them? They must have recoiled from the attempt with terror. To have performed an amputation, as surgeons, with complete power of controlling hæmorrhage, now perform it, would have been regarded by them, with no such power, as little else than a deliberate infliction of death. We cannot help wondering that the means of stopping the flow of blood, which appear to us so simple and so obvious, should not have occurred to them; we may wonder still more that many further centuries should elapse before it should be discovered; but so it was. The ignorance is the more to be regretted, for among all the things that were unknown in surgical art, there is probably no one thing which did more to prevent its progress, than this fear of causing bleeding from not knowing how to check or arrest it.

So long as this ignorance lasted we can trace but little essential improvement in the method of amputation. Obviously surgeons were not satisfied with the Hippocratic mode of removing even gangrened limbs; for various views were subsequently held as to the propriety of cutting through the mortified parts, or between them and the sound parts, or making division at a joint or through the



continuity of the bone. Celsus, writing at the beginning of the Christian era, distinctly states that the section should be made between the dead and the living parts, and that it ought not to be made through a joint, but through the shaft of the bone. Although we fail to see the same advance in the subject of amputation which we find in several other branches of surgery in the Augustan age, still this indicates a very considerable advance in surgical boldness as regards the operative part of amputating a limb. Celsus, like Hippocrates, only speaks of amputation, however, being done in cases where a limb has become gangrenous. His description of the mode of performing amputation, though brief, is so precise and clear that I will translate it to you. You will not fail to notice the hesitation with which he approaches the sound parts by the knife, and the fact that he thinks it necessary to make an excuse for performing amputation at all, so frequently does fatal hæmorrhage result from it.

"I have said in another place," Celsus writes,\* "that when gangrene occurs in any part of the upper or lower extremities, and healing remedies are of no avail, the limb ought to be cut off. But this also is done with extreme peril, for often during the operation itself death takes place either from hæmorrhage or syncope (*sœpe in opere ipso, vel profusione sanguinis, vel animæ defectione moriuntur*). It ceases to be a matter of concern, however, whether a resource is safe enough when it is the only one."

"The flesh, then, should be incised by a scalpel between the sound and diseased part down to the bone, in such a way that it is neither done against a joint, and that rather some of the healthy part should be cut away, than any of the diseased part left." (It is evident that he means the mere surface of the sound part to be removed.) "When the bone has been reached the sound flesh should be drawn back from it, and should be cut under around the bone, so that at that part also the bone should be laid bare; it should then be cut away by a saw as near as possible to the sound flesh which is adhering to it; and then the front of the bone, which has been scored by the saw, should be washed, and the skin brought over from above. The skin under this method of cure ought to be lax, so that it may cover the bone from all sides as much as possible. The parts over which the skin shall not have been brought forward will be covered by lint, and sponge steeped in vinegar should be fastened over it. The rule is that the after treatment shall be the same as that which is followed in wounds in which suppuration should be promoted."

During the fourteen hundred years and upwards which passed between the time when Celsus wrote this description of amputation and the discovery of ligaturing the divided vessels to stop the flow of blood from them, the probability seems to be that in the greater number

\* Book vii., Art. 33.



of cases the mode of amputation described by Celsus was the practice which was chiefly followed. Other modes of amputation are referred to at intervals during this long period. At one time mortification was recommended to be induced by bandaging a limb with great tightness, and then the mortified part was to be allowed to separate naturally, or was to be removed by the knife. Amputating through the sound parts with red-hot knives is said to have been practised at one time. The application of cauterising irons to stumps to check the bleeding, was a common practice. The eschar thus formed would probably stop the bleeding for a time, on the same principle that modern surgeons occasionally employ the actual cautery and galvano-cauterics as hæmostatics in situations where it is not convenient either to ligature or compress bleeding vessels; but we can easily imagine that when the divided vessels were the larger trunks of a limb, the arrest could seldom have been permanent. Another plan referred to is dipping the end of the stump immediately after the amputation in boiling pitch.\* That none of these modes was found satisfactory in practice is sufficiently evident from the fact that Guy de Chauliac, of Montpellier, a surgeon of very high repute, and perhaps the most learned surgical author of the fourteenth century, in his chapter on amputation, recommended, on a limb becoming gangrenous, that the sound parts above should be scarified and covered with defensive applications to arrest the spread of the gangrene, while the mortified part should be enveloped in a sort of embalming plaster, and allowed to separate of itself, rather than be removed by the knife. It was almost reverting to the plan of Hippocrates.†

Let us turn now to the period, about the middle of the sixteenth century, when the important discovery, by Ambrose Paré, of the mode of stopping hæmorrhage by tying the end of the bleeding vessel with a ligature was to be made. What I have just mentioned to you of some of the modes of amputating in vogue will give you a fair idea of the saving of torture and of life this invention was destined to effect; but we have the means of still more vividly shewing the importance of the invention, by studying the directions for performing the operation which were given in Germany at the very time the invention of the ligature was made in France. Hans

\* Professor Spence, in the Address on Surgery before the British Medical Association, in August last (1875), mentioned that he had seen a man who had undergone amputation of the thigh, in whose case hot pitch had been applied to the face of the stump after the operation to arrest the bleeding. The man made a good recovery. See the report of Professor Spence's Address in the *British Medical Journal* for August 14, 1875, No. 763, p. 193.

† An account of Guy de Chauliac and his writings may be seen in the Introduction, by Malgaigne, to his edition of Ambrose Paré's works. See also Haeser's *Lehrbuch Der Geschichte der Medicin*, &c. Jena, 1868, vol. i., p. 354.



von Gerssdorff, a surgeon of much military experience, was a contemporary in Germany of Ambrose Paré in France. Here is his book, printed in 1551, in which he gives instructions on the mode of performing an amputation.\* These instructions are supplemented by drawings of the instruments used in performing it, and also by an illustration of a surgeon in the act of amputating a leg.

The commencement of his directions is serious enough, and sufficiently indicates the improbability of the happy issue which he promises:—

“First, order the patient before all things to commend himself to God, to confess his sins, to reflect on the sufferings of Jesus Christ with thankfulness; and let the surgeon do the same, and God will give a happy issue to his undertaking.”

The next direction is one which is quite as applicable, in its general bearing, now as it was then. “Before cutting, have all your instruments and other things placed ready at hand together—scissors, razor, saw, styptic paste, bleeding-tapes, bandages, pads, tow, eggs, and whatever belongs to the operation—in the same order that one follows the other after the cut.”

Then comes the description of the operation itself—“And when you will cut him, order some one to draw the skin hard up, and then bind the skin with your bleeding-tape tight. Next bind a single tape in front of the other tape, in such a way that a space is left between the two tapes of one finger's breadth, so that you may cut with the razor between them. In this way the cut is quite reliable, goes easily, and makes a perfect stump.”

We notice here an improvement in the drawing up the skin before the incision, with a view to get a covering for the stump. The arrangement of the tapes used for keeping up the skin, and as a guide for the incision, is shewn perfectly in the drawing—the upper tape on the limb above the cut, the lower on the partially amputated part below. Tight as the upper tape may have been applied, it has not been so tight as to make the amputation a bloodless one; for while the surgeon is using the saw, the blood is shewn spouting in several streams from the cut vessels, and a large tub is placed on the floor to receive it.†

\* *Feldtbuch der Wundt-Artzney und Chirurgischen Instrumenten warhafftig abcontrafeyt und beschrieben.* Durch M. Hans Gerssdorffen, genannt Schylhans, Bürger und Wundt-Artzt zu Strassburg. Franckfurdt am Mayn, 1551.

† The general character of the drawing, and especially the position of the binding-tapes, lead to the belief that the amputation shewn is one at the lower third of the thigh; if not, it must be one immediately below the knee. The only knife shewn in the illustration of surgical instruments is one nearly of the same shape and construction as a razor of the present time. And in the description of the operation the amputating knife is spoken of as a razor (*schermesser*). But in the drawing of the amputation there is an object on a stool near the operating surgeon which appears like a knife with its blade fixed rigidly in the



Gerssdorff proceeds:—"Now, when you have done the cut, take a saw and separate the bone, and after that undo again the bleeding-tape, and order your assistant to draw the skin over the bone and the flesh, and to hold it hard in front. You should have a bandage ready of two fingers' breadth; it should be moistened beforehand, so as to be wet through—it lies better; then bind the thigh from above downwards to the cut, that the flesh may protrude in front of the bone, and bandage this too. Afterwards lay on the styptic, and you should not have any fear about the bleeding."

"Bind then over the styptic a good thick pad, and afterwards take the bladder of an ox or of a swine—one that is strong—and cut it broad enough to go over the pad and stump. The bladder should be wet, but not too much so. Bind it hard with a tape, and then you ought not to have any anxiety about the bleeding. But if a vessel is obstinate, and will not let itself be stopped from bleeding, cauterise it—that is, burn it with the cautery, the figure of which is shewn on the thirty-third page of the eighth chapter on 'Blood-stopping.'"\*

What would be the feelings of one of us if in a case of amputation in one of our wards the femoral vessels were left uncontrolled, excepting by some complicated styptic applied to them, and over it an envelope consisting of a quantity of pads, some impermeable material like bladder, and bandages? What results should we anticipate under such circumstances? Even when the principal vessels are thoroughly secured after an amputation, if bleeding occurs from a small vessel, or only moderate oozing occurs under the flaps, we know that there is only one way of proceeding—to re-open the covered stump, to clear away all clot, to expose the bleeding vessel or surface, and not to cease attention until the bleeding is arrested. How else can a favourable progress be hoped for? But as amputation was ordered to be performed up to, and in the year 1550, not merely vessels of fourth or fifth rate importance, but the primary vessels, were left covered out of sight, with no other safeguard against fatal bleeding than what could be got from styptics and ill-applied pressure. No other conclusion can be arrived at than that, if the means mentioned prevented, in a few instances, death from taking place by primary hæmorrhage, it was only a postponement of the evil day. As a general rule, secondary bleeding, gangrene, or blood-poisoning must have led to fatal results.

The immense, the vital importance of Ambrose Paré's discovery

handle. The surgeon is in the act of using the saw, and the word "Serratura," in large letters on the picture, shews that the chief purpose of the drawing is to illustrate the mode of using this instrument.

\* Five forms of cauterising irons are shewn on this page, with a print of a surgeon applying one to a wound on the thigh of a soldier.



of the use of ligatures in stopping the flow of blood after amputation of limbs may be therefore well understood. The estimate which he himself set upon this innovation in practice does not appear to be an exaggerated one. He felt its value to be so great, that he regarded the thought which had occurred to him as the result of inspiration—that it was taught him by the special favour of God. There were no successive steps in the discovery: it was so simple that it was complete at its first introduction. There was the soft and pliable pipe pouring out the patient's life-blood: a piece of double thread tied round the conduit near its mouth stopped it. Nothing could be plainer or more simple; but plain and simple as it was, it was not till the sixteenth century of the Christian era—not till the year 1552—it was found out, and then the idea of using the ligature probably occurred on the spur of the moment. Paré might well consider it had pleased God to apprise him of it.\*

\* In the edition of Paré's works of 1552, his second publication, no mention is made of the ligature. In that edition the arrest of hæmorrhage after amputation is directed to be effected by the actual cautery, and a chapter is devoted to a description, with drawings, of the cauteries used for the purpose. This chapter was altogether omitted in the edition of Paré's works of 1564, and the application of the ligature was described in it instead. The omitted chapter on the cauterisation may be seen in Malgaigné's edition of Paré's works, where it is inserted as a footnote.

Paré gives a simple and straightforward account of the origin of his use of the ligature after amputation in the twenty-sixth chapter of the tenth book on "Contusions, Combustions, and Gangrene" (Edit. 1564). The following is an almost literal translation of the passage:—"I advise the young surgeon to follow this my mode of practice, which it has pleased God to apprise me of, without my having ever seen it or heard of its being done by any one. Nor have I read of it, further than Galen writes in the fifth book of his *Method*, that vessels must be tied towards their roots, which are the liver and the heart, in order to staunch a great flow of blood. Now, having used this mode of tying veins and arteries in recent wounds in which there was hæmorrhage, it occurred to me that the same might be done in amputation. Having discussed the point with Estienne de la Riviere, surgeon-in-ordinary of the king, and other sworn surgeons at Paris, and having declared my opinion about it, their advice was that it should be put to the proof on the first patient that offered occasion for it, but that cauteries should be kept all ready for use in case of the ligature not succeeding." And in his *Apologie et Traité, contenant les Voyages faits en Divers Lieux*, under the Voyage de Danvilliers, 1552, Paré refers to the first case in which the use of the ligature in amputation was put to the proof. At the siege of Danvilliers "a culverin shot from the place passed through the tent of Monsieur de Rohan, and struck the leg of one of the gentlemen of his suite. I had in the end to amputate it, and this I did without applying cauteries." And at the end of this section Paré writes:—"The camp being broken up, I returned to Paris with my gentleman, whose leg I had amputated. I dressed him, and God healed him (*ie le pensay, et Dieu le guarist*). I dismissed him to his house, in high spirits, with a wooden leg. He contented himself with his mishap, saying, that he had escaped very cheaply from not having been miserably burned to stop the bleeding." And Paré finishes, with evident glee at the recollection of the case, addressing Gourmelen, the author of the attack against him for using the ligature—"Comme escriuez en vostre liure, mon petit maistre"—"Write this in your book, my little master."

It follows from this history that the application of the ligature in amputation



His directions are to draw out the vessels with a pair of forceps, and to tie them with strong double thread. If bleeding should return after this, then the vessels, with some of the surrounding tissues, are to be included in a ligature, passed through the skin, and tied round them.

Paré also appears to have been the first to direct attention to means of preventing loss of blood *during* the amputation. He states that the band tied round the limb before the operation should be tied tight enough, not merely to benumb the parts, but also to prevent hæmorrhage by pressing and shutting up the veins and arteries. Gerssdorff makes no allusion to this purpose being served by the band, but assigns other reasons for its use, and the drawing of amputation in his book shews that arrest of the flow of blood was not contemplated by it.

The very simplicity of the new mode introduced by Ambrose Paré, for arresting hæmorrhage after amputation, seems to have proved adverse to its general adoption. Not only was the plan not adopted by some of his cotemporaries, but writings which are still preserved shew that some of them were so prejudiced against it, that they treated it with ridicule and abuse, and actively opposed its adoption. The last work that Paré wrote was a defence against an attack on him for having adopted the plan of ligaturing vessels after amputation, instead of applying cauterisation.\* It seems probable, indeed, that if it had not been for Paré's social influence, notwithstanding his vast experience gained in repeated campaigns, and his great general professional acquirements, the practical

occurred in the same year in which Paré's second edition was published, 1552, probably not long after its publication.

Paré might have referred to a date antecedent to that of Galen for the use of ligatures to stop bleeding from vessels opened in ordinary incised and stabbing wounds. Celsus gives distinct instructions that, simpler means failing, the vessels should be ligatured in stabbing wounds accompanied with hæmorrhage. His first treatment is to stuff the wound with dry lint, to put over this a sponge which has been dipped in cold water. Pressure is to be made on this by the hand, and the plug of lint is to be changed from time to time if necessary. If this do not succeed, lint wet with vinegar is to be stuffed into the wound. If this do not answer, he says, "The veins which pour forth the blood are to be caught hold of, and near the point which has been stabbed they are to be tied in two places, and are to be cut between the ligatures, in order that they may both retire into themselves, and none the less have their orifices close shut up" (*Venæ, quæ sanguinem fundunt, apprehendendæ, circaque id, quod ictum est, duobus locis deligandæ intercidendæ que sunt, ut et in se ipsæ coeant, et nihilominus ora præclusa habeant.*—*A. Corn. Celsi Medicinæ*, Lib. v., Art. xxvi. Par. 21). Cauterising by a hot iron is to follow the ligature in case of bleeding still continuing. This passage of Celsus has always made it appear the more strange that the idea of applying ligatures to the ends of vessels exposed by amputation should not have occurred to any surgeon before Ambrose Paré; but it is to be explained, perhaps, by the fact that the only amputations attempted in early days were those for removing limbs in a state of gangrene.

\* *Apologie, &c.* Edit. Malgaigne. Vol. iii., p. 677.



application of the ligature for stopping hæmorrhage after amputation might have been postponed for a still longer time, through the opposition raised against it by the surgeons of that period. Paré, however, was not only a surgeon of most extended military experience, but he had great power through his court influence. He was the confidential surgeon of four successive French monarchs. It has been recorded that he was the only man of the Protestant form of religion in Paris who was spared at the great massacre of St. Bartholomew, and he only escaped, it is said, by the king shutting him up in his own apartments.\* We cannot understand the opposition made to Paré's discovery by some of the surgeons of his day; but we should not censure them too severely. Habits of thought and practice, transmitted to men from bygone times, and continued by themselves for many years, do not readily give place to new notions and ways, however much more true and advantageous they may really be. When I was a student at Guy's Hospital, there was still a physician there who, to ridicule the stethoscope, carried one about with some flowers in it; he used it as a bouquet-holder. To him it appeared to be a new-fangled professional toy.

Paré seems to have anticipated that his new method of arresting hæmorrhage after amputation would not be readily adopted. He thought it necessary to argue at some length in its favour. He called to mind the great and tormenting pain resulting from the application of hot irons and caustic compounds to the exquisitely sensitive surfaces of fresh wounds in the sound flesh—the dreadful symptoms, the convulsions, and fatal results by which the treatment was frequently followed—the frequent recurrence of hæmorrhage when the eschars came away; and he confessed that, having followed this treatment himself, as he had been taught to do, he could now only think upon his having done so with shame and great horror. "Wherefore," he says, "I earnestly entreat all young surgeons to leave this cruel and inhuman way, and rather to follow this my manner of practice" (Book x., chap. 26). He mentions that when he first adopted the use of the ligature, he had his hot irons all in readiness, in case of the ligature failing; but there was no need for their use.

Paré's anticipations that the force of long-prevailing custom would

\* Malgaigne (see his Introduction to Paré's Works, p. 278) disputes the correctness of this statement, and even throws a doubt on Paré having been a Huguenot at all. The arguments which he adduces to support his views hardly appear sufficiently cogent to destroy the direct assertions in Sully's *Memoirs*, and by Brantôme as to Paré's Protestantism, and his being specially excepted from the massacre by the interference of the king. The statements were written so comparatively close to the period of the great event, that their incorrectness would have certainly been exposed by some one, had they not been founded on truth. On the contrary, their truth was universally admitted until the doubt cast upon them by Malgaigne.



prevent surgeons from adopting the use of his plan of arresting hæmorrhage, seem certainly to have been confirmed as regards our own country. One of the most experienced surgeons, and one holding the most influential position in England, at the beginning of the sixteenth century, was John Woodall. In 1589, he went to France as a young surgeon with some troops which were sent by Queen Elizabeth to the assistance of Henry IV. He mentions, in his writings, that he spent several years in travelling in France, Germany, Polonia, and other foreign countries, in order to gain knowledge and experience in his profession. Subsequently he settled in London, and distinguished himself in the treatment of a great outbreak of the Plague in the reign of King James I. In 1613, he became Surgeon-General of the East India Company, and had the appointment of all surgeons and direction of all surgical matters, both for the sea and land service of the Company. Shortly afterwards, in 1615, he was made one of the surgeons of St. Bartholomew's Hospital. He was holding these two appointments when he published a revised edition of his various treatises in 1639. In this edition, which is dedicated to King Charles I., "as a poor expression of his duty and zeale, for the use of his Majestie's service upon all military occasions for surgerie either by land or sea," occurs a separate treatise on "Sphacelus and on Amputating or Dismembering of any Member in the Mortified Part." The purpose of this treatise is to advocate the amputation being made wholly through the dead tissues, so that there may be no hæmorrhage nor pain. The division of the putrid parts is to be made about one inch full from the quick part; the surgeon is not to touch any quick part at all with his sharp instruments; to be sure that the part he incises is insensible, he is to inquire cautiously with a needle. Here, then, is a surgeon of one of our largest London hospitals going back beyond the time of Celsus to the practice of the time of Hippocrates. The insensible sloughs remaining on the face of the stump are to be removed at leisure by scissors, by cauterising, and various applications.

Woodall says that in his early practice at Bartholomew's he, with the rest of the surgeons, his partners, acting on tradition, had amputated in the sound parts; "but the horrid paine the patient thereby susteineth, with also the great uncertainty of his life after his extreme sufferings, caused me ever to mislike my own workes therein."\* He then conceived the idea that he might in

\* As Woodall mentions that he had studied in France in his younger days, he could not but have become acquainted with Paré's method of ligaturing blood-vessels after amputation of limbs; and in some remarks on "Dismembering or Amputation," in his first published work, the *Surgeon's Mate*, he refers to it.



some cases save a man's life by amputating in the sphacelated part; and about the year 1617, he tried this mode on a patient who had a mortified leg, and who was so weak that he was sure he would die under the operation from pain and loss of blood, if he amputated in the sound parts. The operation succeeded, and ten weeks afterwards he left the hospital in good health, walking on a wooden leg. From that time Woodall only amputated through the mortified parts; "so that," to use his own words, "where the complaint formerly was, that by reason of great hæmorrhage—namely, the large effusion of blood and spirits in the worke of their amputations—many of their patients perished under the surgeon's hands in the very act of amputation, I may, to God's glory, and justly doe affirme for a truth, that for the space of nere twenty-four yeares I have been a surgeon in the Hospitall of Saint Bartholomewes, where I have taken off, and holpen to take off many more than one hundred of legges and armes, besides very many hands and fingers, amongst all which not one of them all hath dyed in the time of their dismembering nor afterwards through the exceeding effusion of blood; and furthermore, I affirme that not above foure of each twenty dismembered but lived to have been healed, notwithstanding whatsoever their diseases have been" (Woodall, Edit. 1639, p. 388).

Let us see what influence Paré's discovery exerted at a still later period in England; and for this purpose I will quote the instructions given for performing an amputation by one of the most experienced, shrewd, and practical military surgeons our country has ever known—viz., Wiseman, the Paré of England, as he has been called. The writings of Wiseman may be referred to now by all military surgeons with advantage. They abound with records of cases of gunshot and other injuries, which are related with remarkable accuracy, and the observations upon them are so judicious and practical, that no surgeon can fail to be interested in them, or can study them without benefit. He gained great experience, and distinguished himself as a surgeon, throughout the Civil Wars

He only mentions the practice, however, in regard to amputations above the knee, and then evidently anticipates that a surgeon will meet great difficulty in applying it. "Note further, that if the legge be taken off above the knee, there is the more danger, also there is great care to be had to the great veine and artery—namely, that thou take them up, and pierce them thorow, and make strong ligature about them, which must be speedily done, if thou canst do it; but at first, I fear, thou wilt misse; yet be not discouraged, nor stand too fast to seek them." (Chapter—"Of Wounds and their Cure," Section—"Of Dismembering or Amputation." Edit. 1639, p. 159.) In amputations in general, Woodall recommends strong restrictive powders, vitriol, alum, &c., being applied to the vessels and stump, together with tight bandaging, for checking hæmorrhage—indeed, he adopts very much the same plan of treatment as Gerssdorff. Evidently, from Dr. Woodall's remarks on it, amputation was regarded at the time as a most formidable operation.



under Charles I. He afterwards was with Charles II. during his exile in France, Flanders, and Holland. Then he served as a surgeon in the navy under the Spanish Government. He again joined the Royal forces in England, and was made a prisoner at the battle of Worcester. He settled in London in 1652, and after the Restoration was made Serjeant-Surgeon to the King, which appointment he also held in the reign of James II. He first published his professional observations, under the title of *Several Chirurgical Treatises*, in 1676. His works were reprinted in 1686 and 1705. It is from the latter edition, published sixty-six years after the treatise of Woodall from which I just now quoted, that I will take Wiseman's remarks on the operation of amputation.

It has been stated that Petit, in France, the inventor of the tourniquet, was one of the first surgeons to advocate the propriety of primary amputation for gunshot wounds. This remark could never have been made by any one who was acquainted with Wiseman's works. That the necessity of early amputation in certain gunshot wounds was well-known to Wiseman, is not only evident from cases related or alluded to by him, but it is distinctly mentioned by him in the first paragraph which I am going to quote. He gives besides a list of the wounds in which amputation is necessary. His remarks on the mode of amputation occur in his chapter "of Gangrene and Sphacelus," and he thus introduces them:—

"But since not only in this chapter of gangrene, but frequently elsewhere in this book, we have mentioned amputation, I think it necessary to take this occasion to shew the manner of performing it; the rather, because the operation is much the same, whether it be done on account of gangrene or for other reasons."

"In heat of fight, whether it be at sea or land, the chirurgion ought to consider at the first dressing" (obviously this means when the case is first brought to the notice of the surgeon) "what possibility there is of preserving the *wounded member*; and accordingly, if there be no hopes of saving it, to make his amputation at that instant while the patient is free of fever," &c.

Then follow his remarks on the kinds of gunshot wounds for which amputation is required. Nothing can be more judicious than his observations on this subject; but they are given at too great a length for me to quote them. Excepting that he regards penetrating wounds of joints by bullets as requiring amputation in every instance, the proceeding of resecting joints being then unknown, the most practised surgeon of the present day could hardly improve on the directions given by Wiseman on this particular point.

Wiseman thus begins his account of performing the amputation on a patient:—"Seat him so as it may be for your conveniency. At sea they sit or lie, I never took much notice which, nor do I



remember I had ever anybody to hold them; but with the help of my mates, and some one or two that belonged to the hold, I went on with my work. At Sterling I made an amputation above the knee, and had as little help; besides my servants, there was only a sea chirurgion assisting me. We stopt the flux of blood by actual cautery, and the wound digested and cured without any ill accident. Yet, when we have convenience to proceed more formally, we always place the patient to our most advantage, where he may be held firm, and in a clear light, and so that our assistants may come better about us. The member is to be supported by some one, while another standeth behind the patient and draweth up the skin and musculous flesh."

In the next paragraph Wiseman dwells at some length on the importance of the band placed on the limb before amputating, such as is described by Gerssdorff, and is shewn in the woodcut on amputation in his book. But you will notice that instead of merely using it for keeping the skin drawn up, and as a guide to the line of incision, according to Gerssdorff's directions, Wiseman considers its value to be its action as a ligature and preventive of hæmorrhage during the performance of the amputation—the necessity for which Ambrose Paré, as already mentioned, first indicated.

Wiseman proceeds:—"Then make your ligature two fingers' breadth or thereabouts in the sound part; so that if you amputate in case of mortification, you may be sure to quit yourself of it. This ligature is omitted by many of our chirurgions here in this city, they only making a turn with a tape, pinning it on as a mark to circumscribe by; and instead of the ligature I propose, they make a gripe, which gripe is commonly made by an assistant who has strength to do it. In amputations this seems to me to be very inconvenient; for I never yet saw any man so gripe, but that still the artery bled with a greater force than was allowable—yea, when Mr. Woodall griped, who was so applauded, and in truth made for the work. It being so, in what a huddle is the stump then drest? But suppose the uneasy posture and the long griping tires the griper, or that his hand be cramped the while, what condition is the patient then in? Whereas by this ancient way of ligature the vessels are secured from bleeding, the member benumbed, and the flesh held steady, ready to receive the impression of your crooked knife (or razor, which I have often amputated with)."

How plainly does the whole of this description shew the importance of the subsequent invention of the tourniquet—an instrument to which we have always been so accustomed—and a contrivance again so simple, that without the attention being



drawn to such a discussion as that which Wiseman has entered upon in the paragraph I have quoted, one might almost take for granted tourniquets had existed as long as amputation itself for preventing hæmorrhage during the operation, no less than we might have done, without corresponding inquiries, in respect to tying the divided and bleeding vessels after the operation had been performed.

"This ligature made," continues Wiseman, "the assistant strengthens it, whilst he draws up the muscular flesh. In the meantime the operator, with a sharp crooked knife, by a turn with his hand, cuts the flesh off round to the bone; then with the back of it he scrapes the periosteum from the bone; if there be two bones, then with a dividing knife he separates the fleshy membrane from them."

Wiseman does not think the linen retractor proposed by Guido necessary—"the parts," he says, "separate enough of themselves; besides, the assistant pulling up the muscular flesh and skin is sufficient to make room for the saw."

Now comes the manner of stopping the flow of blood from the divided vessels after the amputation. About one hundred and fifty years had now elapsed since Ambrose Paré had introduced the plan of ligaturing the great vessels, which is so familiar to us all, which Paré's previous experience led him to think an improvement of such vital importance, that he attributed the happy thought to Divine inspiration; and yet we find such a practical surgeon as Wiseman regarding it as too intricate a proceeding for ordinary use in great emergencies—as no better, as, indeed, practically inferior to the actual cautery, and as not likely to hold its ground in consequence of the superior advantages of a newly invented styptic. The ideas of the very oldest surgeons were thus maintaining their influence over the operative proceedings of the greatest surgeon of his time—a time comparatively so near to us as the beginning of the last century. Wiseman makes a strange mistake in attributing the invention of drawing out the end of the bleeding vessel and ligaturing it to a German surgeon, Fabricius Hildanus, whose works were not published until 1641, fifty years after Ambrose Paré's death; while to Paré himself he gives only the credit of inventing a simpler plan than that of securing the vessels by the process of ligature—viz., the plan of passing a thread through the skin near the vessels, then under the vessels, then through the skin again on the other side, and thus compressing the vessels in very much the same way as is done in one of the forms of acupuncture. Really Paré only suggested this method in case of the ligature of the vessel itself failing from some cause, and hæmorrhage recurring in consequence.



Wiseman's directions for the suppression of bleeding in amputation after sawing through the bone, are the following:—

“You are at liberty, whether you will cauterise the vessels by a button cautery, or by ligature stop the bleeding, or by agglutination. The use of *chalcanthum*” (copperas) “I do not approve. To apply escharotics to the ends of the nerves and tendons newly incised causes great pain, weakens the part, and makes way for gangrene. The way Hildanus proposes, by drawing out the vessels by a forceps, is not a work to be done in the heat of fight, nor without a clear daylight. If you attempt it on land, his arm should be bowed and his leg stretched out, that the vessels may be the longer after extirpation (*i.e.*, the dismemberment), that you may the better take hold of them. Ambrose Paré proposes a more easy and sure way of deligation, by passing a needle with a strong twisted thread through the skin near the great vessels, making your stitch over the said vessels by piercing through the raw flesh and skin; then make your ligature upon a fold of a rag. Thus you bind the artery and the vein. These several ways have been practised by eminent surgeons for the stopping the blood of the arteries in amputation; but the late discovery of the Royal Stiptick hath rendered them of less use. But in heat of fight it will be necessary to have your actual cautery always ready, for that will secure the bleeding arteries in a moment, and fortify the part against the future putrefaction. They require after cauterisation no such strict bandage as that thereby you need to fear interception of the spirits.”

Exfoliation of the end of the bone after amputation was evidently regarded by all the old surgeons as part of the process of cure, as much as suppuration and granulation of the soft parts. Wiseman's description shews that he had no idea that it could be prevented, but only that the separation of the dead from the subjacent portion might be hastened. He says, “When we cauterise the artery, we do then touch the end of the bone, it hastening the exfoliation.”

He then describes the loosening the bandage round the limb, and bringing the lips as close over the stump as possible. He advocates the use of a cross stitch to keep them approximated. “The most that I have seen without the cross stitch have the next dressing been broad stumps, some of them with lips turned outward by the bandage; in the least of them the whole stump has been bare. . . . The broad stump is a certain sign of a long cure, and commonly the death of the patient.” “If the muscous flesh and skin are well pulled up in time of amputation, and brought over by a moderate extension as far as they will easily admit, you will find it not painful. You ought to pierce the skin with a needle and strong brown thread ceared” (waxed thread) “about half an inch from the edges of the lips.”



A variety of dressings are to be applied in succession to the stump—restrictives, astringents, defensatives, white of eggs, and others—then an ox bladder, ready cut and wet, as in Gerssdorff's practice, is to be turned over it—a cross cloth next the bladder to keep it steady—and then roller bandages. The dressings are to be taken off the third day, the cross stitches cut, and the wound is to be dressed with astringents, and digestives, stimulating applications, like turpentine and others, to excite suppuration.

It almost makes one shudder, in these days of ether and chloroform and of simple dressings, to think of the torture a patient was still subjected to at this date, when he survived to go through the successive processes which were held to be *secundum artem*, in order to ensure the cicatrisation of a stump after amputation.

Wiseman relates the particulars of some successful amputations which he performed, and which still further exhibit the manner of amputating. The plan of amputation adopted by him has, however, been sufficiently shewn in the quotations I have already given.

Such then was the state of this operation at the beginning of the last century in England. The use of the ligature for stopping hæmorrhage after amputation was known, but was hardly considered more practically useful than cauterisation, which had been in use from the earliest ages; while a new styptic that had been lately discovered was thought likely to supersede both. The mode of performing amputation by flaps was unknown. The circular amputation in use was still made by a straight single incision through all the parts at once. The restrictive applications and bandages to the stump after the operation were voluminous and complicated. The objects of the dressings applied to it were first to prevent bleeding, and then to excite suppuration as freely as possible; the attempt to heal such a wound by simple adhesion had not been thought of. There can be little doubt that under such circumstances the larger amputations were rarely practised, and that when from necessity resorted to, they must still, in a large proportion, have been followed by fatal results.

Although surgeons, as I have shewn, were a long time in appreciating the discovery of the ligature for preventing hæmorrhage at its full value, and overrated the difficulties in employing it, we, looking back, are well able to perceive what a new and vast field it opened for the improvement of surgery. At the best, when large vessels were concerned, the effects of the actual cautery formed but a weak barrier against hæmorrhage, the action of styptics was a slow and most uncertain one, while by means of the ligature the wounded vessel could be securely stopped directly after it had been



divided. The first and greatest danger in the performance of amputation was thus removed as regarded the patient; the greatest source of dread in undertaking it, the most formidable feature in the character of the operation, was removed as regarded the surgeon. But there was one most important improvement still wanting. The safety of the operation had been greatly enhanced by lessening the loss of blood after its performance: could nothing be done still further to lessen its danger in the way of preventing the great loss of blood *during* its performance? It is true that Wiseman and others had employed the bleeding-tape band to this end. To make this band tighter, it was twisted by some surgeons by means of a stick placed between it and the limb, in the same way as a packing stick is sometimes used to tighten the ropes which bind large packages together. I need hardly say how clumsy these proceedings were, and how very imperfectly the object in view could be attained by such methods. The band employed in the way mentioned had no resemblance to the elastic ligature used in the bloodless operations of the present day. The elastic bandage, beginning at the extremity, not only presses back the blood from the capillaries and veins, but also prevents any fresh access of blood to them through the arteries, so that the empty capillaries and veins cannot be refilled. By the time, then, the elastic ligature is applied above the part to be amputated, all the limb below is emptied of its blood, and none can return to it so long as the constricting pressure of the elastic ligature is retained. The bleeding-tape ligature of Wiseman and others did little more than the bleeding tape does in venesection. It produced congestion of the veins of the parts below the tight band, while it failed to stop, though it might lessen, the flow of blood through the deeply situated larger arteries. Notwithstanding the tight band above the line of incision, there was therefore a great loss of blood from the quantity in the gorged limb which had to be amputated, and from the flow of blood while the amputation was in the act of being performed.

It was a French surgeon again who designed a plan of remedying this defect—the great loss of blood during the operation of amputation. In the year 1718, Jean Louis Petit read at the Royal Academy of Sciences at Paris a description of his tourniquet. The instrument was precisely the same in principle as the Petit or screw tourniquet now in use; and when once it was in the hands of surgeons, they had direct command over the flow of blood through the principal arterial trunks of the extremities. With the tourniquet to prevent hæmorrhage, not only during the division of the parts, but also after they were divided, a surgeon could now spare time to search for the bleeding vessels, and to ligature them with confidence; and with hæmorrhage pre-



vented by the ligatures on the vessels, when the screw of the tourniquet was loosened, no fatal loss of blood could occur. The mere operation of removing a limb by amputation was now at last deprived of all its most alarming features. There was no longer the same vital need of performing the amputation hurriedly. Surgeons could now devote attention to considering the most judicious method of performing amputations—the methods which would ensure the most sure and speedy healing of the stumps, and the most serviceable forms of stumps when healed.

The account I have laid before you of the method of performing an amputation, and of dressing the stump, which were in vogue when Wiseman's works were published in the beginning of the last century, will have sufficiently shewn you how many and what serious defects there still remained to be remedied in these proceedings.

In the first place, the only mode of amputating was the circular, and this was done by a single straight cut. It is difficult to define the exact period when attempts were first made to remove the inconveniences which this mode of incision gave rise to. Petit, the inventor of the tourniquet, has usually the credit of having first performed a circular amputation by two incisions; the first incision being limited to the skin, and the second being made through the muscles after the skin had retracted, or had been further released and drawn back by the hand of the operator. It is exceedingly likely that Petit was the originator of this plan, for the application of the tourniquet, by leaving the parts near the seat of the division exposed, easily admitted of the improvement being made, while it could hardly be done when the band was employed in the manner described by previous surgeons. Another French surgeon, Louis, noticing the unequal retraction of the different layers of muscles, has the credit of still further improving upon this plan, by making the first incision divide the skin and superficial muscles, the second incision the deep muscles. Reference to the works of British surgeons, during the latter part of the last and the beginning of the present century, shew that they made great efforts to preserve integuments enough for covering the whole stump; and to assist in this object the rule in circular amputations gradually came to be, after full retraction of the skin, to make as many separate incisions through the muscles as there might be muscular layers.

I have not been able to satisfy myself as to who was the originator of the plan of performing amputation by flaps. Surgeons must have observed and treated accidental injuries in which the only covering for the exposed wound would be a flap. An arm torn from its socket would, probably, leave only such a covering



available. The difficulty of amputating at certain parts of the leg by the circular method would, probably, suggest a flap operation, when once the control of hæmorrhage by the tourniquet and ligature allowed the surgeon to give time and attention to modifying the shape of the covering for the stump.

It is hardly the purpose of my remarks, however, to follow all the successive alterations in the details of the method of amputating, nor have I time to do so. When once the flap mode of operating was added to the circular method, it is easy to see that different shapes and fashions would be successively introduced, according to the views of different surgeons and the exigencies of particular cases. The oval flaps, the anterior and posterior flaps, the lateral flaps, the short and long rectilinear flaps of Teale, the skin flaps of Syme and Carden, have all particular merits in particular instances; and it would be only in considering amputations separately that their respective merits could be adequately estimated.

There was, however, another improvement of great value, and one of a more general character, which the invention of the ligature and the subsequent changes I have noticed paved the way for, and which I must just mention before closing this historical account of amputation. This was the opportunity they gave for the greater part of the stump being permitted to become healed by first intention, instead of by exfoliation of bone, and by "digestion, mundification, carnification, and cicatrisation" of the soft parts, to use the old terms. So long as the face of the stump had to be plastered over with clods of styptic paste, pads, and other coverings, sometimes in addition to previous cauterisation, I need hardly remark, immediate union was out of the question; and even long after the introduction of the ligature, until the use of the tourniquet, placed at a distance from the seat of amputation, rendered it possible to get skin enough for completely covering the whole face of the stump, union by first intention was still an impossible result. When once the only foreign substances necessarily left in the wound were portions of the slender artery ligatures, and when once the importance of preserving a complete covering for the whole stump was properly appreciated, and the means of leaving sufficient covering for this purpose were quite understood, then healing of the general face of the stump became possible. But though possible, it is not likely that the desirable result was ever attained until very recent years; for the fashion of applying various kinds of dressings between the face of the stump and its natural coverings, whether circular or flap, still maintained its sway. The thoughtful observations of John Hunter on the union of cut surfaces by the adhesive process, and the influence of his teaching and writings, disturbed the pre-



vailing faith in the necessity for these artificial complications of the existing wound. Then the practical experience of the Peninsular War, especially the introduction of simple water-dressing by moistened lint, and the omission of the irritating applications previously in vogue to the raw surfaces of the stumps, removed most of the remaining difficulties in the way of achieving union by first intention. At the same time a gradually acquired better appreciation of the importance of hygiene in surgical treatment of cases, of the essential need of atmospheric purity and local cleanliness, with more judicious constitutional treatment, not merely contributed towards lessening the mortality after amputation, but also caused the healing process to advance more evenly and surely towards the desired cure.

Even in the present day, however, it can hardly be said that surgeons are agreed on the means necessary for obtaining primary union in amputations and other similarly large incised wounds. A large body of modern surgeons follow the same path of improvement that the historical summary I have been laying before you has disclosed to your view. You must have noticed that the chief features of the history have been, on the one hand, a gradual elimination of a variety of things introduced through ignorance, which impeded repair—that is, of things which interfered locally with the simple processes of Nature for securing a speedy restoration of union in the divided structures; and, on the other, progressive acquirement of a more accurate knowledge of the general conditions under which patients who have suffered amputation should be placed, in order that Nature may the more easily carry on these her healing operations. Some surgeons are still trying to act under the guidance of these principles, and these principles only. They may be classed as belonging to the "Natural School."

Another body of surgeons, at the head of whom is Professor Lister, assert that there are unavoidable impediments to simple healing, to union by the adhesive process, under this natural method. Their observations lead them to believe that the atmosphere is loaded with germs—organised ferments—which cannot, under ordinary dressings, be prevented from reaching the exposed wound surfaces, and that when they do reach them, putrescence and suppurative action must follow. From this belief it follows, as a matter of course, that such dressings must be applied to the raw surfaces as will either intercept these germs on their way, or render them inert in case of their reaching the cut surfaces. The surgeons adopting these views, and the practice founded upon them, belong to the "Antiseptic School," and their treatment of wounds is known as the antiseptic treatment.

Both on the Continent and in England, surgeons of the



present day in their treatment of large wounds, are seen to be ranging themselves under the banner of one or other of these two schools. The theories and practice of the two schools form a wide subject, which cannot be discussed in a summary manner. At any rate, I may be allowed to say, while acknowledging the very remarkable cures which have been effected under the antiseptic method of treatment, that the natural process of treatment has been attended with very successful results also. And as a military surgeon, I should regard with much sorrow the fact, if it could be established as a fact, that the antiseptic treatment of wounds, in its strict integrity, is absolutely essential for ensuring a favourable process of cure in extensive wounds; for, if it were so, this favourable process of cure could only be obtained under very rare and exceptional circumstances in the wounds which military surgeons have to deal with on a large scale in time of war. The circumstances under which the wounds are contracted, and the conditions in which soldiers are usually placed for considerable periods after their infliction, must always render attempts to carry out the antiseptic treatment of wounds in its integrity altogether nugatory.

I have now concluded my historical summary of the operation of amputation, but before finishing the lecture, I will make a few remarks on its manual performance. One of my first observations was, that the amputation of a limb is one among the plainest and simplest operations that a surgeon is called upon to perform. The rules for amputating in different portions of the extremities are laid down in surgical works in the most precise manner. Measurements and drawings accompany these descriptions, which leave nothing to be desired in these respects. Even what may be called various styles of amputating are at your disposal, and you have only to make your choice as taste or judgment may dictate.

Yet simple as the operation appears to be, and precise as the rules are which may be learned regarding it, you may depend upon it that there is only one thing which will enable you to perform it in the manner in which it should be performed, and that is, practice upon the dead body. If you have not acquired the manual dexterity which practice affords, some of you may find yourselves, under the excitement of great emergencies, making terrible blunders. No doubt, living textures act differently under division by incision from what the same textures do when they have lost vitality. Practical acquaintance with the differences between amputating through living and dead parts can only be acquired by operating on the living; but there must be a beginning to this practice, and it is as a preparation for this beginning that practice upon the dead body is of such great importance. The performance of operations on the



dead body trains the eye as well as the hand. Nothing is more painful to behold than a patient in the hands of an operator whose incisions are made in a hesitating uncertain way—nothing more embarrassing than after amputation to see the coverings of the stump left too short, or left so long that fresh cuts have to be made to shorten them. Practice on the dead body will teach how these bungling errors are to be avoided. But worse mistakes than these occur when amputations are undertaken without that amount of familiarity with the operation which may be gained by practice on the dead body. We have here a book of original sketches, by Sir C. Bell, of cases which he observed after the battle of Waterloo. One of the earliest sketches is that of a French soldier who had undergone amputation of the thigh at the junction of the upper and middle third. In this instance no skin or flaps whatever have been left as a covering for the face of the stump. A large mass of charpie had been put over the amputated surface. This had been taken off when Sir C. Bell made his sketch, on account of oozing of blood. The surgeon-artist has written a few observations under his drawing. This is a portion of them:—"This is a Frenchman, (thigh) amputated on the field. The stump bleeding, it was necessary to open the wound; but it was open, and, under the rags, only this (A) clotted mass of charpie on the face of the stump. The wretched man understands a great deal. He keeps his thumb fixed on the compress over the artery; he says that the artery was tied, but 'qu' il est tombé.' Here is an hospital mate, who says, 'Well, they cut them like a round of beef.' The limb is directly off, and the whole on the same level, the bone projecting, the skin not retracted," &c. From these remarks we must infer that this was not the only instance in which the operation was performed in the manner shewn in the drawing. The operators, so far as concerned the mode of incision, might have lived in the days of Celsus.

An amputation made in the Crimea was mentioned to me, in which the operator, from taking up a wrong position in regard to the patient, and from confused and bungling inadvertence, amputated the patient from the limb instead of the limb from the patient. The flaps were on the shattered extremity, the raw surfaces exposed by their removal on the part of the limb intended to be preserved. The mistake was only discovered when the saw was about to be used.

But let me quote a more recent and more surprising case to you, one that occurred at Paris during the late siege, in the spring of 1871. It is an instructive case in more than one respect. The account of it admits of no doubt as regards any of its particulars, for it has been related by my friend, Inspector-General Chenu, whose fame, on account of his most valuable medico-military



statistics and histories of French campaigns, is world-wide, and whom I know to be as honest and fearless a military surgeon as has ever lived. I will translate Dr. Chenu's remarks literally\* :—  
"François C——, *Æt.* twenty-seven years, a strong carman, acting as a gunner at Fort d'Issy, was wounded on the 28th April, 1871. A large fragment of shell almost entirely carried away the left leg; it remained attached to the rest of the limb by a few strips of flesh only. The surgeon on duty at the fort decided to amputate immediately. Having, no doubt, but little practice in this kind of operative proceeding, he set to work to cut off the thigh above the lower third, and made with his knife a curvilinear incision more than fifteen centimetres in length; then, finding probably that he was amputating too high, the surgeon (can one give this name to such an operator?) stopped, replaced his knife lower down, and with one single circular cut divided all the tissues of the thigh just above the patella without making any flaps. He now sawed through the femur obliquely through the middle of the condyles. No ligature was applied."

"The patient who had undergone this double amputation of the thigh at eleven o'clock in the morning, could not be removed to our ambulance of the Cours-la-Reine until after six o'clock in the evening. The pupil who received the wounded man, after having undone the dressing and cleared away a considerable clot, was extremely astonished not to find in this large gaping wound any ligature thread. He looked attentively, and cautiously separating the tissues glued together by a large quantity of recent plastic lymph, he recognised the section of the vein and the popliteal artery. The mouth of this latter vessel was scarcely at all narrowed, but was almost entirely closed by the folding or knitting together of the internal coats, which appeared to be turned round upon themselves inwards. A ligature thread was immediately placed on the artery, and an alcoholised water-dressing applied to the stump."

"When I saw the patient the following morning, 29th April, I ascertained that the semi-circular incision by which the surgeon had wished to commence his first amputation reached as far as the muscles on the antero-internal aspect of the thigh—a suture kept the edges in imperfect apposition. As to the raw surface of the stump, it was hideous, for the operator, taking no care to follow the rules of operating, had neglected to make even the smallest flap; the section of the skin, flesh, condyles of the femur, had all been made on one inclined plane from above to behind, in such a way that the front skin of the knee, serving solely for an incomplete flap, leaned upon the anterior bony edge left by the section of the condyles; in a word, the ablation of the limb had been performed at the level of the knee, without flap and without ligature of any

\* Chenu, *Guerre de 1870-71*, tome Ier, p. 296.



vessel. The wounded man subsequently suffered from chronic purulent infection, but did not succumb till nearly two months after his admission."

Can you have a more complete, and, at the same time, a more shocking illustration of the sad results which may follow the attempt to perform even so comparatively simple an operation as an amputation at the lower part of the thigh, when the operator has not been rendered familiar with the mode of performing it by previous practical study on the dead body? How many patients on whom such an atrocious amputation had been performed, would have survived for anything to be known about it? That the patient did survive in this instance, Dr. Chenu attributes in the first instance to the general state of syncope of the patient, to the local inaction of the parts which had been successively subjected to such severe injuries, but especially to the retraction, or rather shrivelling up of the two internal coats at the mouth of the principal vessel.

Let me then advise you to neglect no opportunity you can get of practising the performance of operations on the dead body. We have not quite so many opportunities here as might be wished; but I hope you will feel the importance of making full use of those that do occur, so far as the time at your disposal from other work will allow. You will find that opportunities of such practice will rarely occur in your subsequent career in the public service, unless you strive very earnestly and perseveringly after them. There are still great prejudices against the use of the bodies of the dead for the practice of surgical operations. The objections raised against it are almost as irresistible as they are inconsistent. It is a matter in which the public at large, as well as most of the individuals composing it, act very unfairly, it seems to me, against the members of our profession. On the one hand, they expect every surgeon to be a skilled practical operator; on the other, they do little to help, they too often throw impediments in the way of his having the opportunity of becoming one. There is still much of the same feeling existing which was sanctioned, and, indeed, enforced by law previous to the passing of the Anatomy Act in 1832; for, before that Act was passed, though the Medical Colleges held teaching anatomy by dissection to be imperative, legally it was impracticable. The law made it a punishable offence for any surgeon, for any lecturer on anatomy even, to retain a human body for dissection, unless it was the body of a murderer who had been executed. Perhaps some of the feelings of disgrace and crime which were thus caused to be associated with the use of the dead for dissection still cling to society in general. Fortunately, among military men, and especially among military men in time of war, there is not the same strong objection against the utilisation of the bodies of the



dead for the practice of surgical operations. They are conscious how closely their own personal interests may be involved in the proceedings. They cannot tell, particularly when battles are imminent, how soon their own turn may come to fall under the surgeon's knife, and they perceive the advantages of the practice. Larrey in the histories of his campaigns, frequently refers to the army surgeons being assembled, and, either under his own direction, or under that of other experienced officers, taking steps to improve their acquaintance with operative surgery by practice on the dead. The custom is one which might well be enforced in all army regulations.

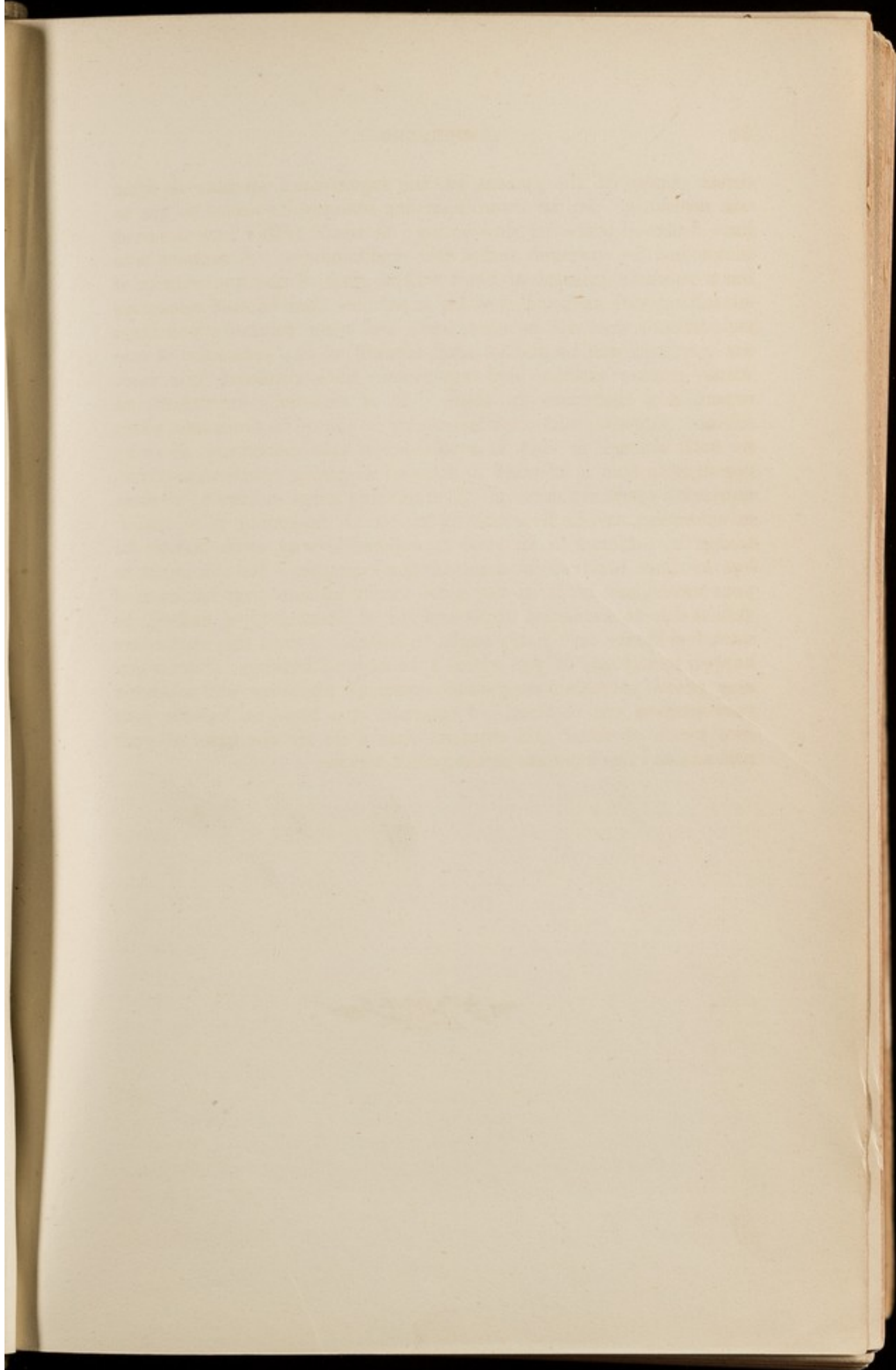
During the comparatively recent great war of the Rebellion in the United States, special operating surgeons of known competency with experienced assistants were appointed, irrespective of military rank, in the several army divisions of the Northern armies. During the still more recent Franco-German War, the most eminent surgeons engaged in civil hospital practice, men of the widest European reputation—such as Stromeier, Langenbeck, Bardeleben, Nussbaum, and others—were attached to the German armies as consulting surgeons. These last were not appointed to act as operators unless requested: they were present to advise only in difficult cases. The arrangement seems to have created a good deal of jealous feeling in the minds of the army surgeons generally. I confess I cannot find any solid ground for the objections raised against the arrangement. No one can doubt that there are very different degrees of ability and expertness among surgeons as operators, and very different degrees of knowledge respecting the proper surgical proceedings to be adopted in particular cases of injury, any more than one can doubt that there are very different opportunities and ranges of surgical practice and surgical experience among surgeons. No surgeon need or ought to feel shame, if a more experienced and more skilful operator than himself be present, in giving up the knife to him. It is life which is at stake, or very often, if not life, the preservation of such ability to use or enjoy life as makes life of value. The interests of the patient are surely to be first considered. Not long since a case of hæmorrhage after a wound of the face occurred in our own service in the field, where the loss of blood was threatening to kill the patient speedily. The only operation that appeared capable of saving the patient's life was ligature of the common carotid artery. The surgeon under whose care the patient fell in the regular order of practice was not familiar with the operation, though, no doubt, aware of its delicacy—he had probably never had any opportunity of seeing it done on the living, nor for a long time of practising it on the dead body; but another surgeon who came by had the operation, as the saying is, at his fingers' ends. The surgeon in



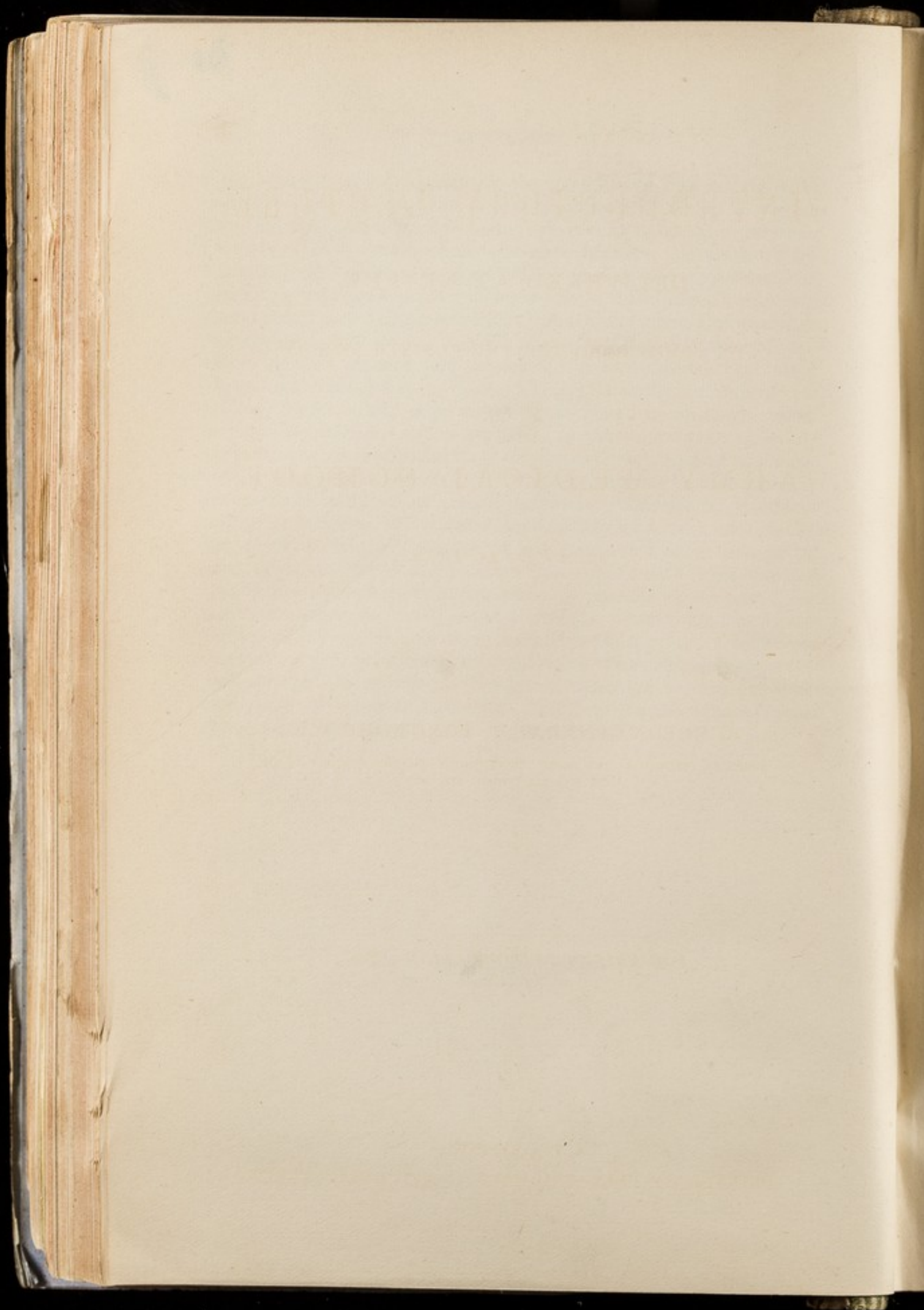
direct charge of the patient let the experienced operator do what was necessary. So far from deserving obloquy, he seems to me to have deserved praise for thus acting : he would rather have deserved blame had he operated under the circumstances. A surgeon who has a patient's interest at heart will be glad of the opportunity of consulting with surgeons of wider experience than himself respecting the patient's case and its treatment ; and when manual proceedings are required, will be glad to avail himself of the assistance of one whose greater practice and experience have rendered him more expert and dexterous in them. It is especially incumbent on military surgeons, who must frequently be placed in situations where no such counsel or help is available, to take advantage of every opportunity that is afforded to them of acquiring practical acquaintance with operative surgery. If a military surgeon have to perform an operation, and he feels himself unable to undertake it, or, undertaking it, performs it in some reprehensible way, even though far less so than occurred in some of the examples I have brought to your notice, and he is at the same time conscious that his want of skill is due to neglected opportunities of practice, then, indeed, he must feel shame, and justly ought to feel it. I trust this may never happen to any one of you whom I am now addressing. I trust you may prove yourselves competent operators whenever and wherever your services are required. I entertain this hope, no less for your own peace of mind and comfort, than I do for the sake of your patients and the interests of the public service.













No: 9

# INTRODUCTORY LECTURE,

DELIVERED AT NETLEY,

ON COMMENCING THE THIRTY-SIXTH SESSION

OF THE

## ARMY MEDICAL SCHOOL,

*1st APRIL, 1878.*

BY

SURGEON-GENERAL T. LONGMORE, C.B.,

HONORARY SURGEON TO THE QUEEN, PROFESSOR OF MILITARY SURGERY IN THE  
ARMY MEDICAL SCHOOL, ETC., ETC.

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1878.



# INTRODUCTION

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No. 2

## LECTURE.

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IT has devolved upon me to deliver the introductory address of the present Session of the Army Medical School, and in performing the duty I do not propose to bring forward any set subject, as I have done on some previous occasions. Nor do I feel that there is any need of explaining the objects aimed at in the establishment of this School; they are now sufficiently known, or are easily ascertainable by those who are not already acquainted with them; while the manner in which the teaching is conducted in the several departments into which the School is divided will be shown in detail to those immediately concerned by the Professors who preside over them. I propose rather, on the present occasion, to refer to some incidental matters of recent occurrence, and to ask your attention to a few remarks evoked by them, which I hope may be productive of useful results to some of you who are now listening to me.

Before entering upon these topics, however, I have pleasure in complying with the time-honoured custom of bidding you, who are the newcomers, welcome to Netley, to whichever of the three branches of the public service you may belong, and of assuring you that it is the desire of all who are in authority here to do whatever lies in their power to make the period of your stay at the School, not only a beneficial one in the way of preparation for your future duties, which must of course be the first object, but a pleasant time also. You will have opportunities of relaxation as well as calls for work. And as to your work, the general desire is to make it as smooth and easy as the assistance of others can make it. Some of us, whom you will find here, are passing out of the service, others are in the prime of energy in its ranks, and some there may be whose time in it has been comparatively brief; but none can forget the days when they also were candidates for commissions, or the effect upon themselves at that early stage of their military career of words of kindly advice and acts of friendly help; and you may depend upon it that all here will be equally ready to extend to you, in case of need, the support of which they themselves have personally felt the value. If you



find yourselves in difficulty about your work or in any matters of duty, only apply for help to any officer at Netley, and you will, I am well assured, experience the truth of what I have just stated.

It may be taken for granted that there will be differences among you, not only in capacity, not only in the amount of knowledge already acquired, but also in the amount of will and readiness for further work. To some the acquisition of fresh knowledge is a source of gratification in itself; to others the acquisition is either a matter of indifference, or assumes the character of a task. By the former instruction is received and study pursued with eagerness; to the latter it is all uphill work, for inclination would lead to passing the time in ease and idleness, or, too often, profitless pursuits. Such discrepancies as these must be expected among a number of young men brought together, as you are, from all the medical schools of the kingdom, and having not long since obtained the most important objects of your exertions while studying in them—a licence to practise your profession. They result from many causes, some constitutional and personal, others accidental, the education and circumstances of early life, the manner in which the professional information you possess has been imparted to you: from so many influences, indeed, that it would be impossible to allot to each its specific place in the general result. But whatever the causes of the differences I have named may be in the persons concerned, it would not be expected—what, however, is an undoubted fact, according to our past experience—that those who seem to have the least need of study are here usually the most studious. Those who have gained most information, and have made themselves the best practitioners before they have come to Netley, are those who generally show most activity in gaining more information after they come to Netley. It might *à priori* be supposed that those who had been proved by examination to be the most deficient in knowledge would be found to be those who would most exert themselves for the purpose of making up their deficiencies. In individual instances it may be so, but they are exceptions to the general rule. The general rule is that those who hold the upper positions in the lists resulting from the examinations in London are the most steady and active workers in the laboratory and pathological departments of the School, the most attentive listeners in the lecture room, and, in short, the most diligent in all their duties; those who hold the lower places in the



lists are the least so. It is in the power of those who are now listening to me, and who happen to be low in the examination lists, to falsify the observations of previous sessions; and we shall all rejoice, for their own sakes, if they do so. I may fairly call your attention to one inference that may be reasonably drawn from the previous experience in this respect, however, and that is, that the acquisition of knowledge in our profession, as probably of all other knowledge, becomes an increasing source of pleasure, and is more highly valued in proportion as the amount gained is increased. Those who are indifferent to further pursuit of it are generally not in possession of sufficient to enable them to know its worth, or the gratification that may be obtained from it. Look beyond our own limited sphere of action, and observe if you may not see further evidence of this fact, if those who have attained the most eminent and most independent positions in our profession in civil life are not still the most zealous students and workers in it; and consider if this could possibly be so, were the pursuit not attended with special gratification, irrespective of any pecuniary rewards which may or may not attend it. I urge you, therefore, if only from this selfish point of view, not to neglect the opportunities of improvement afforded you at Netley, but rather to try and turn them to the best account. Don't be among those who fancy they know so much already that they have nothing more to learn. When you hear a person boast he knows all about a subject of any scientific importance, you will be pretty safe in concluding he knows very little about it. He is like a person content to rest on a plain, and who comes to the conclusion that there is nothing to be seen beyond the field of view before him. The man who has already gained a fair amount of knowledge, and who continues eager in pursuit of more, is, on the other hand, like a man ascending a mountain side, with an extended prospect around him, the horizon widening and reaching farther in distance with each advance upward. The man who has mounted some way up perceives how imperfect his acquaintance is with much that is laid out before him, and feels conscious how much more there is to be observed than he is yet aware of, if he can only mount higher. It is one of the worst effects of ignorance, from its very nature, that it renders the ignorant person unaware of his own ignorance. It may be regarded as one of the advantages of this School that the candidate, if he reflects at all on the subjects



brought before him, must discover how much practical knowledge he has still got to acquire—not in one, but in many directions—in order to be proficient in his calling. It is not possible in the time available for the courses of instruction to give a complete practical education in any branch. During most sessions, from want of space in proportion to the number attending the School, each candidate can only get two months for practical study in the principal subjects taught, in some matters only one month. Some candidates arrive with scarcely any acquaintance with the rudiments even of some of the subjects taught—practical hygiene, chemical analysis, pathology, microscopical manipulation, and other work; and not merely unacquainted with the subjects themselves, but in some instances without any familiarity with the instruments which have to be employed in acquiring a knowledge of them, or the arithmetical processes by which results have to be calculated. But even under these circumstances, any one who is attentive and industrious must still gain a large amount of information that will render him more competent to fulfil his duties in the public service, and he will certainly find out how much more remains to be acquired in order to perfect what he has so far obtained. To be aware of what we are deficient in, is one important step toward the removal of the deficiency.

I have thought it right to put these observations before you, because the occurrences on which they are grounded, although matters of past general experience, were brought so particularly to our notice last Session, at the close of which several candidates showed they had done very little, indeed, in the way of study, while one gentleman exhibited such a want of knowledge that we felt constrained not to recommend him for a commission. It was almost as painful for us to take this step as for the person principally concerned to be subjected to it, as any one who can rightly estimate what the discredit is of being publicly declared incompetent, and what the disappointment is to family and friends, may readily understand. We hope that good may spring from the occurrence in making others more careful.

The rejected candidate in this instance subsequently mentioned in the Director-General's office in London, in order to explain his failure, that he had not opened a book during the Session. He might with truth have added, he had given little heed to work of



any kind. Of course, acquaintance with practical subjects, such as you will be chiefly engaged in, cannot be acquired with thoroughness without study of books; but you do not come here to be mere book-readers—the greatest part of the work is of a practical nature in all departments. Neither is it expected that your time is to be all given to study of any kind. We know well that the body requires care and exercise as well as the mind; and you will find that a right allotment of your hours will afford sufficient time for you to take advantage of the various opportunities for healthy physical exercise which are open to you, as well as for mental and manual training and improvement.

While adverting to these matters, which you may be sure I only do in the hope that they may act as means of enabling you to steer clear of similar sources of danger, I cannot avoid reference to some other painful occurrences which took place during our last Session. Two gentlemen failed to obtain commissions on account of habits of intemperance, and one on account of rough and insubordinate conduct.

I cannot with too much seriousness call your attention to the first of these two subjects. It almost seems incumbent on any one who has to discharge the duty which I am now doing, to remark on the subject of intemperance, not merely on account of such isolated and happily rare cases as we had to deal with last Session, but because so many instances have been brought to our notice in which commissioned medical officers have forfeited their appointments on account of it. I need not attempt to point out to you the dreadful effects of alcoholic drinks on a man when once he has given himself up to the abuse of them. Descriptions of this kind are just now rife all over the country, and, as medical men, the practical effects of alcoholic poisoning ought to be sufficiently familiar to you. Moreover, the physiological effects of alcohol under particular circumstances will form part of your studies in the department of hygiene while you are here. But I may say a warning word as to the insidious manner in which the habit of over-indulgence in alcoholic drinks is occasionally acquired—the rarity of its being brought back again to a harmless extent when once this has happened—and also as to the certainty with which, sooner or later, if the habit be acquired, ruin follows on any officer in the public service who is the subject of it. I do not believe it to be a wise



proceeding to deprecate the use of wine altogether. I think it probably does harm to do so, as being unattainable except in special instances, and not intended to be attained. Total abstinence is not only opposed to almost universal custom, but is contrary to the teaching of the "Book of books," the language of which throughout points to the proper use of wine as one of the blessings and sources of comfort given to mankind as strongly as it denounces the abuse of wine—drunkenness—in common with other vices. It is not pretended that the use of wine is a necessary thing, especially for young men in good health: this could be no more proved than many other blessings which have been given to us could be proved to be necessities. However, it is the abuse of it—the vice of excess—that I have to warn you against, and I sincerely trust that you will be one and all on your guard against it. If it be noticed here in any one he cannot be recommended for a commission. No amount of talent, acquirements, or personal advantages will have any weight against this vice. One of the two who lost everything on this account last Session was "facile princeps" professionally, and personally was a general favourite. What a career he unhappily forfeited! as the first of his Session, and as sure as anything can be certain of keeping the lead to its close, he had before him as noble a prospect of usefulness and honour as the public service can offer to any professional man on its lists. And all sacrificed to the habit of excess, which had so unhappily got the mastery over him! If any one listening to me is conscious that he has a tendency to yield to the temptation of excess in stimulants, let me beg of him to check it resolutely. Total abstinence may properly be recommended to those who feel they have not power of will, nor sufficient moral control of themselves to keep within due limits in this regard; and it may be wisely urged as giving the only chance of cure for abuse when once it has become a habit. It is like the use of the knife in surgery, when the total extirpation of parts of the body in certain states of disease becomes the only means which afford a hope of safety to life itself.

I will only briefly refer to the other cause of trouble last Session which I named to you. The necessity for strict obedience to military regulations, and for deference to appointed authorities—in short, for military discipline—will be apparent on slight reflection. The essence of strength and of good order in all military establish-



ments is the system of unity of direction, descending in regular gradations from a supreme head downwards; or, regarding the subject from below, the system of strict subordination in regular succession from the base upwards to the apex. By this arrangement a force and consistency are obtained, which may be likened to the power gained by the shape of the wedge in mechanics—a form without which, as you well know, the same mass of matter employed under otherwise like conditions would be comparatively inert. Unless the practical advantages of this system, in all its bearings, are comprehended, and its obligations cheerfully submitted to, frequent obstructions in the discharge of duty, and a vexatious loss of time to all concerned, must result. There are, no doubt, some special difficulties in the way of those who pass into the military services through this School falling into habits of subordination as a simple matter of routine. Before you come to it, you must have attained an age considerably in advance of most of those who enter other branches of the military service. You bring your profession with you; you are not taught it in military or naval institutions, as some others learn theirs, where the acquirement of habits of military discipline takes place concurrently with the acquisition of their profession. Students of medicine, in most instances, are left particularly free from restraint—to an extent, indeed, which, as you well know, exposes those concerned to many dangers, and unhappily in some instances leads to great moral and social loss. Coming from this independent way of life, habituated to it for several years, and suddenly placed in an establishment where all are bound by strict rules, a certain amount of irksomeness is not unlikely to be felt, and for those circumstances allowance is always readily made. Those who constituted this School well considered the subject, and, instead of placing you at once without any preparation under the full rigours of military discipline, they made your period of stay at the School one of provisional training and probation,—reserving the conferring of commissions upon you until the period of probation had passed. The wisdom of the arrangement, under your special circumstances, has been proved by the little difficulty that has been experienced in preserving good order ever since the School has been established. While in some other institutions, notwithstanding the presence of officers specially appointed for the sole purpose of maintaining discipline, disturbances



have occurred which have obtained public notoriety, on no occasion has any public scandal arisen out of the Army Medical School since its opening more than seventeen years ago, nor has there been a single example of any one causing such trouble within the School itself by insubordinate conduct as to be held to be unworthy of receiving a commission until last Session. We have no reason for supposing such an occurrence is likely to occur again. If your greater age, on the one hand, may cause the restraints of military discipline to be less easy to you at first than to those who begin their careers in the public service at the boyhood period of their lives; on the other hand, the greater experience more advanced years bring with them, and the habits of reflection which must have been developed in the study of your profession, ought to make it easier to you to understand the important military purposes which strictness of discipline serves, and should cause you, from higher motives than mere fear of consequences, to do your best to comply with its requirements.

The several branches of the public service in which you are destined to apply your professional knowledge offer, each of them, a noble field for your exertions. Each branch has its special features, its special advantages; and, as there is no sphere in life in which unmixed good is to be found, I may in fairness probably add, each has its special drawbacks. In all, however, to those who are disposed and competent to turn the opportunities they offer to good account, the advantages very far outweigh the drawbacks.

In the Royal Navy, the rank and position of the medical officers, the rates of pay, and the retiring pensions have been greatly improved of late years, while personal economy can be practised in it with less self-denial than in other branches of the public service. If serving on shipboard, you may be sure, if your professional attainments are such as to command respect, and you have a disposition open to be pleased, that you will meet with no want of pleasant companions; nor, in whatever part of the world you may be stationed, can you ever be without abundant means of enlarging your views and extending your knowledge in those natural sciences which have formed part of your education, and which are so full of interest to all of us. To some persons a sea-life is distasteful, especially to those who have not become used to it in early life; and this, no doubt, is one fruitful cause, joined with the demand



for medical practitioners in other directions, why more candidates do not come forward for this branch of the service; but it is not to be forgotten, in these days of steam, that ships do not remain at sea for long periods, as in former years, and that medical officers of the Navy, in the course of their service, spend much of their time in hospital establishments on shore.

The Indian Medical Service offers a magnificent field for the surgeon who is fond of his profession and ambitious of gaining distinction in it, whether in its technical, tutorial, or administrative aspects. I speak not only of the higher positions that become open to you in time—such as appointments in the great medical colleges of Calcutta, Madras, Bombay, Lahore, and Hyderabad,\* though not a few of the professorships in these are now held by medical officers who comparatively a few years ago sat on the very benches you now occupy, as well as other important charges in the Presidency cities and larger stations—but I refer to the positions in which relatively juniors are placed. Even in what may be regarded as out-of-the-way and minor stations, large professional practice and distinction may be gained in India. But certain qualities must be displayed in order to secure these results. The apathetic or the unskilful surgeon will not obtain them. There must be the desire for the practice in the first instance; cases must be almost sought for at first; in the next place, confidence must be gained by the exercise of ability and skill; and then opportunities of practice will follow of their own accord. About three weeks ago, I received a printed report of the work done in 1877 at a small dispensary at Azamgurh by Mr. R. C. Sanders, who passed through this School with much credit about seven years ago. Between the 1st of January and the 26th of December last year, Mr. Sanders performed 831 surgical operations. They were followed by only

\* This, the first Vernacular School of Medicine in India, was established in 1845 by my honoured colleague, Professor Maclean, C.B., when attached to the political Residency at the Court of the Nizam. From that date to the year 1854, Dr. Maclean, single-handed, taught anatomy, surgery, medicine, midwifery, and pharmacy, to native students, mostly Mahomedans. These natives were afterwards employed as civil surgeons in various districts of the Nizam's dominions, and many of them turned out excellent practitioners, some greatly distinguishing themselves as operating surgeons. The school is still in vigorous existence. When Dr. Maclean vacated the positions of Superintendent of the School and Residency Surgeon, Lord Dalhousie paid him the very unusual compliment of asking him to nominate his successor.



5 deaths, but 15 of the cases were still under treatment at the time the report was closed. Among them were no fewer than 523 operations for extraction of cataract, and 197 cases of iridectomy. Imagine upwards of 500 cases of cataract extraction in one year; what would the most eminent practitioner in ophthalmic surgery in our great metropolis say to such a number coming under his care in that time? And conceive the gratification to all concerned in the results: 336 with sight successfully restored, and 95 relieved, out of the number! Each successful case increased tenfold the advent of blind people from the surrounding villages. After referring to the number of applications in the month of July, the report states:—"At the beginning of the year, the difficulty was to get the patients to submit to operation; now the difficulty is to keep them off the operating-table." In a letter dated February the 28th of this year, written from Moradabad, in Rohilcund, Mr. Sanders asks that the amount of his practice at Azamgurh in 1877 may be mentioned to you at the beginning of the Session, and I have accordingly done so; and he adds—"The field for work in this country is boundless. I have but just been transferred to this station, and have, in the first month, had over 180 cases to treat, mostly cases of cataract." Any one may well be proud to belong to a service in which such opportunities of professional usefulness are to be obtained.

The medical department of the British Army is also a service in which not only great opportunities of usefulness, but also many sources of gratification, are open to all who join its ranks. You may justly feel a patriotic pride in belonging to it. Its efficiency has been so persistently decried for some time past in a certain portion of the press, so much obloquy has been cast upon the officers at the head of it, that a feeling of uncertainty and distrust in regard to it has been propagated far and wide among those who have no personal acquaintance with it. It seems not improbable that these constant attacks have, in some degree, effected the harm which they appear to have been designed to accomplish; and that they have kept many young surgeons of promising ability from seeking commissions in it. You who have had the courage to come forward, in spite of these deterring influences, are not likely to regret the step you have taken. You will find honourable employment, with remuneration above the average of what is obtained in early years



in civil practice, and at the same time free from most of the difficulties and anxieties inseparable from it. You will be associated with an army which, though inferior in numbers to many others, has no superior in patriotism and fame; and that has the merit of never being employed as an instrument of aggression and injustice. A distinguished general officer, Sir Garnet Wolseley, has recently published a comparison between the state of the British Army, in strength and organisation, at the present time, and its state at the time of the Crimean War. He has shown the improvements which have been made in it, and how much more competent it is now to take the field, and to maintain a struggle, if called upon to do so, than it was then. It would be easy, if time allowed, to show that what is true of the army as a whole, is equally true of the medical part of it. I will only mention a few of the most striking facts in this respect. At the time of the Crimean War, we had not even the vestige of a Hospital Corps. The ordinary plan for meeting the want of hospital orderlies was by abstracting effective soldiers from the ranks of regiments; and when, during the war, attempts were made to form an independent Hospital Corps—composed, as it was at first, of worn-out pensioners, and afterwards of untrained civilians, the efforts only ended in failure. Now we have a regularly trained and disciplined Army Hospital Corps, of considerable numerical strength. We had no organised system for the removal of the wounded; no trained stretcher-carriers, nor establishment for training them; no equipment nor organisation for forming dressing stations in advance of the field hospitals; and no fixed arrangements for the field hospitals themselves. The bandsmen were supposed to be available for carrying the wounded away, but it was a mere supposition; they were neither taught the duty, nor were there any existing orders or means for making them do it; and, practically, when the wounded were removed, they were carried off the field by their comrades—a most objectionable proceeding. Now, we have systematically organised and trained “Bearer Companies,” complete in their essentials of *matériel* and *personnel* for all the duties between the fighting lines and the field hospitals, including those of transport as well as those of the dressing stations. The field hospitals in the Crimea had certainly become perfect in the second winter of the war—solid hut structures containing almost every appliance and refinement that could be imagined for the use of patients; but if the troops had



had to make only a few marches inland, of what use would they have been? They could not have been moved with the army, and there was nothing ready to take their place. No doubt the want would have been met somehow, but, in case of a prolonged campaign, it could only have been met at the cost of much toil, expenditure of money, suffering, and, in all probability, great waste of life. Now the field-hospital establishments are complete in their organisation, thoroughly mobile, and adapted to the exigencies of modern warfare. At the time of the Crimean War, the troops marched and fought the battle of the Alma without a single ambulance waggon with the army; the only one that was landed was left, where I saw it, on the shore at the place of debarkation; and when, at a subsequent period some ambulance waggons were brought to the army before Sebastopol, they were so cumbrous, there were such difficulties in moving them, that they were abandoned as useless. Now, not only are there large stores of ambulance waggons and other conveyances for sick and wounded soldiers available, but there is every reason for believing that there are none so perfect for their particular purposes, certainly none more so, in any army in Europe. Some British ambulance waggons were sent to France during the war of 1870-71; one detachment of them was employed with the French, another with German troops. One of the English medical officers with the latter afterwards published the fact that, when the German surgeons wished special cases of wounds to be removed, they requested the use of the British ambulance waggons in preference to their own—a sufficient proof of their ease of carriage; and when, after going through the trying work of the hard winter in France, they were brought back to Woolwich, all the essential parts of the vehicles were found to be as perfect as when they left it—a sufficient proof of the excellence of their construction; and there have been many improvements made in them, as well as in the other classes of ambulance conveyances, since that time. In short, in all respects—in organisation, in quality of equipment, and now, I believe, in the amount of it—if a British army be called upon to enter on active service, there is every reason for believing the medical department will be found far better adapted to meet the demands which will be made upon it, great as they now are in warfare, than it has ever been at any previous time. The majority of the medical officers, too, will be found better prepared than they had the opportunity of



becoming formerly. The instruction at this School, supplemented by the bearer-column drill at the dépôt at Aldershot, must produce this result. Sir Garnet Wolseley, in his paper before alluded to, has recalled to recollection the reply of the War Minister to a Member of the House of Commons, who brought the want of ambulance conveyances in the Crimea, during the early part of the first winter, to the notice of Parliament. The Minister asserted that the reports on the subject were devoid of truth, because he knew for a fact that there were fully a hundred hospital panniers with the army. These are articles which have not the remotest relation to ambulance conveyances. But it can scarcely excite wonder that the Minister did not know what field-hospital panniers were, since many of the army surgeons had no idea of their nature when they first started on the expedition. How could they? They had never had occasion for their use, and the panniers had never been shown to them. Such ignorance cannot occur again. I do not mean to say there are no matters connected with the department which one could wish to be different from what they are; but there is good reason for believing that whatever defects exist of importance will be rectified before long, and, at any rate, this is not the place to discuss them. It is with regard to the efficiency of the department, which has been so much decried in certain quarters of late, that I have been led to speak; and I hope I have been able to show there is not the slightest ground for the injurious attempts which have been made to disparage it in this direction.

In conclusion, let me recommend you who have just come to Netley to make yourselves acquainted with the character of our lost colleague, Dr. Parkes, whose portrait has just been placed in the mess-room, and with whose fame you must be more or less familiar. As a likeness, the picture is so admirably true that, looking at it, you will see what manner of man he was while in life; but, to know how he lived and how he worked, you must look elsewhere. You will not fail to see important evidence of his great industry, his earnestness in the search after scientific truth, and of his perfect freedom from prejudice, in the valuable work on practical hygiene which will be constantly in your hands as a text-book while you are here. You will be able to learn further from any of the memoirs which have been published of him, how unselfish he was in his aims, how resolutely and indefatigably he worked for the good of



humanity at large, but especially for the welfare of the officers and soldiers of the army; and what great improvements he effected, without taking credit to himself for them, and certainly with remarkably few signs of gratitude or appreciation from those who received most advantage from them. The medical officers of the United Services, however, have not been forgetful of the benefits he conferred on them by his teaching and published works, nor the position he achieved—to use one designation given to him—of “the leading hygiénist in the most hygiénic nation in the world;” but, in concert with a few personal friends, they have testified to their appreciation of them by subscribing enough to found the “Parkes Memorial Prize,” a gold medal and £100, to be given triennially for the best essay on Hygiène: further, to obtain the memorial portrait just placed in the officers’ mess-room: still further, I am happy to add, to establish a Parkes Medal, for the candidate who sessionally exhibits the highest attainments in the hygiénic work which he so long directed at this School.

Only try to imitate him in his beneficent aims, and in his honest and loyal efforts to fulfil all his duties to the best of his ability, and you may be sure that you will not only satisfy those with whom you have to deal in the business of life, but you will enjoy what is still more important, that self-satisfaction which will be a source of happiness to you under every condition in which you may happen to be placed, as long as life itself lasts.



No: 10

ON AID TO THE SICK AND WOUNDED IN  
WAR.

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A LECTURE DELIVERED AT THE ROYAL UNITED SERVICE INSTITUTION.

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*(Authors alone are responsible for the contents of their respective Memoirs.)*



(For private circulation only.)

## LECTURE.

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Friday, March 31st, 1871.

FIELD-MARSHAL H.R.H. THE DUKE OF CAMBRIDGE, K.G.,  
G.C.B., Commanding-in-Chief, President of the Institution, in the  
Chair.

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### ON AID TO THE SICK AND WOUNDED IN WAR.

By Lieutenant-Colonel R. J. LOYD-LINDSAY, U.C., M.P., Chairman of  
Central Committee, National Society for Aid to the Sick and  
Wounded in War.

FIVE years ago a lecture was delivered at this Institution by Dr. Longmore, C.B., Professor of Military Surgery at the Royal Victoria Hospital, Netley, on the Geneva Convention, and on National Committees for aiding in Ameliorating the Condition of the Sick and Wounded of Armies in time of War.

The interesting narrative which Dr. Longmore gave in his lecture, of the circumstances which led to the Congress in 1864, and of the Treaty which resulted from it, turned people's attention for a short time to one of those remarkable movements which spring up in the world from time to time, and are frequently claimed by individuals as of their own originating, but which in reality arise from a general and simultaneous *growth* of public opinion in a particular direction, but which individuals are often enabled to concentrate and unite in a practical form. Such was the character of the movement which originated in Switzerland, and led to the Congress of Geneva. A somewhat similar case is seen in our Volunteer movement, the implanting of which amongst the institutions of the country is stoutly laid claim to by at least a dozen rival, but unfortunately equally unappreciated originators of the force.

The conviction which results from the study of history from the earliest period down to the year 1871, offers no escape from the conclusion that as long as men are born into the world, constituted as they are by nature with instincts both for good and for evil, which soon develope into feelings representing rival interests and rival objects, which can only be attained by striving one man against another, so long will wars and rumours of war continue to prevail among us.

Believing, therefore, in the continued prevalence of war among nations, some men have turned their attention to plans and schemes which have for their object the softening of sufferings and sorrows



No. 10

which fall upon those who, although not themselves responsible for war, are necessarily the most severe sufferers from its effects.

Perhaps there is no time in which the value of money is more personally brought home to men than when life and limb are threatened by disease or accident, and when through its agency the resources of science can be brought to the aid of suffering humanity.

The noble institutions which abound in this country, many of which owe their origin to the benevolence of former generations, and their usefulness and efficiency to the constant and present devotion of the most scientific and skilful physicians and surgeons of the community, furnish to the poor man freely and gratuitously all these extra chances of restoration to health and strength which are enjoyed by the rich.

For generations these institutions have stood among us as monuments of civilisation and humanity, and they should be regarded with feelings of pride and satisfaction by those who watch for the gradual but permanent growth of goodness and benevolence among mankind. At the very period of the foundation in London and Paris of many of these hospitals and institutions, the establishment of which proves that civilisation and humanity were moving men's minds and thoughts in and around their homes, the most barbarous and cruel indifference to the wants and sufferings of the soldiers who were fighting their country's battles abroad, was almost universally displayed.

The journals and records of the French military surgeons in the Peninsular War abound in admissions that the greater part of the wounded usually perished for want of help, and there are not wanting records of the miserable condition of the sick and wounded of our own Armies also during those campaigns. Going back to earlier days, we hear of the time when the sick and wounded were habitually abandoned in the towns and villages, and even on the road-side, and on the battle fields, in which the State never even recognized its obligation to assist them.

More merciful and humane ideas than those which I have described, have indeed long existed among nations and among their rulers, but it has taken time, which may be measured almost down to the present generation, to recognize fully the absolute obligation which rests upon nations who send out armies to fight their battles, to provide such assistance both in *personnel* and *matériel*, as will lessen the sufferings which must befall those who chance to become the actual victims of war.

We appear to be now living in times when wars are made by nations in arms and when all able-bodied men, however peaceful their vocations in life may be, must be conscious that the time may come when a rifle or a sword may be thrust into their hands and they may be called upon to fight in the ranks of an Army with no higher grade than that of a private soldier. We need hardly, however, imagine ourselves placed in this position to induce us to do all that trouble and expense can accomplish, in order to secure for the regular soldiers of our Army the best chances of recovery should they be struck down by wounds or by disease.

It is now an admitted fact that any provision which Government can



maintain for the service of the sick and wounded in time of peace is invariably inadequate to meet the enormously increased demands which instantly spring up at the commencement of war. The great problem which Governments are now endeavouring to solve in their Armies, is how to constitute their ranks in such a manner as to be capable of rapid expansion and of rapid contraction. How to have large reserves of men ready to serve when wanted, and ready to return to their own employments, independent of Government support, when not thus required.

The difficulty of satisfactorily solving this problem for the Army appears likely to baffle at least the Government of this country, but the difficulty of solving the problem of that which relates to the service of the sick and wounded, does not appear equally difficult of solution. A slight sketch of what has been done during the recent war between France and Prussia by the English National Aid Society may serve to illustrate its procedure.

The Society has worked by means of the machinery supplied by the Articles of the Geneva Convention. These articles may be classed under two heads: 1st, the formation of National Committees in Co-operation one with the other; and 2nd, the Privilege of Neutrality which is afforded to those working in aid of the Sick and Wounded in War. Before proceeding further, it may be well to remark that the Geneva Convention appears rather to contemplate that National Committees should aid their own armies and not those of foreign nations; and it must be observed that the National Society would have found less difficulty in its operations had it been working in aid of an English Army instead of assisting those of France and Germany. The sudden outbreak of a war, in expectation of which those two nations had been preparing and arming for years, took diplomatists and statesmen in this country entirely by surprise. Nevertheless, within a month of its declaration, more than a million of men were under arms and closing in upon one another. The accounts which reached this country of the improved weapons of destruction; the famous breech-loading rifle, never before used on both sides in a war; the newly-invented mitrailleuse; the enormous masses of artillery; all tended to prepare the minds of men for a contest more gigantic and more destructive to life than any which had taken place within the memory of man.

The nature of the quarrel which sprung up between these rival nations left England as neutral and impartial in her feelings as the greatest admirer of the Peace Society could possibly desire, but that very impartiality favoured the display of sympathy and concern for the fate of the many thousand sufferers who must fall victims to the war.

On the 4th of August a Committee was formed, of which His Royal Highness the Prince of Wales was president, and Her Majesty the Queen soon after became patroness. The illustrious Duke, the President of this Institution, also gave his name and sanction to the Committee. A Ladies Committee was also formed, of which Her Royal Highness the Princess Christian of Schleswig-Holstein was the Chief. One of the first acts of the Committee was to place itself in com-



munication with Her Majesty's Government, in order to obtain official recognition, and in order that the aid which the Society proposed to send out to the sick and wounded might be transmitted with the sanction of Her Majesty's Government.

On the 4th of August Mr. John Furley, one of the earliest advocates of the adoption of the Geneva Convention in this country, and who was only second to Captain Burgess, our most indefatigable secretary at St. Martin's, left England at the request of the Committee to visit the President of the Geneva Committee, and also the members of the Committees in Paris and Berlin. In order to ascertain from them the precise mode in which the assistance of the newly-formed English Society might best be given, Mr. Furley reported, "I spent six hours in Paris, four in Geneva, and twelve in Berlin. As I passed through France the news of the first Prussian victory had not yet arrived, and at Geneva the earliest reports of French reverses gained but little credence. The frequent telegrams, however, which a few hours later reached Lausanne, Berne, and Zurich, would not admit a doubt. All the steamers on Lake Constance were gaily decked with flags, and at night bonfires and rockets on the German shores testified to the joy of the inhabitants. In the early morning of the 8th, in answer to the summons which rang forth in every spire along the hill sides and through the valleys of Bavaria, hundreds of men and women, and children, were to be seen wending their way to the various churches to join in a general thanksgiving."

The battle of Wissembourg had been fought, and the result was that hundreds of wounded men were being carried to the rear, and long trains of prisoners were seen on their way to the fortresses of Germany. The battles of Woerth, Aug. 6, and Forbach rapidly followed one upon the other, and on the 21st August Sir Henry Havelock wrote as follows from Port à Mousson:—"It makes me sick at heart to see the scenes of suffering that cannot be relieved, first for want of proper appliances and aid, next because the surgeons are too few for the work. All the French wounded have fallen into the hands of the Germans, and they have been treated like their own people, without the slightest distinction of nationality. Some of them have told me 'Nous avons été soignés comme si nous étions des frères, par ces autres.' It is lamentable to see the mass of human suffering here. The two sides have left nearly 20,000 wounded in German hands, and there are actually numbers of wounded here struck on the 16th and 18th (to-day is the 21st), who have only had their wounds dressed on the field when hit, and never since. You know well what suffering this entails. It is simply impossible to do more for want of hands and of appliances."

At this time the London Committee were overwhelmed with letters and suggestions, passionate appeals from home and from abroad, and strong remonstrances at the want of immediate aid being forthcoming on the field of battle. Five years before Dr. Longmore had predicted in this room, in the lecture to which I have alluded, the precise thing which occurred. He said, while urging the formation of a national committee in England, if this remains undone, you will be at a dis-



advantage." "Committees will be formed, subscriptions will pour in, " but, as heretofore, there will be an absence of system and independence of action."

Fortunately there was one marked difference between the circumstance under which we were working from that which Dr. Longmore thought might arise; we were working in aid of foreign armies, and not with the weight of responsibility of having an army of our own in the field.

The Committee sprang into life under the influence of accounts of suffering which had already commenced, and which had to be dealt with by arrangements which were neither preconcerted nor systematized. Prompt and rapid action was necessary, and the Geneva Convention afforded machinery which was found ready prepared to our hands.

That the Geneva Convention has worked beneficially in aid of the sick and wounded is universally admitted. That the articles of the Convention have been abused and require extensive alterations cannot be denied. A reliance, somewhat too extensive in its character, was at first placed in its rules, which were in many cases neither understood nor recognized by the billigerents. The surgeons who were sent out at the special request of the French and Germans were unrecognized and unemployed, because they were not properly accredited as members of the Society. There was no means of obtaining the sanction of those in authority for our surgeons to give aid, neither was there any means of obtaining proper information as to where to give it; nevertheless, the spirit of those who went out on the business of the Society overcame these difficulties. "Every person whom we " met," said Mr. Hart and Berkeley Hill, "employed on the business of " this society was animated by the same excellent spirit. Ready to do " anything which would serve the objects for which they were des- " patched, ready, in the case of surgeons, to undertake the most " arduous responsibilities in the case of large numbers of severely " wounded men, often under most serious disadvantages as to shelter, " attendance, and food; equally ready to lay aside scruples of profes- " sional etiquette, and to work under the direction of men both junior " and of less firmly established professional reputation than their " own."

When quoting the report of these gentlemen, it is, however, fair to add that many parts of this report are not so favourable to the working of the Society as that here given. The full report will be found in the "Times" of the 8th October, and I would only further remark that its general tenor goes to show the necessity of having preparations systematized and organized on a well-considered and preconcerted plan, and I sincerely trust that some public spirited persons may be found willing and ready to undertake this task, which may be somewhat assisted by the experience gained in this recent war.

Towards the close of the month of August, the subscriptions to the National Society amounted to about £30,000, and the Central Committee at that time reported that they had 40 surgeons serving under the Red Cross Society, engaged in the field, or at the hospitals formed



in France and Germany. The French authorities had not only laid aside all distrust, but had gratefully accepted the co-operation tendered them by the English society. On the 26th August Dr. Frank, who had been sent out as the representative of the Society, writes from "Paris:—There seems every hope of our being able to start for the North on Sunday, and if we really should succeed in doing so, I shall be amply rewarded for the weariness and disappointment at the days spent in this place—days utterly lost, as far as the real aim of our mission is concerned." And then he adds, "In the long run they may prove not to be badly spent after all." And so, indeed, it turned out, for on that Sunday there left the Palais d'Industrie a body of men animated with an amount of enthusiasm which carried them through the most arduous and trying times of the campaign. The history of the Anglo-American ambulance is a history of relief rendered to the wounded at the most critical period of the campaign, on the battle field, and under actual fire. Neither hardship nor danger ever diverted the surgeons of both nations from their noble duties, and to the end the most uninterrupted respect and confidence existed between the members of the Staff. On leaving Paris, Lord Lyons laid special stress on their operating in French territory.

In Germany the Committee had entered into an alliance with the German Aid Society, and established a joint international field hospital at Bingen, on the Rhine, constructed on the modern system of tents and isolated huts, which, whenever adopted during this war, has proved so highly conducive to the well-being and recovery of the patients. But the vicissitudes of war caused Bingen to be somewhat too remote from the actual scene of conflict for its capabilities to be as fully utilized as had been anticipated. Indeed, the operations of the Society throughout Germany have been necessarily of a somewhat different nature from those carried on at the actual theatre of the war, and have consisted chiefly in sending out supplies of *matériel* and aid in money to the numerous hospitals throughout Germany, to which wounded and sick men were sent in such vast and continuous streams as almost to exhaust the efforts, energetic and well-sustained as they were, of the various local native "Aid Societies" and Committees. The English National Society has proved of great use in supplementing these efforts. It commenced its operations by dispatching Captain Douglas Galton, C.B., accompanied by Mr. H. T. Bonham-Carter, on a tour of inspection of the hospitals of the Rhine district, in the month of September Dr. Mayo was subsequently appointed chief surgical representative of the Society in that district, and the hospital constructed by him at Darmstadt, chiefly for the reception of patients suffering from typhus and other diseases, has achieved highly satisfactory and successful sanitary results. Though still under Dr. Mayo's active management, it is no longer under the control of the Society, having, in the month of February, been handed over to the charge of the German authorities at Darmstadt. The state of the wounded on the Luxemburg frontier was during the latter part of August, truly heartrending.

They had neither bread nor water, and even the surgeons could not stay with them for lack of the barest means of sub-



sistence. The slaughter often happened in the manner and at the place least foreseen, and no sooner had stores of food and surgical instruments and appliances been sent to one place, than they were instantly required in another. The mass of French wounded in particular who were accumulated on the German borders, induced the Committee to concentrate its force, and make Luxembourg its chief base of operation. This neutral island in the midst of the storm of war, was thought likely to afford a most advantageous situation from whence to carry aid to those who had been wounded, and were lying on the battle fields round Metz. The exertion of the agents of the Society were most praiseworthy. They opened communication by road with carts and horses, carrying out food, and bringing back the wounded into cover and shelter; but with all their exertions the carnage was so enormous in its extent, that their organization was able very slightly to relieve the suffering. Meanwhile, the affairs of the Society at home had assumed a very different character from that which they originally bore, when the utmost expectation of the Committee was bounded by a hope that they might be able to send out some surgeons and nurses to give supplementary aid to the field and permanent hospitals in France and Germany, and likewise to furnish some surgical instruments, medicines, and disinfectants, such as chloroform, and carbolic acid—things which, from the circumstances of the war could best, and, perhaps, only be obtained in England.

But, as was said at the time, greatness, at least of work, was thrust upon the Committee. Meetings were held in every part of Great Britain, and the public, reading day by day the history of the war, with all its harrowing details so vividly described by the writers of the English press with the armies in the field, were unable to confine themselves to mere words of sympathy, but showed their feeling by contributing both in money and "*matériel*" more largely than has ever previously been done at any former period.

The constitution of the Society at this time was briefly as follows:—A Central Committee and a Ladies' Committee were assembled in a block of three houses, lent them by Government, in St. Martin's-place; Local Committees, the sources from which aid in money and *matériel* were chiefly received, were formed in almost every town and district in Great Britain. The functions of those working at St. Martin's naturally divided themselves into two departments, viz., that which related to gifts in goods, and that which related to contributions in money. The Ladies' Committee controlled and managed the former, receiving, unpacking, sorting, repacking, and acknowledging things sent, making known the chief requirements abroad, corresponding with Local Committees, keeping statistics of material aid received. To this was added the management of the vaults and store-rooms, and the direction of the storekeepers and packers. The deliberative and administrative business of the Society was in the hands of the Working Committee, who selected and dispatched the agents abroad, and controlled, within certain limits, their conduct and procedure; they received deputations and letters, and afforded information to subscribers concerning the Society's operations; they dealt with requests from existing



foreign societies for supplementing resources and gave them assistance to carry on their work. This, together with securing facility of transport for persons and goods through districts broken and disturbed by war, formed some of the duties of the Central Working Committee.

To carry on a well-developed and widely-embracing scheme of operation such as would give proper and adequate results in return for the large sum of money which had now been paid in to the funds of the Society was the object of the Committee, and with that view Captain Brackenbury, of the Royal Artillery, was attached by the Secretary of State for War, at the request of the Society, to their service abroad.

Captain Brackenbury started on the 7th September to represent the Society and control their operations between Metz and Mezieres and the district of the Ardennes, along which line of country the great battles of the campaign were being fought. Luxembourg was found unfavourable for a chief dépôt on account of the Douane regulations which impeded the work at the Society more than can be told, and Arlon being in Belgium, where the same impediments were not cast in the way, and being also on the main line of railway communication, was wisely chosen as the chief dépôt for the stores and head-quarters of the Society. Captain Brackenbury wrote on the 6th September:—  
“Already Mr. Furley has made our Society specially marked by his  
“great exertions and the success which has attended them. It only  
“wants that the individual efforts going on should be completely  
“organized, for which my powers are sufficient, to let it be seen what  
“gigantic efforts England is making to relieve the misery which, by  
“all accounts, is almost unspeakable.”

The Archbishop of Canterbury on the 10th September addressed a letter to the Bishop of London, saying, that it seemed to him that the time had come when there ought to be a general collection in all the churches to aid one or other of the Societies for the sick and wounded. The response which followed the publication of this letter was instantaneous throughout the country. Fortunately, as it seems to us, these and other contributions were entrusted mainly to one Society, thus securing what Dr. Longmore urged five years ago in this room, viz., a system of united, and not of independent, action.

On the 17th September there were 110 persons engaged in the service of the Society. Of this number 62 were surgeons, 16 were ladies acting as nurses to the sick and wounded, and the remainder were classed under the head of agents, who were giving their services, some being paid and some unpaid.

The surgeons were employed as follows:—

At Sedan, attached to the Anglo-American ambulance, under the direction of Dr. Simms (United States) and Dr. MacCormac, with about 400 wounded French and Germans, 14 surgeons; at Balon, about 200 French and Germans, three surgeons and two ladies; at Douzy, five surgeons and one lady; at Briey, three surgeons; at Chalons, one surgeon; at Stenay, two surgeons; at Beaumont, four surgeons; at Donchéry, one surgeon and two ladies; at Bouillon, one surgeon; at Darmstadt, four surgeons; at Saarbruck, one surgeon; at Metz, two



surgeons; at Pont-à-Mousson, one surgeon; at Autrecourt, two surgeons; at Arlon, three surgeons; at Bingen (hospital under joint management of German and English), 12 surgeons; at Hanau, two surgeons; at Köln, one surgeon.

The above is an approximate statement of the distribution of the Society's surgeons, who were necessarily moving from place to place as need arises.

The agents who were working under Captain Brackenbury in the district of the Meuse and the Ardennes were 32 in number.

The above-named district having been dealt with in the manner described, a similar organization was prepared, to commence operation from Saarbruck at the first moment when the capitulation of the French Army, which was being besieged in Metz, should be brought about by the famine, disease, and sickness, which were long known to be gradually overcoming the strength and courage of the French soldiers; but before proceeding to this second stage of the Society's operation in this district I must describe what was going on in the North of France under the guidance of General Sir Vincent Eyre, whose head-quarters were at Boulogne-sur-Mer. As the tide of war did not reach this part of France till later in the campaign, it will be sufficient to state that at this period a visit of inspection was made by the General and two of his Committee to the towns of Amiens, Arras, Douai, Lille, Cambrai, Avesnes, Maubeuge, Charleville, Valenciennes, Saint Omer, and Calais, and smaller towns, the names of which I need not enumerate. Nearly every hospital and ambulance established in these places was inspected, and the most minute enquires were made from those in charge, who were requested to select from the English National Society's printed list (of which translation had been prepared in French) such articles as they particularly needed. This they accordingly did, Sir Vincent Eyre advising the Committee in London by post and telegraph of what was needed. At least fifty French ambulances, containing an aggregate of some 6,000 wounded, were thus assisted in the course of this tour by the Society's Visiting Commissioners.

At Arras Sir Vincent Eyre writes that surgical instruments were particularly wanted. There was only one set of amputating instruments in the whole town, and much unfortunate delay in the performance of the most necessary operations was the consequence. English lint was greatly coveted, as also was oil, silk, woollen socks, flannel shirts, and quinine.

It should be known that the German and French surgeons infinitely prefer English lint, and only use *charpie faite de mieux*. English surgeons all detest *charpie* and use plain clean rags instead where lint is not to be had. Surgical instruments were always asked for, and the amount sent out by the society amounted to £10,345 4s. 11d. in value. The supply of instruments abroad was soon exhausted, and could not be replaced except from England, from the fact of those engaged in making them on the Continent having become soldiers in the ranks. And to this difficulty was soon added, the closing of all communications with Paris, to which city the whole of France habitually looked, not only for medical and surgical supplies, but even for the ordinary



necessaries of life. Waterproof sheeting, and fabrics of that class, and drugs, such as chloroform, are far better in England than abroad, and hence the demand which was made upon us for this class of goods. The value of these things sent out during the campaign amounted to £8,505 7s. 10d.

A French Officer of artillery expressed his gratitude here to Sir Vincent for the services rendered him at Sedan by one of our English surgeons, who dressed his wounds and took care of him. As many thousands, both French and Germans, passed through the hands of our surgeons, it may be supposed that a feeling of gratitude to the English nation will rest in the hearts of these poor fellows for the amount of care and tenderness which they everywhere met with in English hospitals, and from English agents.

I alluded a few minutes ago to the departure from Paris, on the 28th August, of the Anglo-American Ambulance. On the 11th September, just a fortnight afterwards, Dr. MacCormac, whose recent appointment to the staff of St. Thomas's Hospital I look upon with pleasure and satisfaction, wrote as follows:—"We have witnessed the utter downfall of the Grande Armée of the Rhine, the capture of an Emperor with his 80,000 men, 300 pieces of cannon, 60 metrail-leuses, and 90,000 stand of arms." He goes on to describe how the ambulance got into position and into working order on the eve of the great battle which was fought on the 1st September. How the Caserne d'Asfeld in Sedan, with its 384 beds, was made over to him and his colleague Dr. Simms, while Dr. Frank became accidentally, or rather providentially, separated from them and established a branch hospital at Balan, where in the Mairie he placed himself and carried on operations during the battle, being compelled at times to lie flat down beside the wounded and dying to escape the shot and bullets which were coming in at the roof of the house. The work done at the Caserne d'Asfeld was as follows:—

Wounded, inscribed, and registered, including a few sick .....	593
Sick and wounded not registered, but moved in hospital .....	200
Wounded, dressed, and attended to, and extern patients, during the battles of the 31st August and 1st September .....	400
Total .....	1,193

As yet we have no precise account of the work done at Balan, where there were no less than 400 cases and many operations.

From the Caserne d'Asfeld, MacCormac writes:—"We have about 60 cases of amputation and several of resection of the upper extremities. Some of them have been done in other ambulances. Yesterday we had a number of tents pitched, capable of holding 120 beds. We have wonderfully healthy wards, but they are overcrowded. Yesterday we had a visit from the Intendant General. He was much pleased with our arrangements, excepting the open



*X would.*

"windows; at that he stood aghast, protested strongly, and told us "a *courant d'air* like that ~~which~~ kill our patients. In the last three "days 3,500 wounded have been sent out of Sedan, but the place seems "as full as ever. Every second house has the red-cross flag flying "over its door." Dr. MacCormac gives an account of an operation which I hope I may be excused for repeating, as it shows the value of chloroform. He says, "the other day at Balan I assisted Frank "with an amputation of the thigh of a poor Chasseur, who had just "been brought in. His thigh had been badly smashed the first day of "the fighting, and he was left to lie in a ditch for five days after- "wards without succour. Neither had he tasted food all that time. "As gangrene was imminent, amputation was decided upon. The "first thing Lyon asked for, for that was his name, was a cigar, which "he smoked with great zest until he was being put under the influence "of chloroform. After the operation, and on regaining his senses, he "requested permission to finish his cigar, as he would not like to "waste it, and he might as well utilize the time until they were ready "to operate. It was difficult to persuade him all was finished. For "some days this brave young soldier went on well, but tetanus set in "and his recovery was despaired of." During this time there were grave complaints in letters from abroad of the cruelty of the rapid evacuations of the badly wounded soldiers when their condition and weakness was such as to render their transport dangerous to life. The weight of testimony, however, is abundantly on the side of rapid removal from the vicinity of battle fields. "The principle of "isolation, Dr. Murray says, "If carried out well, cannot be over- "estimated, but proper means of transport would diminish the "mortality greatly. The ordinary country carts which were used did "not afford protection from cold and wet, and did more injury by "jolting." I am tempted to give a few lines from a letter written by Mr. Furley on the 12th September. He says, "You know how "bravely and conscientiously the British Medical Profession always "do their duty. I wish, however, all the members of the National "Committee could have heard from the self-sacrificing nurses at Balan, "as I did yesterday, their testimony to the zeal, patience, and perse- "vering labours of our chief in that village, Dr. Frank. His presence "is sunshine in every room he enters, and his subordinates who so "ably and willingly support him will always, I am sure, feel proud of "having worked under him." Mr. Furley goes on to give a little history which is most touching in its character. He says, "while at "Balan yesterday, a packet was placed in the hands of one of the "surgeons. This consisted of a pocket-book, a cross of an officer of "the Legion d'Honneur, together with a note in pencil; both the "pocket-book and the note are pierced with a bullet, but the name and "address are fortunately preserved, and the *souvenir* will, as soon as "possible, be forwarded to the widow.

"*Sedan, 1st Sept.* Au milieu de la bataille entoure par les balles je "t'adresse mes adieux. Les balles et les bullets qui m'epargnent "depuis 4 heures ne me ménagerons pas plus longtemps. Adieu. Ma "femme bien-aimée J'espère qu'une âme charitable te fera parvenir cet



" adieu. Je me suis comporté bravement et je meurs pour n'avoir pas voulu abandonner nos blessés. Adieu un baiser."

Dr. Simms, U. S., Dr. MacCormac's colleague, in his report to our Committee, gives such strong testimony to the value of women nurses that I feel bound to quote what he says:—"As nurses, I would not exchange one woman for a dozen men.

"From the moment that women were introduced as nurses, the whole aspect of our establishment was changed. Only last night a poor wounded soldier's life was saved by one of our lady nurses in a most remarkable manner. It is well known," he says, "that gun-shot wounds are often followed by secondary hæmorrhage from 10 to 20 days after the wound is received. We had great trouble in arresting a bleeding of this sort. It took two hours to do it. One of our lady nurses, Miss Neligan, stood by aiding us all the time. During the night, when all slept, Miss Neligan remembering three or four badly-wounded men in her ward, and fearing that some such accident as she had just witnessed might occur to them, went quietly round, and, gently examining them, found, to her horror, that one of her patients was lying in a pool of blood still gushing forth in a great stream. Instantly she stanchèd the blood by compression, and called up the doctor in charge, who permanently arrested the bleeding. Five minutes, and the man would have been dead, while the stupid men nurses were snoring, fast asleep."

With regard to the organization of ambulances, Dr. Simms writes as follows:—

"The *personnel* of the French ambulances were too numerous. They had an expensive retinue of infirmiers which might be dispensed with in a great degree. I would organize an ambulance as follows:—One surgeon-in-chief, two or three surgeons, dressers in proportion; three or four women nurses. I would pick up infirmiers whenever and wherever they were needed. In time of war there are idle men enough out of employment who are glad of occupation. It would be better to send out several small ambulances thus organized than one too large and unwieldy."

Drs. MacCormac and Simms thoroughly agreed upon the important subject of free ventilation and the use of disinfectants. The wide windows on the sides of the building were never closed, and the wind swept through the wards all the time from S.W. to N.E. Carbolic acid was freely used. Carbolic lotions constituted the dressings in all cases. Free ventilation and carbolic acid kept the wards sweet, notwithstanding the immense crowd of seriously wounded. No one was allowed to suffer pain if morphine hypodermically, or chlorodyne, or other form of opium could control it. No one was allowed to pass a sleepless night if chloral could procure rest.

It was a gratifying thing to pass through the wards at 10 or 11 o'clock at night and find 350 poor sufferers all quiet and sleeping soundly, and Dr. Simms adds, "What precious boons to humanity are morphine and chloral."

Towards the middle of October this stage of the Anglo-American



Ambulance came to a close by the return of Dr. MacCormac to England, Dr. Simms having preceded him by a month.

Early in October it became apparent that the fortress of Metz could no longer hold out, and rumours of the approaching capitulation of Bazaine, at the head of 100,000 men, who were being reduced by sickness and famine, caused the Society to make the most strenuous exertions to prepare an organization for that district, similar to that which had been so successfully established at Beaumont, Duazy, Balan, Bazielles, and Sedan. Hitherto the drain on the resources had been so great in dealing with the wants of this district that comparatively little had been done in the Metz neighbourhood; but Drs. Ernest Hart and Berkeley Hill had rendered valuable services by inquiring into, and reporting upon, the condition of things, and these gentlemen, though not agents of the Society, took the very greatest trouble on its behalf. Dr. Hardwick also assisted in paving the way for the arrival of Captain Brackenbury, who took up his head-quarters at Saarbruck, leaving Mr. Reginald Capel in charge of the Arlon dépôt, from which place he still continued to supply the needs which remained at and around Sedan.

On the 4th October Captain Brackenbury reported that within a few days he trusted to be in a position to say that all the sick and wounded, French and Germans, in the whole circle round Metz, would have all the comforts they required.

Metz, and a considerable district under range of its guns, was of course still unapproachable by friends or foes. A hospital for 100 beds was established at Saarbruck and placed under Drs. Junker and Rogers, also at Briey Dr. Hirschfeld was placed in charge of about 60 beds. The work of the Society was often greatly aided by various members of the order of St. John, the Johanniters, who mustered in strong force at Saarbruck. This Society has an admirable organization, framed before and during the Austrian War of 1866, and perfected by the experience derived therefrom. The members are men of rank and position in Germany, and are said to have good influence with the Government and with the military authorities.

Captain Brackenbury established most friendly relations with these Knights of St. John and with their chiefs, Count Konigsmarck and Herr von Jreskow. Dr. Sandwith, who was one of the first to offer his services to the Society, and who did good work in their behalf in this very town of Saarbruck previous to the organization under Captain Brackenbury, also speaks in high terms of the kindness shown him by Prince Hohenlohe, and by Baron Ompteda; but notwithstanding the most friendly relations which existed between the societies, it was found necessary to maintain on the part of the English Society a complete independance of action on account of a fundamental difference existing in the objects and intentions of the subscribers to the Fund. The Johanniters gave from their stores to the troops (under arms, as well as to the sick and wounded) and no doubt contributed greatly thereby to the health and fighting power of the regiments of the North German Army. This was precisely what the people of Berlin, Munich, and Dresden desired, but it was not for that object that the



English people subscribed their money and sent in their gifts to St. Martin's Place.

When Marshal Bazaine capitulated at Metz on the 27th October, the English fourgons were the first on the scene, carrying the relief which was so much needed, and returning to Remilly with wounded Officers. Captain Brackenbury reported here about this time as follows:—"I cannot tell you with what pleasure I look on our work here. The first to enter Metz—the first to give succour—the first also in liberality, our Society has here taken the true place which England's generosity entitles us to assume. No one can know the misery we relieve; no one can over-estimate the blessings which are showered upon us for our work."

The French *Société de Secours* at Metz paid our Society a great compliment; they asked Captain Brackenbury to distribute their stores for them, showing thereby the confidence they had in his impartiality and judgment.

One of the questions which gives rise to much discussion and controversy, is that which relates to dépôts and their constitution in time of war. To have the stores at hand, and the means of conveying them where they are wanted, are the necessities which all people acknowledge to be of the first importance; but owing to the vicissitudes of war, it is far from improbable that a dépôt established to-day may become useless to-morrow. Surprises and changes are essential to military operations, and anticipated arrangements are precisely those which frequently fail in their aim and object. Again, the size of dépôts is a matter about which there are different opinions and much controversy. Small dépôts scattered about are wasteful, inasmuch as the tide of war may never flow near them (the Society was urged to form dépôts in all sorts of places), while large dépôts are apt to become places where goods are buried and lost for want of classification and arrangement. Witness the stores rooms of Balaklava. The plan adopted by Captain Brackenbury was to establish principle dépôts as at Arlon and Saarbruck, with advanced dépôts at Briey and Remilly; as time went on, and the war spread, to them were added more advanced dépôts at Charleville, Chalons, Chateau, Thierry, and Meaux. This last-named place became, through the circumstances of the war, one of the most important stations at which the work of the Society was carried on. Working as the English Society did, with a resolution to add nothing to the burdens which fell upon the population of the invaded districts, it was necessary to be furnished with all things needed for the conveyance of stores, such as carts, waggons, and horses. These things had to be bought or hired at war prices, and as many as fifty waggons were employed in supplying the hospitals round Sedan alone when the wants were most urgent. As the Society's stores became known, requisitions poured in from Prussian, French, Bavarian, and Belgian ambulances, and these were invariably complied with.

By the end of September a sum of nearly £200,000 had been raised in money alone, besides contributions in goods, the value of which it is difficult to estimate. The subscribers to the Fund perceived that



the extent of the need surpassed all precedent, and was beyond the power of any ordinary means of relief. The work of the Society could not keep pace with the eager desire of people at home to see their contributions carried to the help of those armies, where the slaughter had been equally sudden and enormous. The Committee determined therefore to give £40,000 for the benefit of the sick and wounded of the French and German nations, making it a distinct and honourable obligation on the part of their Chiefs to apply the money exclusively to the purposes above stated. The Committee entrusted to me the duty of carrying this large contribution in equal portions to the Germans at Versailles, and to the French in Paris.

Without entering into a history, I may be allowed to state that, in the course of my journey in a carriage between Havre and Paris, I passed a dozen times through the outposts of the French and German armies, that I was never detained five minutes, except when passing the barricades outside the besieged city, and that the Red Cross Flag was generally saluted both by soldiers and peasants along the whole road.

I merely relate this as being, in my opinion, a remarkable instance of the working of the Geneva Convention, without which it would have been impossible for me to have made the journey through towns and villages which were being alternately occupied by German and French soldiers, and by *Francs-Tireurs*, whose discipline and organization was somewhat similar to that of the *banditti* in Greece.

The permission to enter Paris was accorded me by the King of Prussia, and I was able to carry assistance to the sick and wounded in the besieged city at a time when it was most acceptable and grateful to the French nation.

Soon after my return to England the following letter was received from His Royal Highness the Crown Prince of Prussia:—

*“Head-quarters, Versailles,*

*“November 2nd, 1870.*

“The noble contribution brought by Colonel Loyd-Lindsay, for the use of the sick and wounded, from the English Society, of which he is the director, deserves somewhat more than a simple acknowledgment.

“On this, as on other occasions of distress, the help of the English public has been poured out with a liberal and impartial hand.

“The gifts which have been offered in a truly Christian spirit, have excited a feeling of heartfelt gratitude amongst those in whose name I speak. In doing so I am repeating the feelings of the whole of my country people, in this instance represented by those for whose special benefit these gifts are destined.

(Signed)

“FREDERICK WILLIAM,

“Crown Prince.

*“To Colonel Loyd-Lindsay, V.C., &c.”*

It afforded a gratifying assurance to the subscribers that this kindly feeling and generous liberality were justly appreciated by these at



the head of the German Army, and indeed by the German Army itself.

During the time that I was at Versailles, viz., 11th and 12th October, very severe fighting was going on near Orleans. While at the headquarters of the Crown Prince the messenger arrived bearing the news of the defeat of the French Army of the Loire, and of the victorious entry of the Bavarians under General Von der Tann into Orleans. The Germans were subsequently driven out of Orleans, and here it was that the French obtained their only marked success which befell their arms during the whole campaign.

The battles of the 8th and 9th November resulted in the retreat of Von der Tann, and the French army, under General Aurelles de Paladines, took up its position across the Loire, at Orleans and Chateaudun. For a very brief period it looked as if the French were about to retrieve their fortunes. Their army was a larger one than that which marched under McMahon to Sedan. It had a powerful artillery, and was composed chiefly of old soldiers, who had been liberated from service, but had been recalled again to the ranks. With all this, however, we have at present no concern, save inasmuch as it relates to the sick and wounded, who, even more than usual in this campaign, were left destitute of the barest necessities for preserving life. The French surgeons had neither chloroform, nor medicines, nor surgical instruments, and many of the amputations had to be performed with butchers' knives and common saws.

The English Society was fortunate in obtaining the services of two most able and indefatigable representatives in this district of France, viz., Colonel Elphinstone, C.B., and Mr. S. S. Lee, an American gentleman living at Tours. These two gentlemen have been up to the present time, and are still, unwearied in their exertions to relieve the sufferings of the wounded soldiers. I despair of being able to record a hundredth part of all they did in the unhappy district around Tours and Orleans, where oft-recurring battles have turned into a desert the most fertile part of France.

Colonel Elphinstone and Mr. Lee were especially successful in the establishing of a railway station soup kitchen at Tours, where wounded men passed through in vast numbers, arriving every night by hundreds at the station, where they were carried in or hobbled along themselves, without arms or legs, a terrible army of martyrs. Colonel Elphinstone or Mr. Lee were at the station every evening, with hot soup, coffee, and bread. It was impossible to describe the gratitude of the men who had had nothing to eat all day, and nothing warm for many days. On looking back to the work of the Society, there is nothing more satisfactory to my mind than the records of the distribution of nourishing food and sustenance given to the exhausted suffering wounded soldiers, who were being moved in long trains of trucks and waggons, travelling day and night, exposed to the weather, and with nothing given them but a biscuit and some water to drink. The restaurant at Forbach, near Metz, which was maintained by the English Society, in conjunction with the Johanniters, supplied, during the month of October and part of November, about 19,500 sick and wounded with wine, coffee, and food,



and exchanged the rags of the poor men for warm clothing, socks, drawers, &c. The poor soldiers, especially the French, frequently fought without having tasted food, and if wounded, often remained for days, with nothing more nourishing than a piece of dry bread to eat.

Miss Elizabeth Garrett, who was at Sedan about the middle of September, on her return home, amongst other practical suggestions, mentioned this one to the English Society. Railway station kitchens were established by Captain Neville at Maux. At this last place, besides the sick and wounded, French prisoners arrived from all parts, and, after hours of agony and hunger, were sent on by trains to Germany in open trucks, and these trains were so often shunted, that they took between five and eight days to reach Nancy. The prisoners never leaving the waggons, and exposed, night and day, to whatever weather chance might send, and to hunger, reaching almost to starvation. Captain Neville received such pressing demands, that he yielded, and provided a large supply of food for these positively starving men. Again, at the battle of Querrieux, near Amiens, on the 23rd December, Colonel Cox established an extempore cooking place in the field. He says, "Our ambulance was the only one which had brought out any sort of comfort for the wounded, beyond surgical requisites, and fortunately we were able to supply every demand made upon us by the medical men." This prompt administration of food and stimulants within the first few hours after receiving a wound, and before removal to hospital, is often of more value and importance even than surgical attendance. It is a point much neglected in the Prussian service, where too much reliance appears to be placed in surgical aid alone, unsupported by the valuable help of such auxiliary comforts as it has been the special aim of our Society to supply. The experience we have acquired at the above mentioned battle of Querrieux, and elsewhere during the campaign, shows that such aid can be provided, even on the actual battle-field, with the most advantageous results, at comparatively small cost or trouble. It has been estimated that with such extra comforts 30 per cent. more of the severely wounded would survive, than if left to ordinary French and German hospital diet.

The slight sketch which I have endeavoured to give of the work done by the National Society would be even more incomplete than it is were I to omit to mention the departure from England, with some of its subsequent operations, of the Ambulance which generally went by the name of the Woolwich Ambulance, and which was fitted out under the Director-General of the Army Medical Department, aided by Dr. Longmore, professor of surgery at Netley. This officer, whose experience and knowledge of matters connected with the transport of sick and wounded troops, and whose interest in the working of the Geneva Convention has made his name known almost as much abroad as at home, was to have headed our ambulance as a medical director, but falling ill just before its departure, much to the grief of all parties concerned, he was unable to undertake the duty.

The Ambulance left Woolwich for Havre on the 14th October; its organization and equipment was complete for 200 patients, with hospital



marquees, bell-tents, bedding, and cooking apparatus. Besides these arrangements for a permanent hospital, it was equipped with all things necessary to enable it to take the field, with 8 ambulance waggons, 12 store waggons, furnished with operating cases and surgical dressing-cases, medical comforts, preserved meats, biscuits, &c. The *personnel* consisted of 12 medical officers and 27 hospital corps men, the whole being under the command of Dr. Guy, Deputy Inspector-General of Hospitals. The route chosen for the Ambulance to reach Versailles was through Havre, Rouen, Mantes, and Vernon. It reached the head-quarters of the German Army, investing Paris about the last week in October.

The medical officers were allotted a building at St. Germain, where they took charge of 200 patients, who were suffering from typhus and dysentery, but owing to difficulties which arose in the course of frequent visits by the German Medical Inspectors, who perhaps naturally enough required a subserviency to their own *modus operandi* in the management of the patients, an abrupt termination was put to this form of aiding and assisting the sufferers in the war. The whole of the bedding and stores necessary for the comfort and support of the patients were made over to the German authorities, and the English medical officers withdrawn from the care and treatment of their former patients, who were immediately taken charge of by the German doctors.

The field equipment now came into operation, and the Woolwich ambulance was divided into two parts. Dr. Manley, V.C., who had become second in command, owing to Dr. Porter's illness, received on the 11th November an order to take charge of a division of the ambulance, and to proceed to Chartrel, where, in consequence of the repulse of the Bavarian Army from Orleans, it was expected that important operations would shortly take place. Dr. Manley joined the 22nd Division of the Prussian Army with the following staff: Assistant-Surgeon McNalty, and Assistant-Surgeon Moore, together with one sergeant and four men of the Army Hospital Corps, with the 22nd Division of the Prussian Army. He continued to march in a westerly direction, and on the 18th the ambulance was present at an engagement which took place at a village named Forçay; the waggons were taken forward, and the stretchers brought out, and the wounded collected. The ambulance waggons were then ordered to proceed to Chateaufort, where an hospital had been established. It was nine at night before the ambulances were cleared of the wounded, and the following day they were again engaged in carrying in wounded, the Prussians putting their serious cases into the English waggons, as being steadier and less liable to jolt than their own. On the 20th the division moved on, and on the 21st they were again engaged near Bretoncelles, where the ambulances again did good service. On the 2nd December a general action took place at the village of Bagnéux; an English hospital was formed at a farmhouse, in the village of Auneux, which was soon filled with wounded, even to the stables and outhouses. Dr. Manley caused the canteen to be prepared, and coffee and milk was served out to every man in the village before his wounds were dressed. The fight had been long and exhausting, and the cold extreme, and this treatment was



most beneficial. After this refreshment the wounded were attended to, and the more important operations proceeded with in the farmhouse kitchen. Whilst still operating at ten o'clock at night, the General commanding the division came and begged that the waggons might be again sent to the field, as there were numerous wounded not yet brought in. His request was immediately complied with, and it was not till three in the morning that all the wounded were brought back. At daylight coffee, and soup made from extract of meat, were again served out, port wine and brandy being also given when needed. For some days after this the English ambulance was working in the surrounding villages, where as many as a thousand wounded men were congregated. Surgeon Manley calls attention to a great defect in the German medical service, to which I have already alluded, viz., that no arrangements are made for giving nourishment to the wounded, either on the field of battle, or immediately after they are brought in. In his opinion this ought to rank in importance before the dressing of wounds. The work during all this period was most severe, and Surgeon Manley gives great credit to all there, both Officers and men, who worked under him. The message which he received on one occasion from General Von Wittisch shows that the services rendered by his ambulance were thankfully received and appreciated by the Prussian Commanders. "Receive," said the General, "our heartfelt thanks for your most valuable aid, given to us in the moment of our great need, when our own ambulances were not forthcoming."

A second division of the English ambulance, under the command of Dr. Guy, proceeded on the 1st of December, under orders of the Prince of Hesse, to Beaune-la-Rolande, where they took under their charge the whole of the French wounded, who were scattered throughout the town. Besides this work his waggons were continually employed in transporting wounded French and Prussians.

A third division, under Dr. Ball, was placed in charge of the wounded who had been left at Pithiviers, about 14 miles from Beaune-la-Rolande, and subsequently was installed in charge of a large ambulance, in the old chateau at Blois.

The three divisions of the English ambulance were supplied with stores from the dépôt of the National Society at Versailles, which was under the management of Mr. Young, Commissary-General to the Ambulance, and of Mr. John Furley, who has been from the commencement an active agent of the Society abroad, and who is now engaged under the French Peasant Farmers Seed Fund Committee in relieving the wants of the farmers round Paris.

On the first statement of the sufferings of the French prisoners of war in Germany, the Society sent out Lieutenant Swaine, of the Rifle Brigade, to act as their agent in the districts where prisoners of war are confined. Lieutenant Swaine carried with him warm clothing, to the amount of £6,000, which he has distributed in the most methodical manner at Magdeburg, Cologne, and other places. His letters to the Committee bear testimony to the good treatment which the prisoners of war receive from the Germans. He states that at the places he has visited, the men all agree that they are as well off as they have a right



to expect; and he himself adds that never were prisoners so well treated. The Committee could add more evidence to the same effect.

With a similar object and furnished with similar stores, the Society sent Captain Harvey, of the 71st Highland Light Infantry, to visit the German prisoners in France. At Belle Isle the greatest number of prisoners were confined; of these a large proportion were merchant seamen, whose hard fate it was impossible not to feel pity for. Many had been captured in August, and had lost their ships and all their property, and a great many first learnt the news of the war having been declared by being taken prisoners.

In the course of the lecture which I have been allowed to deliver, and to which you have been kind enough to listen, I have endeavoured to show, in the form of a narrative, the mode in which aid has been given to "the sick and wounded in war." I chose this form in which to treat the subject which I have been asked to lecture upon, because I thought that people would be more likely to be interested, and perhaps instructed, in the subject before us, by hearing of that which actually has occurred, rather than by listening to a lecture built up upon theoretical speculations. Now in the narrative which I have very imperfectly given, and which in no way pretends to be complete as a report of the work of the Society, there have been questions touched upon from time to time which are of both interest and importance. The manner in which these questions have been dealt with and solved under practical circumstances, I venture to think is worthy to be placed on permanent record. Casting my eyes back over the pages I have read, I find that the following subjects have been more or less touched upon. The Geneva Convention has been shown to have worked beneficially; and indeed without it much could not possibly have been done which has been under its protection accomplished. The articles have been sometimes abused, and the terms of the Convention not always adhered to. Soldiers and civilians who were not very actively engaged in the service of the sick and wounded have sometimes used the badge very freely, and the belligerents have not shown proper strictness in requiring the production of the badge or brassards. To avoid this inconvenience every accredited member of the Society should have a card, properly printed in the language of the belligerents, bearing the name and rank (in the Society) of the owner. This card should be properly stamped with a device or words which should be recognized and acknowledged by the authorities of the contending forces, and copies of this, should be lodged with the chiefs of the Society, who should also receive a nominal roll of all members sent out in the service of the sick and wounded. When a society of a neutral nation desires to come to the assistance of an army in the field, it should in the first instance send out a chief agent with precise instructions as to the character of aid which the neutral contemplates being able to furnish. This assistance must, of course, consist either in providing surgical aid, or in providing stores such as food, surgical instruments, drugs, warm clothing, &c. In the late war both these forms of assistance were given, and both were welcome. The first, I should say, was most in accordance with the subscribers' intentions; the second was certainly the most



welcome to the belligerents. The medical authorities, both French and German, preferred stores to medical service, of which they were sometimes jealous. This jealousy of foreign assistance existed even when the aid was most needed. It was, of course, immediately after a general engagement that surgical aid was most required, and then the advantage of it was beyond all price, and well worth giving, even at the cost of days and days of idle waiting.

However, it will have been seen in the narrative which I have read that the most satisfactory work which was done by the Society was done *not* by isolated surgeons tendering their skill and services to the already existing French and German hospitals, but rather by complete ambulances under the sole management and control of the Society and of the Society's surgeons. Doubtless this system has proved the most satisfactory in its results, but it must be borne in mind that it is costly in its character and requires to be supported by large funds, which might not be forthcoming at a future war. Sending out surgeons and nurses on the other hand, could be accomplished at a small cost. I think, however, I may venture to state as my opinion, that surgeons and nurses sent on roving commissions in the present state of the Articles of the Geneva Convention, would be of little useful service.

The best size and organization of an ambulance has been incidentally shown in the course of the story of this war. The greatest amount of work compared with the cost was invariably obtained by such sized ambulances as that under Dr. Manley at Orleans, that under Dr. Frank at Eperney and Balan, Drs. Simms and MacCormac at Sedan, and Dr. Yunker at Saarbruck.

The French ambulances were shown to be too large, and their *personnel* too numerous. From four to five surgeons, including dressers, with as few hospital corps men as possible, was found the most convenient strength.

Infirmiers (as hospital corps' men are called abroad) were found to be a constant source of trouble and annoyance. In the German Army these men are invariably drawn from a superior class of people, and are much better adapted for their duties than either the French or English orderlies, who are old soldiers with no aptitude or taste for attending on sick and wounded men. I believe there would be no difficulty in England in finding men of cultivation and position who would undertake the duties of infirmiers in times of war. And at a time when much attention is being bestowed on the training of female nurses, this is surely also a point worthy of consideration. I am fully alive to the superiority of female nursing, and no system of relief to the sick and wounded in time of war, can be in any measure complete or satisfactory which does not include this most important element. But the proper place for women nurses is in the more permanent field hospitals in the rear of the armies, not on the battle-field itself. In the actual following of an army on its march, a staff of men nurses, or infirmiers, is essential—the presence of women on such occasions being more embarrassing than useful.

During this war the National Society has sent out comparatively few nurses, not from any doubt as to their zeal and efficiency, but from the



fact that the supply of trained native nurses, belonging chiefly to religious communities, both in France and Germany, have been so great as to render foreign aid in this respect in most cases unnecessary. The French *Sœurs de Charité* have, notwithstanding occasional exceptions, shewn themselves admirable nurses: tender to the sick, with neither crotchets nor theories to work out, with barely any personal requirements, simply doing their duty, under direction, with loving patience and faithfulness. They have proved the great importance, or rather absolute necessity, not only of medical and surgical training, but of habits of obedience, of unity, and of discipline. It is this special training, a training hitherto found difficult to enforce, except under some kind of religious rule, which rendered the All Saints Sisters the most valuable and efficient of the English nurses sent out by the Society, and it is the absence of such training that renders the efforts of amateur nurses, however devoted and energetic, for the most part desultory and ineffective. I do not deny that exceptions may, and have during the present war, been found; but the very qualities which have distinguished these ladies would, under a more organized system of training, have achieved even greater results. The superintending and giving out of stores opens another and a most useful field for female labour, and in our dépôts at Tours and at Boulogne and Amiens this work has been principally carried out by ladies.

Again, the value of nature's remedies, viz., air and food as opposed to medicine, in the old technical sense of the term, has been continually shown, and yet it is singular that prejudice stands in the way of the one and bad economy prevents the free use of the other. The miraculous effects of fresh air have been fully exemplified, and its strongest advocates have been the English surgeons engaged in the war. The most spacious palaces—and many of these have been used—are less suited for the reception and care of badly wounded men than the temporary buildings erected of wood or canvas. The less there is between the patients and the outer air and the greater the facilities of carrying the wounded actually into the open fields, the better are the chances of their wounds healing quickly and of their health returning. The advantage of the free use of disinfectants, especially carbolic acid, for purifying the wards, and for washing when diluted, the wounds, has been shown, and will, I trust, never be forgotten.

The urgent demand for surgical instruments, and the great supply sent out by the Society cannot fail to have been noticed. Many suggestions for economy were made, and some were adopted with a view to repairing and resetting instruments which had become blunted by use, and stones for sharpening were sent out, but the most practical plan was to take back into store the blunted instruments and replace them by new ones. The expense of sending out cutlers with grinding stones would have been great and the results doubtful.

The experience gained by the Woolwich Ambulance, and especially the division under Dr. Manley (which took part in the campaign after the repulse of Von der Tann from Orleans) will, I am sure, be of use to the medical service of this country. Some question of practical interest will be placed far on the road to solution by the reports which



he has made, and by the information which he can give. On such matters as the best mode of collecting the wounded off the field of battle, and on the most convenient form of ambulance waggons and stretchers, he has given me some interesting details. He says that the vehicle which he thinks best adapted for the transportation of stores is one made after the model of the Prussian commissariat waggon. The advantage being that when fully loaded, it can be drawn by two horses, that it has a permanent roof which can be locked, and so the stores which it contains are rendered safe from loss when left unguarded or unprotected.

On the value of giving food and sustenance, he gave the best evidence by what he and his colleagues did at the battle near Bagneux, and since he has come home he has said that a good, prompt, and efficient system for supplying stimulants and nourishment to sick and wounded in time of war is of as great importance as proper surgical treatment. The lack of these requirements appeared to him the one blot on the otherwise most efficient medical service of the Germans. The following is a short account which Dr. Manley has kindly given me, from his own observation, of what takes place in the German Army for the transportation of the wounded from the field to the waggons, from the waggons to the field hospitals, and from thence to the hospitals in the rear. The regimental surgeons accompany their regiments into battle, and to every 250 men there are three *Kranken Tragers*, who accompany the regiment into action, and are supplied with and know how to use the necessary field dressings. This has proved to be a most judicious regulation, for of all the arrangements of the Prussian medical service, that of the corps of *Kranken Tragers* is the most perfect, and ought to be adopted in our service. The way in which these men do their work and the rapidity with which they remove the wounded from the field, is most commendable and worthy of imitation. Immediately after an engagement, the *Sanitats* detachment, which includes a staff of medical officers, the *Kranken Tragers*, and the ambulance waggons, all under the command of a *Rittmeister*, who is generally a Captain in the service, and who has a Lieutenant to assist him, is ordered to advance on to the field by the surgeon of the division under whose command the whole is placed. The stretchers are got out, and the *Kranken Tragers* advance, two men to each stretcher, taking a certain direction and a certain line under the command of the *Rittmeister* and his Lieutenant, accompanied by some of the Medical Officers of the detachment to collect the wounded as fast as possible and bring them to the place where the waggons have been halted. The Surgeons who have remained with the waggons proceed to apply the primary dressings and get the wounded into the waggons. When the waggons are full they are immediately dispatched at a slow and steady walk to the nearest house or place which has been designated as a temporary hospital, and over which the Geneva flag is immediately hoisted. The ambulance waggons are unloaded as quickly as possible and dispatched again to the field at a rapid pace, when all the wounded that can be found have been taken off the field, the line of *Kranken*



Tragers is ordered to halt. The mounted Officers and Non-Commissioned Officers advance and search along the ditches and hedges, and at intervals shout to attract the attention of any wounded men who may have fallen out of sight, listening also to hear if there is any response. When the wounded arrive at the temporary field hospitals they are laid side by side. The surgeons immediately proceed to dress the wounds, and tie to the button of every man's coat a small white card, on which is written a short description of the wound. If the *corps d'armée* has to advance the next day, the Sanitats detachment accompanies it, and the wounded are taken over by the field Lazarettes of the division which is left in charge. Such are the provisions for the care and the removal of the wounded from the field to the field hospital, and from the field hospital to the more permanent hospital in the rear in the German Army—the most systematizing army in the world. In our own Army, since the Crimean war, an Army Hospital Corps has been formed, or rather it has received a new constitution. I believe it numbers about 1,000 men in its ranks, a proportion of these are trained in the duties of carrying and tending the wounded in the field itself and in the hospital subsequently, but, as far as I am aware, no regimental system is provided by which wounded men are collected after a battle and carried to where surgical aid can be given them. Perhaps the Germans may be said to systematize to too great an extent, even down to the most minute matters, but it is difficult to hold this opinion in the face of the wonderful success which has everywhere attended their military operations.

In conclusion, I would beg my kind hearers to understand that what I have read to them in no way pretends to be a report of the work done by the Society abroad. My account is obviously incomplete in all matters connected with finance and precise statement of goods and money supplied to the French and German wounded soldiers. It is merely a narrative of some of the events of the war, in which the National Society took some part and some share not altogether unworthy of the English people, who, in the words of the Crown Prince, already quoted, "have poured out their help with a liberal and "impartial hand." Can we doubt that the same hand would be stretched out as liberally in aid of our own armies, and in aid of those injured in the nation's cause, should we unfortunately be drawn into the calamity of war, and can we wisely or justly decline to do what other nations have done, viz., to appoint National Committees, recognized by Government, whose functions it would be to organize the distribution of the national donations on a sound and proper footing, and thus be prepared to supplement what all admit must greatly need expansion and extension, viz., the medical department of an army in time of war.



The first of these is the fact that the United States is a young nation. It is only about thirty years old, and its history is therefore a history of youth. This youthfulness is one of its greatest strengths, for it allows it to adopt new ideas and methods more readily than older nations. It is also one of its greatest weaknesses, for it has not yet had time to develop a strong tradition or a well-defined character. The second of these is the fact that the United States is a large nation. It covers a vast area of land, and its population is growing rapidly. This size gives it a great advantage in terms of resources and power, but it also makes it difficult to govern. The third of these is the fact that the United States is a diverse nation. It is made up of many different peoples, each with its own customs and traditions. This diversity is one of its greatest strengths, for it allows it to draw on a wide range of experiences and ideas. It is also one of its greatest weaknesses, for it makes it difficult to reach a consensus on important issues.

In conclusion, the United States is a young, large, and diverse nation. These three characteristics are its greatest strengths and its greatest weaknesses. It is a nation that is still in the process of development, and its future is uncertain. However, it is a nation that has the potential to become a great power, and it is a nation that is worth watching.



No. 11

# INTRODUCTORY LECTURE

TO THE

MEMBERS OF THE VOLUNTEER AMBULANCE  
DEPARTMENT,

DELIVERED BY

SURGEON-MAJOR STAPLES, A.M.D.,

AT THE

SOCIETY OF ARTS," JOHN STREET, ADELPHI,

ON

FRIDAY, NOVEMBER 23rd, 1877.

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# INTRODUCTORY LECTURE

OF THE

MEMBERS OF THE VOLUNTEER ARMY

DEPARTMENT

OF THE

STATION-MAJOR STAPLES, A.M.

OF THE

SOCIETY OF ARTS, 302 STREET, ADELPHI

AND

THURSDAY NOVEMBER 1881

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No. 11

## INTRODUCTORY LECTURE,

DELIVERED BY

SURGEON-MAJOR STAPLES, A.M.D.,

*At the "Society of Arts," John Street, Adelphi,  
Friday, November 23rd, 1877.*

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GENTLEMEN,—

Before we enter upon the practical part of this course, it would appear to be necessary for me to say a few words by way of introduction, and the national importance of the undertaking on which you have entered will, I hope, be a sufficient reason for my doing so.

The first point, then, upon which I am desirous of offering a few remarks, is the title under which you have enrolled yourselves, namely, "Volunteers Sick Bearers' Association."

Doubtless that is an excellent title, and that much good work has been already accomplished under it is well known; but yet it appears to be open to many objections, not the least important of which is, that the perpetuation of it would be likely, in my humble opinion, to materially interfere with the avowed object of your wishes, which is, according to your programme, to obtain for the reserve forces a medical or rather an ambulance department.

Sick bearers (after the manner which has been so well lithographed in the corner of the paper), although now fully recognised as essential to complete the medical organisation for an army, are yet but a minor part of that organisation, and it is obvious that no useful end would be obtained by the possession of a part of a thing, however perfect, when the whole thing is not only desirable but essential.



Neither does it appear to me that the word Association is a good one; but withholding my reasons for the statement as unnecessary, I will suggest at once, and in view of your national development, that henceforth you should call yourselves the "Volunteer Ambulance Department."

This, I think, would better describe and embrace your entire functions, and would have the effect, so to speak, when thoroughly recognised, of commencing a connection with the medical department of the regular army, such as now obtains between the forces to which they severally belong.

With your permission, then, I shall speak of you for the future as the Volunteer Ambulance Department.

I think the word "ambulance" is better than "medical," for although formerly only strictly speaking applied to the moveable field hospitals of armies, its use has extended during late wars to all the field, medical, surgical, and nursing transactions connected with them.

It may possibly appear to some of you that this alliance with the official department of the regular army, which I have foreshadowed, would not be altogether desirable, and that through such alliance you would lose your independence; but I think that an examination of the subject will show that if such fears have been or shall be entertained, that they are without foundation, and that rather your best hopes are centered in the closer drawing together of that alliance.

Fearing, as a member of the department in question, that in giving this opinion I may be likened to the tradesmen assembled in the besieged town, I must ask you to accept an explanation of my meaning. In order the better to offer this explanation, I must place you in the field, and for once it will not be the now famous one of Dorking.

I will for my purpose instead, transport you across the Channel as a division forming part of an army employed, say, in the low countries or Germany, in support of the foreign policy of the Government. I do not want to claim originality for this supposition, for already our military writers have been imaginatively making the above use of you. But suppose, however, that you are so transported, and I don't think that it



requires any one to strain his imagination to follow the assumption, let me ask what then would be your position as regards your ambulance department? that is to say, granted you had within yourselves an ambulance association. Do you think, in fact, that as such, however independent so to speak, you would be in a condition to meet the requirements of your sick and wounded? Would it be possible for you, however prosperous, to purchase the requisite medical and surgical stores, the hospital tents and furniture, the transport waggons and animals, &c., for your hospitals, and would you, acting independently, be likely to meet the recurring financial strain necessitated by the loss and expenditure of materials incident to the operations of war?

It is needless, I think, further to add to these questions, and apparently so as well to answer them by a general negation, but I hope that the impossibilities which they imply may be taken as a sufficient demonstration of the futility of any efforts being made beyond the general one of bringing the personnel of your department into corresponding action with the official ambulance department of the Government. It must, I think, be obvious that in time of war—and the remark will equally apply to the belligerent use of the volunteer force at home—the administration of all ambulance will be vested in the authority already recognised and responsible to the Government.

I am afraid I have been rather discursive in my explanation, but I am sure you will understand that for me, as an official, the subject is not without embarrassment. What I mean then is, that for all purposes of administration, that is to say, for the obtaining of all necessary supplies of medical and surgical material, of hospital furniture and equipment, and for transport, and the submission of information to general officers, you will have to look to Government as represented by the Army Medical Department, and that, therefore, your most important study should be the acquirement of the rules which the War Office has laid down for the guidance of the latter, so that you may work in harmony with it.

In the foregoing, I find I have touched a point upon which



I shall ask your permission next to offer a few remarks, namely, your continuous existence, or, better, your existence in perpetuity,

Let us ask how is that test to be ensured?

Or what are the means best calculated to ensure it?

These are for you vital questions, and regarding them I may, perhaps, take the liberty of observing that there is not unfrequently, it would appear, a tendency for societies got up for philanthropic purposes to dissolve after the excitement which called them together has passed away, and perhaps the fear of a similar dissolution may not be altogether inseparable from the society which I have the privilege to address. I trust, gentlemen, that no such tendency may develop in your Association; but, nevertheless, I would respectfully submit that all the efforts that can be made tending towards security from such development will not be the least useful of the labours that you can undertake.

In making this submission, I am only prompted by the conviction of the uselessness of spasmodic efforts, and not by any desire to point out to your Committee what they have, doubtless, already well considered; but if I may not be held to be entrenching upon ground wherein already they have laboured successfully, I will indicate a few of the means which appear to be best calculated to preserve the new department which you are endeavouring to construct. They are as follows: Firstly, it would appear absolutely necessary to obtain an official recognition of the Volunteer Ambulance Department; secondly, it would be necessary to establish an official connection between the new department and the Army Medical Department; thirdly, it would be necessary to construct an organisation of the personnel of the new department upon the system laid down for that of the regular army, which should be applicable both to times of peace and war; fourthly, it would be necessary to procure the means of efficiently continuing and extending the instruction with which for the present I have the honour to be entrusted. I will forbear from offering remarks upon these my suggestions any further than to say that if they should be considered worthy



of adoption, their greatest merit would be found to consist in the fact that they would, in times of peace, cost nothing, or next to nothing. I will take for granted, now, gentlemen, that the Ambulance Department of the Volunteer Forces is well on the way towards being a *fait accompli*, and if in doing so I am making too free a use of my imagination, I hope to be lightly judged by an audience who are apparently so zealous in its cause. I will pass now to the more immediate subject of these lectures, namely, the ambulance system of our own army; and, as an introduction thereto, it would appear not undesirable to take a rapid glance at the general history of ambulances, or of what may for my present purpose be better called the history of the medical service of armies in the field. It will necessarily, gentlemen, be only a sketch, for a complete history would require a knowledge which I do not possess, and a time for research which is not possible for one hitherto actively employed on the working staff of a large military hospital. If you should, perchance, think this sketch is irrelevant, I must remind you that this is my first effort at teaching, and ask you to accept the dogma, that when about to master difficult technical details, there are few better ways of beginning than by first acquiring a comprehensive knowledge of the whole subject of which they are a part. I will illustrate my meaning. You will hear me talk, by and by, of, say, Langendorfski's wheeled ambulance stretcher.—I have invented the name for the occasion.—Well, the four words, I take it, do not convey anything very definite to your minds; but when I come to tell you that by the comprehensive and comparative method we will reduce this machine to the level of a costermonger's barrow, from which it really differs but in elaboration, I think an idea of the article will be more apparent to you. It is so, gentlemen, I venture to think, with regard to the system of our medical field service, that is to say, difficult when examined by itself, but easily understood when examined by means of other systems, and, more particularly, by those from which it is derived. I must hasten to my sketch now, gentlemen, and will begin with the medical field service of the armies of historic Greece. Pray be



not alarmed at the apparent magnitude of the undertaking ; there is no necessity, and I shall hope to get through the evidence regarding it very quickly. When I say the medical field service of historic Greece, I am not to be understood to mean that I have disinterred from Greek literature a complete organisation ; but yet it would appear that evidence is not altogether wanting of there having been one. Thus we read of :—

1. Field Surgeons.
2. Of Sick Transport in its various branches, and consisting of the carriage of wounded by hand, by litters, by mules, and by wheeled vehicles.
3. Of a system of hospitals.
4. Of an administrative system.

Field surgeons are very frequently mentioned in our Greek school books, and the Greek armies seem to have been liberally supplied with them, for Xenophen mentions an action with the rear of his army near Larissa, where the wounded were so numerous that eight surgeons were told off to look after them.

This is the only passage I have met with from which an inference can be drawn as to the proportionate number of surgeons to the troops ; but if in connection with it we remember the entire strength of the army—I am referring to the retreat of the 10,000—and that at the action under notice, only the rear division was engaged, or about 3,000, I think we may conclude, with some show of reason, that the proportion of surgeons in this expeditionary army was very much the same as it is in our own army at the present day. The number, too (eight), will have a significant meaning when we come to the drill of the Bearer Companies, for one of which it is even now the number prescribed in the general orders of our own army.

Their work, too, making allowance for the changed nature of warfare, would appear to have been very similar to what ours is at the present time ; and they appear to have been accustomed, like the medical officers of modern armies, to have accompanied the troops under fire. Thus Homer de-



scribes how Macheon, in the midst of contending warriors, extracted an arrow from the thigh of Menelaus; while in the historic account of the expedition into India, Arrian relates how a similar operation was performed upon Alexander the Great by Critodemus, when the former was wounded at the storming of the chief city of the Mallians (now believed to have been Mooltan); and I might perhaps add, that another operator, by name Critobulus, is said to have extracted an arrow from the eye of Philip, the son of Amyntas, and so skilfully as to have preserved the sight. Their non-combatant commission did not either appear to have been always respected, for we know that Macheon was wounded by Paris with an arrow, and in reference perhaps we may conclude that in that respect we are better off in the present day by reason of the modern talisman—the Red Cross. The soldiers of their armies, placed *hors de combat*, appear to have been removed from out of action by their comrades by what we should now call improvised methods, and I have been unable, contrary to my expectation, to find mention of stretchers. In the 17th Book of the Iliad, however, it is mentioned that the body of Patroclus was borne back to camp—aloft,—but it would appear, nevertheless, that the kindly office was effected by his comrades by means of their hands. Alexander, according to Xenophen, was carried out of action on his own shield, and a similitude between the method described, and that in use in comparatively modern armies, will be apparent to any of my hearers who may have paid attention to the transport of sick. He was subsequently borne to his camp upon the Chenab in a litter, and the circumstance, as related in Arrian's history, is not without its value as tending to show that the carriage of sick and wounded in those days in India was very like what it is at the present day under our own empire; for *dooli*—not the ferocious species, remember—is possibly just as good a translation of the original as litter. The story related by Xenophen of the mule driver, who attempted to bury alive the sick man of whom he had charge so as to get rid of him, plainly indicates that the Greeks knew the advantage of mule transport, and that they also



were alive to the advantages of water carriage for sick and wounded is presumable from their embarking them at Trebizond during the homeward march of the 10,000.

I come now to the removal of wounded from the field by wheeled vehicles, and shall ask your particular attention to this point, for the invention of it in modern times has been almost boastfully written of by the French military surgeons of the Revolution. There is no doubt that they are the inventors, so far as modern armies are concerned, but I hope to show that the idea nevertheless, is as old as Homer, and that it was moreover well known to the poet, who, indeed, not unfrequently makes mention of it. An instance, however, will be enough for our purpose, and as bearing remarkably upon the point, I will read to you a few lines from Pope's translation of the 14th book of the Iliad, where this assistance appears to have been given—none too soon—to Hector after he was felled to the ground by Ajax with a stone—

All spring to seize him, storms of arrows fly,  
And thicker javelins intercept the sky.  
In vain an iron tempest hisses round,  
He lies protected and without a wound ;  
And each bold leader of the Lycian band  
With covering shield (a friendly circle) stand.  
The mournful followers with assistant care,  
The groaning hero to his chariot bear :  
His foaming coursers, swifter than the wind,  
Speed to the town and leave the war behind.

I think, gentlemen, that the foregoing is enough to shew that there is nothing very new in the use of wheeled vehicles in the removal of disabled soldiers from the field of battle, and also that if the French have introduced them into modern armies, their use was not unknown in the armies of even remote antiquity. A word more and I shall have done with these histories. It has reference to evidence of an administrative system having existed in the Greek armies. Thus it is mentioned by Xenophen, that after the great battle before Babylon, where Cyrus was slain, Psestias, the physician who was with the king, furnished a list of those who fell in the action



upon that side. Now if in connection with this statement we consider the number engaged and the great proportion of casualties in the battles of those days, we must conclude it would appear that without a system of returns from subordinate to higher officers, as we have now, it would have been impossible for the physician mentioned by Xenophen to have performed what he is said to have done. In other words then, I think, we may conclude that the armies of this historically great people were not without a medical administration. I will now pass to the system in use in the Roman armies, or rather to such evidence regarding it, as a very hurried preparation has enabled me to collect. I promise to get through it in much quicker time than we have spent with the Greeks. I have taken what follows concerning the subject from the works of Baron Percy who, I may mention, made very deep researches into it, and who fully quotes the classical authors from whom he compiled his writings.

It will be sufficient generally to say that the system in use in the Roman armies, appears to have been very like that which, until within the past few years, obtained in our own, namely, the regimental system, but in making the comparison, it will be necessary to substitute legion for regiment, and to remember that numerically it was much stronger. To this body the surgeons were appointed, writes Percy, in the same manner in which in times of peace they were attached to the circuses and gymnasia; and he further tells us on the authority of Hyginus, the author of the work on *Castrametation*, that the camp hospital or *valetudinarium*, as it was called, was always situated in the centre of the camp of the legion. He also quotes authorities to prove that the *valetudinarium* was always the object of the most solicitous care on the part of the emperors and generals, and mentions Trajan and Alexander Severus amongst others whose orders were strict that the sick and wounded should want for nothing. He also mentions that during the war in Pannonia, where Germanicus commanded the armies of Augustus, that every forethought had been taken for the hospitals, that the wounded wanted for nothing, and that the waggons for the transport were as numerous as their



medical comforts and medicine were abundant. Percy also says that the Romans had sick bearers in the camp hospitals, but has omitted to give the authority for the statement.

It would have been important had he done so, for owing to the omission, to some extent at any rate, is due to popular belief, that he, Percy, was the originator of all modern stretcher bearers. There is no doubt he is so as regards all modern armies, but as he was aware, apparently, of the existence of this class of hospital attendants in the armies of Rome, it is probable that the discovery with which he is credited was only the revival of a custom known to him historically.

The above slight sketch, will, I trust, be sufficient to show that in the armies of the great empire, as might have been expected, the hospital field service was well attended to, and other things being taken into consideration, it would appear to have differed but immaterially from the ambulance arrangements of the armies of but recent date.

I will now devote a few words to the Crusades, merely to say that then, as you all know, was developed an extraordinary system of ambulance, the partial revival of which we have all witnessed in the late German wars, under the title of the Order of St. John, of Jerusalem, and to the present revival of which in this country, under the same designation, and under the direction of gentlemen, some of whom have honoured us with their presence to-night, we are all looking forward with so much interest.

The Order, which included as well as the Knights of St. John, those of the Holy Sepulchre, of Mount Carmel and Saint Lazarus, was, according to Percy, founded by Gerard, of Provence.

The Knights were at once, according to the same authority, sick attendants and warriors, and not only nursed the infirm in the almshouses and hospitals, but also, in their second capacity as soldiers, acted as armed guards for their protection on the lines of transport.

A little knowledge of Asiatics will explain how these otherwise men of peace developed into soldiers, for in the long marches with the sick and wounded they had doubtless



frequent occasion to defend themselves and their charge, for then, as now, it was difficult, it would appear, to induce the Turk to respect a Christian or Crosses of any kind whatever. I have read that higher motives animated the illustrious Saladin, but it was impossible for his influence to have extended to the Crusaders' lines of communication, and it is on these said lines of communication that atrocities are in Asiatic armies always committed. The Sepoy Mutiny furnishes a good example in the fate of fugitives from Cawnpore.

The middle ages need not detain us further than to say that then there was no system—those who fought being attended to by their wives and daughters or retainers apparently—and reserving what I shall say of the field hospitals of the last century for the heading "British Ambulance," we will pass at once to the French revolutionary wars, during which was developed the organisation now in use in all modern armies.

The reform of the medical services of armies effected in this period, and to which I have before so frequently alluded, was the work of two very eminent French military surgeons, Barons Larrey and Percy, and I will now, with your permission, examine briefly into the system of each, because, although both were anxious in effecting their reforms to place their own department on a scientific footing, there were great differences between their respective methods. We will begin with Larrey, who, in 1792, was principal medical officer of a division of the then French army of the Rhine. He writes that the capture of Speyers, during that campaign, furnished him with a great many wounded, and it was then that he recognised, for the first time, the great inconvenience attending the movement and working of the ambulance, and the impossibility apparently of rendering by the then system anything like a prompt or adequate assistance to those who fell in battle. It would appear that at that time the French regulations prescribed that the ambulances should always remain a league behind the position taken up by the army, and that they were not moved from this position until after an action had terminated. Regarding the effect of this



regulation Larrey writes as follows : "The wounded were left upon the field of battle until the action had terminated, when they were collected together at some convenient place to which the ambulances were brought as quickly as possible, but the great number of equipages between them and the army, and other difficulties (due in some measure perhaps to the heavy wagons then used for hospital transport), delayed them to such an extent that they never arrived till twenty-four hours and sometimes thirty-six hours and more had elapsed, and it was from this cause that the greater part of the wounded perished for want of timely assistance."

He again writes that, on the defeat of the advanced guard of that army commanded by Honchard, at Limbourg, he was still further impressed with the inefficiency of the ambulance arrangements, for owing to there being none nearer to the troops apparently than the regulation three miles, he was obliged to abandon his wounded to the enemy in the retreat which followed the reverse of the advanced guard alluded to. It was this grievous circumstance that determined him, he writes, to propose to the General-in-Chief and to the commanding General Villemansy, the establishment of an ambulance capable of following all the movements of an advanced guard, in imitation of the flying artillery. In other words, he put the hospital upon wheeled carriages capable of rapid movement, and after the manner of the detachments in the flying or horse artillery, put the surgeons and their assistants on horseback. There was a good deal of elaboration in the plan of his doing so, but for the present it will be enough for us to remember the principle and the gist of this was the bringing of rapid and prompt professional assistance to those wounded in action. He tells us the invention created a great sensation amongst the soldiers, who felt confident by its means of being speedily attended to when wounded, and rapidly carried off by the ambulance vehicles from the scene of conflict. This institution seems to have acted well throughout the campaign, and after the battle of Mayence its services were commended to the Republic in terms of the most unqualified praise by General Beauharnois. It was not, however, till the campaign in Italy,



in 1797, when Napoleon commanded, that Larrey was able to carry out his scheme with full elaboration. During that campaign, and doubtless under the directing genius of the Emperor, he seems to have applied it thoroughly to the medical requirements of the army, and the manner of his doing so was so very much like that which obtains under late regulations in our own army, with the exception only of the stretcher-bearers, that it is unnecessary here to refer to it in detail. As, however, you may be anxious for some testimony of its efficiency, I will read you a translation which I have made of Larrey's own words when subsequently, at the battle of Aboukir (French), a good opportunity was given him of testing his invention. He writes: "During the battle our ambulance, distributed upon three principal points of the line, gave first assistance to the wounded. I afterwards united them at a central point, and all the severely wounded passed to the rear through this ambulance. There were forty or fifty cases requiring amputation, which was immediately performed and with an astonishing success. The wounded received in this action the most prompt and efficacious assistance from the surgeons of the ambulances, no one remaining more than a quarter of an hour without being professionally attended to."

I thought it but right to reproduce the foregoing testimony to what has been done by a good ambulance system ably directed, as a measure of what will be required of us, or rather, as a measure of what we hope to effect by our own system, should it ever be submitted to the searching test of war. We will pass next, gentlemen, to the reforms of Baron Percy, and as we have not time to go into them at any great length, I must ask your particular attention to the principles of them. During the wars of the Republic and first Empire, two things in connection with field ambulance seem to have impressed themselves very strongly upon the mind of this great army surgeon.

One was the delay in rendering professional assistance to the wounded, due chiefly to the regulations which I have before said directed that the field hospitals should remain a league behind the army. The second was the great number of



men who left the fighting ranks with the object of assisting wounded comrades to the rear. We will now see the steps he took to remedy these defects, surgical and military. As regards the first, when principal medical officer with the Army of the North, he instituted a system in imitation of the light or field artillery, and endeavoured by this means to bring surgical aid promptly to the scene of action. He invented for the purpose a kind of carriage, upon which rode, or rather were carried, eight surgeons and four attendants, while four other attendants were mounted upon the horses not ridden by the drivers. The wagon, as well as the surgeons, carried their instruments and dressings, and a proportion of stretchers, and was esteemed to have rendered great service by the general commanding. After the Army of the North was broken up, however, it was not apparently ever used again in the French armies, having no doubt given way to the system of Larrey, which I have already described.

The second principle dictating his reform will next claim our attention, namely, the recognition on his part of an unnecessary number of men leaving the fighting ranks, for the purpose of assisting wounded comrades to the rear, and regarding it, we may say of him, that to render the practice unnecessary, by the substitution of trained sick bearers, was the great official labour of his life, and that it is in the main to his work in this direction that stretcher-bearers are now a recognised part of all modern armies. It is unnecessary to enter into a detail of his labours, and the difficulties he encountered, but to show his enthusiasm and belief in his system, I may mention that, commencing after the battles of Eylau and Freidland, he only ceased in 1813, when he had the satisfaction of seeing his invention adopted for the whole French army by an imperial decree. In regard to the systems of Barons Larrey and Percy, I will only ask you to remember, in connection with them, the light spring-wheeled vehicles of the one and the stretcher-bearers of the other, for it is the combination of both, with other necessary details, that constitute all that we are met here to study.

I will now, gentlemen, run rapidly through the history



*back*

of the ambulance system of our own army. It will be unnecessary, I think, to go further than the time when the Duke of Marlborough was developing the great military genius of the country. In the works of Sir John Pringle, who was with the army in Flanders and Germany about the period, speaking generally, from 1742 to 1749, ~~and which would appear for our purpose quite far enough to go back,~~ he mentions that the system then in force consisted of regimental surgeons, moveable or flying field hospitals, and general hospitals at the base of operations. The regimental surgeons worked in the moveable or flying field hospitals, which were, it appears, situated like the French, three miles from the troops. Regarding the carriage of wounded to those hospitals, I have been unable to find evidence that it was other than by methods improvised upon the spot, and consisting, probably, for the most part, of firelocks and greatcoats, and no doubt, soldiers selected from the ranks were attached to the surgeons; but I see no mention of trained stretcher-bearers or special vehicles for the transport of wounded. The medical history of the Peninsular War, speaking generally, is almost a repetition of the foregoing, and although this war, as Sir James McGregor tells us, developed many eminent operating surgeons, still it failed to secure for the service any improvement in what we may now call ambulance. Perhaps I ought not to omit to mention of my belief that it was in this war it became recognised that bandsmen should remove the wounded from the field by means of stretchers. The allusion to the custom, however, only calls for further remark as to its unsatisfactoriness, for bandsmen being generally the pluckiest fellows in a regiment, as a rule, prefer a rifle to a stretcher, and commanding officers, as I know personally to be a fact, are not slow—and properly so—to encourage them in their choice.

The transport of the wounded from the front to the base hospitals in this campaign was performed by the return wagons of the Commissariat train, and as these for the most part were without springs, it is easy to subscribe to the generally known opinion concerning this transport, namely,

*before described**those of*



that such cases as fractured limbs and wounds of vital organs suffered not a little during the long journeys they necessarily underwent. As regards spring vehicles for the carriage of wounded during this campaign, I am anxious to mention that no person could have been more alive to the necessity for them than Sir James McGregor, who was chief medical officer of the army, but he appears never to have been able to induce the Duke of Wellington to see the necessity for their adoption. An answer of the Duke's to Sir James McGregor on a representation of the latter for their adoption, may not perhaps be out of place here. He said he would have no vehicles in the army, except those for the conveyance of the guns.

The Crimean campaign is too recent, perhaps, to be brought into the plan of this lecture, for reasons doubtless obvious to you all; but in connection therewith I will refer to a circumstance illustrative of the fact that during that European struggle our ambulance system was far from perfect.

In Miss Thompson's picture of Inkerman, which you have, doubtless, all seen, the centre of the foreground is occupied by four men of the 20th Regiment, who are carrying back from the action a wounded officer of the corps in a greatcoat. Well, I think I may venture to say that that group has appealed powerfully to the sentiments of every soldier who has seen it, and, for the matter of that, to any person seeing it who values *camaraderie* and friendship, or who loves the military history of his country; but from our point of view, and as bearing upon the well-known defective ambulance arrangements of that war, we must apply an adverse criticism to it, not of course in reference to the artistic merits of the work, but to the incident depicted in relation to our studies here. I will endeavour to do so by means of another picture.

In the National Gallery of Berlin, which I have had the pleasure of seeing lately, is a representation of the battle of Königgratz, and in the centre of the foreground of the composition, close to the charger upon which the King of Prussia is mounted, is also a group with which we may compare Miss Thompson's. It is less sentimental, perhaps, but cannot fail to impress those of us who are interested in the well-being



of such of our soldiers as fall wounded in battle, with the improvements that have been carried out in recent Continental armies for the welfare of this class of men. The group consists of two stretcher-bearers, upon whose arms the Red-Cross badge is visible, and who are in a methodical manner carrying upon a stretcher a wounded man, whom they have apparently dressed and rescued from the battle. It would be needless, I think, to make any comment whatever upon the comparison.

The new system of field ambulance in our own army should next claim our notice, but its recent adoption prevents my more than alluding to it here, and doubtless to do so would be quite unnecessary, for you have all, I dare say, read the description of it which appeared in the *Times* newspaper about two months ago, and in which the history of its development under the administration of Sir Wm. Muir, K.C.B. and Surgeon-General Munro, C.B. was traced at very considerable length. There is one name in connection with it, however, which I am anxious to allude to here; for since the Crimean war the owner of it has been intimately associated with every movement that has taken place having for its object the reform and efficiency of the field hospital service of our army, and who has created in connection therewith a special literature of ambulance. I am alluding, gentlemen, to Professor Longmore, of Netley. I find, before I have done with the history of our ambulance department, that I ought to make reference to the system of the army in India. I have not hitherto done so, because I was anxious, when describing our English system, to keep up a kind of comparison with that of Continental armies, but now possibly, a few remarks might not be inappropriate.

Rougher, perhaps, both in its personnel and materiel than the ambulance department of the home or continental armies, it yet, if I mistake not, challenges comparison with any one of them for efficiency; and were it otherwise, it would be sufficient to say of it that it was unworthy of the great administration of that empire. I might add, perhaps, that whenever it has been tried by war, or pestilence more horrid



than war—and unfortunately it is but too frequently tried by both—it has only been to gain fresh testimony of its efficiency, and recurring tributes from the Government.

And now, gentlemen, I will ask your indulgent criticism for the many defects in the sketch which I have undertaken. I am painfully aware of its being but a daub, and will only ask that in some measure the size of the canvas may be accepted for the many errors of drawing, and the absence of many essential details. It would have been better, perhaps, had I concluded with the natural deductions of my subject, but I felt that to do so would have been quite unnecessary, and besides, the fact of your meeting here this evening has deprived me of the one great and important one which a retrospect of the entire subject would have enabled me to have drawn, namely, that of the armies of the nations who have marched toward universal empire, the only one without an ambulance department is the great Volunteer Army of England.



No: 12

THE  
ADMINISTRATIVE SERVICES  
DURING THE  
FRANCO-PRUSSIAN WAR.

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PRUSSIA.

The literature of the Franco-Prussian War has already assumed gigantic proportions. The conditions which on the one hand led to great and unexpected successes, and on the other to no less great and unlooked for disaster have been discussed from various points of view; the superiority of the one power as compared to the other in the purely *military* services has been pointed out and acknowledged, yet I venture to think that sufficient attention has not been bestowed by speakers and writers in this country, upon the important part played by the *Administrative* or *Auxiliary Services*. I believe, therefore, it will be profitable to consider for a little what was the manner in which those services operated, what the extent to which they conduced to such opposite results in regard to the contending armies, taking my information on these subjects from published documents of various kinds.

Let us first glance at the condition of the *Administrative Services* in PRUSSIA. It is now well-known that for many years before the outbreak of the late war, Prussia had been engaged in the work of perfecting her military establishments; that this work had not been limited to matters of drill and parade, but that it included the branches of the service whose special functions are to provide for the physical support of the forces employed in actual conflict, and in the maintenance of their *morale*. In each



of these important services, such imperfections as actual experience in the field proved to exist were rectified from time to time, such alterations and improvements as experience showed to be necessary were made, the great importance of being *ready* for eventualities, being ever kept in view. It was this state of readiness that enabled her to gain the signal victories of 1866; it was this readiness that enabled her in that year to surround and force the dissolution of the army of a neighbouring power whose boast had been, even up to the moment when war was declared that her army was upon a footing of peace, in other words, without organization for the field, without commissariat, ambulances, or transport. It was this readiness on her part, that unreadiness on the part of her opponent which neutralised, as regards the latter, one of the most gallantly fought, and one of the most successful battles\* by small against large numbers recorded in the history of campaigns; and, let me add, it is this state of readiness at this very hour which to my mind renders a review of some points of her organization alike opportune and important.

That such changes and improvements in the working of the mighty military machine had special reference to the particular event which happened in 1870 may perhaps be matter of speculation. There is, however, no longer room for doubt that for two years prior to that date every necessary preparation for it had been made; that all was ready and complete when the storm-cloud burst in the month of July; and it is important for us to observe that among the preparations made, such matters as are within the province of the *Auxiliary Services* held an important place. Thus, soon after the conclusion of the Austrian war, General Moltke drew up a code of instructions for the *Etappen Inspektion*, and these had in 1868 been partly embodied in regulations. According to them,† an important part of the duty of this branch of the administration was "to watch over the replenishing of the operating army with men, horses, provisions, ammunition, and other military stores;" another, "to see to the removal into the interior, of the sick and wounded," and I solicit attention to the circumstance, that these duties are in the published instructions placed in juxta-position, thus indicating their relative importance according to the estimation of this very high military authority. We shall see presently how elaborate and how perfect were the arrangements for the execution of their objects throughout the war. Prussia has, indeed, been correctly stated to have been and to be the most aggressive State in Europe, enlarging and consolidating her kingdom at the expense of her neighbours and even of her friends. Her army has been the object of incessant study and improvement from the battle of Jena when the old system

\* Langansalza, 27th June, 1866. Lecture by Captain H. Brackenbury, "Journal of the United Service Institution," No. 68, of 1870.

† From the "Edinburgh Review," January, 1872.



collapsed to that of Sedan. The North-German armies are described as in the highest state of discipline that can be reached by scientific preparation for war;” but the point which concerns our present object mostly is that this high state of preparation includes “all departments, from the highest down to grave diggers, in other words, from the highest to the lowest;” that is, all are in “a continued state of readiness for war.”\*

Baron Stofell, in 1868 was well aware that the state of completeness and preparedness of the Prussian Military services was far beyond those of France. He distinctly stated that such was the case, in the reports furnished by him to his government, which have now assumed a veritable prophetic character, and he enumerated the several respects in which this preparedness was most apparent. These were—*a*, the readiness with which special corps admitted of being formed; *b*, the numbers in all ranks, of officers and men, thoughtful, well-educated, and judicious; *c*, the care with which the various services were improved from time to time as circumstances seemed to require, and, their completeness watched over by the King; *d*, and this is most important in its bearings—that no one branch of the military service should be deemed of greater importance, none of less importance than another; his Majesty keeping up the enthusiasm of all by his demeanour to the several officers; *e*, the high state of discipline, the energy and *morale* existing in all ranks of the army, and the readiness with which in the emergency of war the routine of the drill ground and demands of *Regulations* could be dispensed with.” The latter had indeed been dwelt upon even some years before Baron Stofell wrote. In 1860, Prince Frederick Charles† observed, “If Prussia puts herself this haughty question, What will be our fate in a war with France? We can conquer her with a certain blow, if we know how to detach ourselves from the routine of parade and regulations.” He added, “the motive power which these forces give is insufficient to maintain discipline, to bring soldiers up to the enemy and to make them maintain their fire.”

Here we have a distinct acknowledgment of the great power of *moral force*. The royal author just quoted, lays, “no stress upon tactics at all, but rather upon moral supremacy, arising out of a sense of power in the individual, and confidence in a sense of intelligent power on the part of their leaders.” Hence, the value in order to maintain this moral force, of *education*, sufficient to enable the men to understand the ultimate object of operations or manœuvres in which they are engaged. It is also necessary that the soldiers should have full confidence in the arrangements in existence for supporting them during the war in which they are engaged, and for their care if struck down by wounds or sickness.

\* The Army of the North-German Confederation. Translation by Colonel Newdegate.

† On the Manner of Fighting the French. London, Ridgway, 1866.



One more example of the general preparation of Prussia may be cited, namely, the perfect knowledge possessed by all ranks of the topography of the theatre of military operations. The importance of information of this kind has been acknowledged, and acted upon in a remarkable degree by Prussia, and not alone as regards the physical geography of France and other countries, but with reference to the customs of the people, the population, their degree of martial superiority, their religion, the number of churches, and other public buildings, the roads, rivers, bridges, military positions, and so on.

Much has of late years been said with reference to the relative qualities of old and of young soldiers for real war. In our own country, the point in dispute has not for a long time had an opportunity of being put to the test of proof; it is, therefore, of the greater importance that we should in this respect observe the system adopted by the Prussians. They, instead of filling their ranks with young uninstructed lads included in the "contingent" of the year, preferred to have none at all of these, but rather to possess in large numbers soldiers already made and fit to join their battalions. They preferred to place under the standards married men of thirty-five years of age and upwards, rather than send under fire young lads who had not completely undergone their military training; and as a result of this arrangement these remained at drill, while fathers of families fought in France.\*

On the subject of compulsory service, I restrict my remarks to its bearings upon *military efficiency* alone. I fear to extend them. Its results both in a social and domestic point of view are altogether another matter. Suffice it here to observe with reference to this method of recruiting armies, that it has been tried in former times, and found to be productive of evils of so gigantic a nature as upon public grounds to demand its withdrawal; that one of the greatest of King Alfred's benefits to England consisted in the abrogation of compulsory service, and the formation of a distinct class, namely, the Militia, the *levée en masse* being only had recourse to in great emergencies. Undoubtedly, in a military point of view, the system of compulsory service has important advantages. It provides to the army, men who are well brought up and well-educated, the sons of the gentry bring an immense influence to bear upon the soldiers of the inferior classes; it removes from the Army the stigma of social inferiority, and renders it what is its boast to be considered, "the nation in arms." In order that none but the physically fit should, however, be drafted into the ranks, the medical officers in charge of districts examine at stated times all those who are liable to military service, reporting to the several commandants the names of all such as on each occasion are found to be unfit. A similar examination is made whenever the order for mobilising the army is issued, a careful

\* *Revue Militaire de l'Etranger*, No. 36. July, 1872.



selection made of those who are in every respect physically fit for the coming fatigues, those only fit for ordinary service being retained in the reserves. The men of the Landwehr, who are married, and selected for active service, leave their wives and families chargeable to their several parishes.

Liability to military service includes not only men, but all horses. The animals used by private individuals are liable to be taken for purposes of military service, not even excepting those of medical practitioners. We read that in Bavaria horses were taken from the peasants' carts, forage for their support being carried away in large quantities at the same time, that there the poor people gave what they could willingly, under the promise that a fair valuation would be granted, yet that in 1873, they were still representing to the War Office in Berlin that this had not yet been done. No fewer than 40,000 horses were thus withdrawn from the population of North Germany in July, 1870.\*

"Voulez vous bâtir une armée? Commencez par le ventre; c'est là le fondement." This maxim was eminently kept in view by the Prussians. No sooner had war been declared than arrangements upon a most gigantic scale were made for supplying food and other necessities to the troops in progress to the front, and while engaged in the advanced positions of the army. The first concern of the Prussian administration was to establish stores of food, ovens, and bakeries, not only along the principal routes towards the frontier, but at important points along the course of the Rhine,† evidently with reference to facilities of transport. Within the district of each *corps d'armée* supplies for men and horses equal to their consumption during a period of six weeks were got ready and maintained, the troops advancing being, moreover, individually provided with reserve food, and the whole, followed by carts of traders with different kinds of provisions, all of which would be purchased at fixed but moderate prices. Magazines of food were provided at numerous smaller stations. As soon as circumstances permitted, each *corps d'armée* was furnished with a special provision train for itself, and within a very few days, fifty trains laden with food were sent from various parts of Germany to the banks of the Rhine.

In order that an idea may be formed of the enormous quantities of food it was necessary to provide for the troops, I would observe that after the Forces had entered France, the estimated quantity of food per *corps d'armée* per day included 18,000 loaves of bread of 3 lbs. each, 129 cwt. of rice or barley, 70 oxen, and 120 cwt. of bacon, 18 cwt. of salt, 1,000 lbs. of coffee, 3,500 quarts of arrack, and 3,500 ounces of bitter orange. Each horse was allowed 12 lbs. of oats, and 24 lbs. of hay or straw. Besides these articles, many others had to be provided to meet the daily requirements of the

\* *Revue Militaire de l'Etranger*, Nos. 73 and 75.

\* As at Cologne, Coblenz, Bingen, Mayence, &c,



soldiers, including cigars, tobacco, stockings, flannel, belts, and clothing of all kinds, so that we read without surprise, but with admiration of the "innumerable trains of supply, food and provender, taking their place with baggage and ammunition;" that at one place there were miles of hay waggons, of bacon and beef waggons, horned cattle led by the score, and that in some instances the flood of invasion resembled the emigration of entire tribes in patriarchal times; at least, in so far that they seemed to be accompanied by their flocks and their herds."

But with all their resources, and all their carefully-arranged plans for securing ample supplies of food, the great object of the Germans was, with respect to the French, to follow "the simple rule—the good old plan—that he should take who has the power, and he should keep who can;" or in other, and perhaps more inglorious language, to make war support itself. We have heard of a similar system in former times. Nevertheless, there were occasions, early in the campaign, when, with all their precautions and care, the requirements of the troops were insufficiently met. Thus, it is recorded, that two days after the battle of Forbach, the supply trains were far in the rear; that during these two days the men had nothing to eat but a little bread; that they were wet to the skin, many of them ill, and that wet straw was all they had to lie upon. Being without tents, the rain extinguished their camp fires, the horses had no forage, and all this near their own frontier.

As the Germans advanced through France, "requisitions" by no means light were levied by them upon towns, villages, and individuals; families were forced to give accommodation, food and drink to such numbers of soldiers as the invaders chose to quarter upon them; and he alone who has seen the gastronomic capabilities of a stalwart specimen of their race can fully comprehend the import of what we understand as bed and board. It was otherwise with the British forces in India during the campaign of the Mutiny, and during the China war of 1860. On both occasions, the system of "requisition" was unknown, except as regards transport, and then payment was made at rates beyond those usually current.

Each German soldier, before beginning the day's march, had a cup of hot coffee; in halting during it, a well-provided canteen supplied a hot meal at a moderate expense. On entering a town or village, the bakeries and abattoirs were taken possession of, and sentries placed over them; the proprietors were furnished from the army stores with necessary implements; flour and cattle were then obtained by "requisition," after which, the wants of the troops in bread and meat having been completely satisfied, their authorities *permitted* the inhabitants to purchase what was left at fixed rates. The results are readily comprehended. They have been described by more than one *Correspondent*. According to



one\* from whom I quote, there were "a pitiful scarcity of food and sudden despair" among the peaceful population. The proclivities of the writer, it is right to observe, were altogether and unmistakably German. The army which marched from Metz on Orleans, a distance of 230 miles, started with all its trains full. It nevertheless lived entirely by requisitions, the trains being replenished three times on the road. The cavalry advance guard had with it officers whose duty it was to draw up "requisitions." These officers specified certain times, generally twenty-four to forty-eight hours, within which the supplies indicated by them in each town were forced to be collected and delivered at the stated places.

Nor was it only while advancing that the arrangements connected with *supply* were thus *systematically* conducted. Definite rules were laid down and rigidly enforced in regard to this service during siege operations. Taking that of Metz as an example, we read that "the subsistence of the investing force is assured first by the principal magazine of Remilly; second, the magazine of Pont à Mousson supplied in its turn by Remilly; third, requisitions should be made in a regular manner by the intendance, by means of cavalry, and as far as possible in rear of our lines. The zones of "requisitions" are determined with great precision, and *detachments sufficiently strong to ensure this service* will be sent to different points for the purpose.

Perhaps the full force and meaning of those instructions may become more apparent by contrast. For this purpose I transcribe the orders issued by the Duke of Wellington to the army entering France after Waterloo, dated at Nivelles 20th June, 1815. "It is therefore required that nothing should be taken either by officers or soldiers, for which payment be not made." "The commissaries of the army will provide for the wants of the troops in the usual manner, and it is not permitted either to officers or soldiers to exact contributions. The commissaries will be authorized either by the Field-Marshal or by the Generals, who command the troops of the respective nations (British and Prussian) in cases where their provisions are not supplied by an English commissary to make the proper requisitions, for which regular receipts will be given; and it is distinctly to be understood that they will themselves be held responsible for whatever they obtain in the way of requisition from the inhabitants of France, in the same manner in which they would be esteemed accountable for purchases made for their own government in the several dominions to which they belong." "Look upon *this* picture and on *that*."

We find that when emergencies and difficulties arose in regard to supplies of food, ample arrangements were immediately made in regard to them. For example, in the interval between the battle of Gravelotte and investment of Metz, the cattle collected

\* *Daily News Correspondence*, pp. 89—170—174—412.



from various quarters for the use of the troops became attacked with pleuro-pneumonia. Not fewer than a thousand of those affected were at once killed, and it became necessary to replace the food of which the troops were thus unexpectedly deprived. This was promptly done, the zone of requisitions was increased, requisitions were enforced upon the peaceful inhabitants without regard to any consideration.\* Mutton and pork were obtained wherever procurable; extensive purchases were made at available seaports of salted and smoked provisions; at Mayence, abattoirs and other arrangements were made for killing cattle and preserving their meat by means of salt, pepper, and partial smoking. As the armies advanced through France, depots of provisions were established at the large towns along the principal routes.

The actual amount of rolling stock in the shape of waggons with the armies to maintain their supplies as indicated was truly enormous. Thus there were attached to each *corps d'armée* four hundred waggons of two horses each, besides which the General Inspection of the Etappen had three hundred more at its disposal. The troops marched without tents. In bivouac they protected themselves by means of wind shelters and sheds made of straw, foliage, or other materials. During sieges and bombardment of cities, huts were erected for them. Each man carried upon his person his clothes and "bedding" so that the greater part of the transport was devoted to supplies and such stores as might become necessary, a large amount being of course devoted to munitions of war and warlike stores. In France, the soldiers of the army of occupation were billeted by choice upon the inhabitants, in order to keep up the custom among them of occupying an enemy's country. Accommodation for 1,000 men was only used by 500; each man had a separate locker; the quarters were littered with straw which served the purpose of bedding, and the occupied quarters were regularly white-washed. Further, it is on record that the War Office at Berlin realised a profit of one-third out of the sum paid by France for the daily ration of the men, this sum being assigned as a fund for the purchase of maps, payment of gratuities, prizes, &c.

During the late war, the use of *railways* by the Germans acquired a development heretofore unknown, not only for the transport of men and stores to the front, but for the rapid conveyance back to their own country, district and town of those struck down by wounds or sickness. In the beginning of the war they were made use of for two separate purposes; namely, during the mobilisation of the forces, for the conveyance of men from their homes to the place appointed for the supply to them of clothing and equipment, and thence to the rendezvous of the *corps d'armée* to which they severally belonged. Both these operations were completed on the tenth day from that on which war had been

\* *Revue Militaire de l'Etranger*, No. 61, of 1872.



declared, namely, on the 26th of July, and then began the work of concentrating the different armies on the frontier. A commission consisting of a staff and executive military officer, and of an officer of the railway, arranged the details connected with this service at each of the principal stations, all being subordinate to and acting under the orders of the chief commission at Berlin; the lines of the several States of the Northern and Southern Confederation associated themselves with those of Prussia Proper, and for the management of the whole, previously existing regulations were remodelled and adopted to the conditions of the emergency.\* The military administration of the railway service was placed under a general officer, and so long as troops were in progress along the lines or halting at the stations upon them they were considered to be under his orders, much as our own land forces are while on board one of Her Majesty's ships, in regard to the naval captain. Railway carriages of the third and fourth class were easily transferred for the conveyance of troops; partial arrangements were made according to whether trains were intended to convey to the front cavalry, infantry, or artillery. Two years before the occurrence of the war a complete programme had been drawn out as to the composition and size of particular trains, the hours of departure and arrival at stations, and the remarkable precision with which arrangements so long before laid down were carried out is now matter of history; two severely contested actions being† fought by the Germans on the thirteenth day from that in which strategic movements began. During these thirteen days there were conveyed by various lines 42,000 men per day, five principal lines being used for the purpose, so that on the 4th and 5th of August not fewer than five to six hundred thousand men were in position, with their equipment and supplies.

Troops were transported direct from their several starting points to their final destination; so were stores of all kinds, care being taken that neither men nor material belonging to different corps were mixed up together, or dispatched by the same train, although it often became necessary to take advantage of different lines, provided they concentrated upon the same point. As the Germans advanced through France, they took advantage of railways and rolling stock as far as it was in their power to do; on reaching Paris they established a chief Commission of Direction at Versailles, placing under it four other commissions, each at a chief city‡ in the occupied territory, assigning to each commission a group of railway lines. To insure the proper working of these lines, 3500 trained men were brought from Germany, and readers

\* *Les Chemins de Fer pendant la Guerre de 1870-71.* Par F. Jacqmin, Paris. Hachette, 1872.

† Forbach and Froeschwiller.

‡ Viz.: 1. Strasburg. 2. Nancy. 3. Reims. 4. Chaumont. "*Chemins de Fer pendant la Guerre de 1870-71.*" Page 250.



may, perhaps, be interested to learn that the extent of the lines equalled 1600 miles, that the rolling stock included 1600 carriages brought from beyond the Rhine, and 4000 appropriated in France, all these being used for bringing up troops and stores, and for the transport back to Fatherland of sick and wounded.

At particular points along the several railways, refectories, at each of which hot meals were obtainable by the troops, were prepared and fitted up together with all requirements for personal comfort and convenience; at those places a regular system existed for collecting and slaughtering cattle, for preparing soup and boiled meat, of which the meals of the soldiers consisted, as also for quickly distributing them, the time allowed at each such place varying from one to three hours per train conveying 800 men.\* Special arrangements were made for sick, wounded, and convalescents, all of whom were conveyed in carriages specially fitted up for them; and the telegraph was freely used along the several lines to intimate in advance the times of departure from, and arrival at different stations. Another very excellent plan was, that trains conveying provisions contained a variety, so arranged that inconvenience to the troops in front would not arise from an accident befalling any one in particular. All these, and other arrangements were conducted agreeably to a Code of Regulations as minute in its nature, and as strictly enforced as were those of a purely military nature.†

Railways also fulfilled a most important part in reference to men wounded in battle. Not only were they employed as already mentioned, but where military movements, or battles, were imminent, trains suitably fitted up were sent along different lines, and to occupy particular positions like ordinary ambulances, they being provided with sufficient staff to attend to such wounded as should be brought to them for transport to the rear;‡ and there can be no doubt as to the great gain to the wounded themselves of such a system.

The arrangements connected with postal communication, partook of the general completeness of the other services of the German army. Correspondence between individual soldiers and their friends was rendered easy and frequent. Other matters than letters were, without stint, passed between them; thus souvenirs of various kinds from parent, wife or sister were transmitted with every care and regularity to soldiers in the ranks, and "Correspondents" allude to toasts of home and its associations, and songs recalling familiar places and friends that passed round isolated groups of German soldiers united in the dreary cold Christmas night of 1870 to share little articles of delicacy sent to them from their far off villages and hamlets,

\* *Chemins de Fer*, p. 82.

† *Chemins de Fer*, p. 88.

‡ *Edinburgh Review* January, 1872.



even as the army stretched itself around Paris, exchanging fire with the outlying forts and positions. The ties of home, thus never broken, had a powerful moral effect upon the soldiers. Each one knew that his deeds and conduct were anxiously watched, and made subjects of conversation within his social circle; thus the natural pride which all men feel in being well thought of was brought into play, nor can it be questioned that to this circumstance, brought about by good and thoughtful arrangements, the high state of discipline of the army, as a whole, was in no inconsiderable a part due.

The improvements effected in the working of the Army Medical Service in Prussia have, to a certain extent, kept pace with those introduced into other departments, and, perhaps, such further advances in organisation as the late war has shown to be necessary, are even now being considered for early adoption. As matters stood in 1870—71; it was infinitely superior to that of France. For years before, on the occasion of each annual mobilisation of the Prussian Forces, it had been the custom to practice the Medical Services in regard to their working in the field, to thus keep them habituated to foresee contingencies, and prepared to take their places complete, whenever the exigencies of actual war should require them to do so. There are two respects, however, in which the experience of the late war indicate room for improvement to enable sick and wounded in the field to obtain the amount of help that medical and surgical science is capable of conferring upon them under more favourable circumstances. The service was, as yet, but partially emancipated from the Intendance, while there is another element which, in reality, tells more directly against its efficiency than even the Intendance, namely the *Johaniters*, men of no special training for hospital duties, of high social position, without actual responsibility in regard to the success, or failure, of professional treatment, yet who fetter surgeons in their duties, and it is said appropriate credit that is due to those with whom rest the technical knowledge and the responsibility.

Arrangements for the reception of the wounded were made upon a very extensive scale. In the capitals of provinces, cities and towns, at the chief railway stations, and, as we have seen, along the different lines of communication, hospitals and buildings, suited for the purpose, were fitted up with this object; huts were erected, tents pitched, *matériel* and *personnel* for all being provided, partly by the War Department, partly by Societies under the "Red Cross," partly by individuals; but all such being in addition to, and supplementary to the establishments with the active army.

In Prussia, during times of peace each *corps d'armée* has its own principal medical officer, whose duties extend, not only to the troops and surgeons of the active forces, but also to those of the



reserves. He preserves correct lists of all surgeons in civil life residing within his district who are liable to serve on the occurrence of war, and keeps a record of their several qualifications; when war is imminent, an appeal is made to civil practitioners and retired army surgeons to give their services, and they are appointed for the time being, in the proportion of 1 surgeon to 190 men in the active army, or including the Landwehr, 1 to 290. In addition to these, a private surgeon of eminence is attached, as consulting surgeon to each *corps d'armée*, brevet inspectional rank being conferred upon him while so serving. His functions consist in giving professional advice in complicated and difficult cases, in performing the more difficult operations, and in meeting the executive surgeons in consultation whenever requested by them to do so. The advantages and importance of an appointment such as this must be obvious. Responsibility is in a considerable degree taken off surgeons of the army, their time is saved, treatment of individual cases is facilitated, and the relatives of the wounded, whether officers or men, are satisfied that they obtain the benefit of the highest professional skill.

Another point of excellence deserves notice. Not only are the men employed as *brancardiers* or *infirmiers*, carefully trained for their particular duties, but great care is taken that soldiers selected for the duty are men of at least moderately good education, respectable in social position, and moral in character. Inducements are held out to them to make hospital nursing their profession; their pay is good, they have the prospect, after passing a suitable examination and serving a definite time in the army, of receiving certificates as *gardes malades*, and being appointed in that capacity to hospitals and asylums in civil life. On active service, in addition to the *brancardiers* of the ambulances, each company contains four men whose duty it is to fall out during battle, and assist in conveying wounded to the first line of assistance, they returning to the ranks when not thus required, and then performing the ordinary duties of soldiers. These men are regularly trained for their duties on the field, they wear a distinctive badge, their employment removes all cause or excuse for soldiers while engaged in combat quitting their ranks on the plea of assisting a wounded officer or comrade, and accordingly, such a practice is very strictly prohibited.

The regimental surgeon accompanies his regiment into action. With and under him are the *krankenträger*s (brancardiers) of companies, trained to apply first dressings, and to carry a wounded comrade. The *Sanitäts Detachment* is formed under the orders of the divisional surgeon; it is commanded by a captain, aided by a lieutenant. The *krankenträger*s advance by twos in indicated lines, each couple carrying a stretcher. They collect the wounded as rapidly as possible, and convey them to the place where the ambulance carriages have been halted; the surgeons remaining with



the waggons apply the first dressings, according to necessities, and this done, the conveyances drive off *at a slow pace* to the nearest house, or other shelter where the field-hospital has been established. I have purposely noted that the pace of the conveyance is *slow*, because in the fact of its being so lies a great fault in our otherwise efficient field system. Unfortunately, slowness is rendered necessary by the heaviness and clumsiness of the conveyances, whereas the necessities of a soldier, whose limbs have just been shattered, demand that the means of transport be both light and elastic. This was fully acknowledged during the American war, and some of the improved carriages used in it were as light and well finished in construction as if they had been built for private use—such as were employed in Paris were well horsed, and much to the advantage of the wounded, they were usually driven from the battle-field along the streets to the fixed ambulances at the rate of nine miles per hour, and upwards. And such are the carriages we require in European warfare.

But let us follow the German routine a little further. The waggons, when unloaded, return for more wounded, for whom the search is prosecuted until every hedge, ditch, quarry, and hole has been carefully examined. When the wounded are brought to a temporary hospital, they are placed side by side, the surgeons after having given each the requisite attention, affixes to a button hole a card, upon which he writes the nature of the wound, so as to render subsequent exploration of it, and consequent suffering to the patient, as far as possible, needless. As the *corps d'armée* moves forward, the wounded are transported to the regular field-hospitals; and every man whose condition admits of further transport, is conveyed to the nearest available railway station, and thence dispatched in suitably arranged carriages to their own country, or to some intermediate point where ample arrangements have meantime been made for them.

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## PART II.

### FRANCE.

In August, 1806, Prussia sustained in the battle of Jena a defeat by the armies of France nearly, if not quite as great as that which little more than half a century afterwards she inflicted upon the latter; the whole kingdom lay at the feet of the first Napoleon, who entered Berlin in triumph within a month after he had declared war. From that date, France had till 1870 continued to be looked upon as the model military nation of Europe; she had, it is true, met with several great defeats and reverses in the interval, yet her military reputation continued to hold its high position; her organization was everywhere looked upon with admiration; in many respects it was more or less completely adopted or copied by some other countries, our own among the number; and it is now indisputable that when the late Emperor declared war, all but a very few of the initiated were fully prepared for quick and easy success of his troops. But within a very few days from that time confidence began to fail. As events followed fast upon each other, it became more and more apparent that "the fortune of war" had turned against France in favour of her old and implacable enemy, and before her final overthrow, the admirers of her old *régime* asked themselves the question, By what means has it come about that the once glorious army of the great Napoleon, which under him had marched victoriously to almost every capital in Europe, is now "crumpled up," as it were, by a Power which scarcely dates beyond the present generation?"

In my previous paper I endeavoured to indicate some of the respects in which Prussia, *profiting* by the great defeat she sustained at the beginning of this century, had *set her house in order*, and also to point out in what manner she has from that time gone on perfecting her own arrangements, as each *trial* in which she has been engaged showed the existence of defects to be corrected or suggested improvements to be adopted. I have evaded purely military details, and intend to do so now, they being beyond my sphere and scope of this paper; yet it is obvious that there are points at which the consideration of the *non military* or *administrative services* touch the military or combatant so closely, that it is difficult to say precisely where the limit should be drawn.



It will be remembered that Napoleon the First divided the services connected with war into two very separate and distinct branches, namely, that of command and that of administration; in other words, that of the generals and that of the intendants. Under him, *centralisation* was at its maximum; but then he himself, the *centre* and ruling power of the whole machinery of war, alike military and administrative, was ever present where the requirements took place, or delegated adequate powers to generals in command of independent forces. Military organization in many of the armies against which he contended had, moreover, not attained the perfection of that established by his great genius. But, as events have amply shown, the organization which enabled him to obtain his successes, and, it may be added, to recover from his defeats, did not in subsequent years advance with the changing conditions of the times, nor keep pace with those improvements and preparations which Prussia was steadily although silently prosecuting. Not that there were no counsellors to give warning against the dangers of false security. There were several, more especially General Trochu and Baron Stofell. For some time before the fatal year 1870, they had raised their voice of warning; their writings now declare the correctness of their views, but no explanation appears as to the causes which led to those views not having been acted upon, nor of the apathy which seemed to stand in the way of the most ordinary precautions against such an emergency as then occurred. Nations, like individuals, sometimes profit by the misfortunes of their neighbours. We have just seen that Prussia, out of her disasters in 1806, has reaped the transcendent successes of 1870; there may, therefore, I trust, be profitable instruction to be reaped from the detail of France's unpreparedness, which I now proceed to give.

General Trochu,\* writing in 1867, dwelt upon the decadence which, since the days of the First Empire, had taken place in the conditions of the French army, going so far as to look upon the fate which soon afterwards actually befel that army as being a very probable contingency. "During peace,"—such are General Trochu's words—"the exigencies of war had been lost sight of; the army was only kept up for peace; the *administration*," he adds, "is perfectly honourable, but it is not constituted with reference to the requirements of war, where, in a certain sense, it acts in opposition to itself." During the war in Italy, improvements shown in that of the Crimea to have been needed, had not been introduced into the administrative services.† The events of 1866 further indicated the existence of serious defects. Changes had subsequently been contemplated and partly introduced; nevertheless a staff officer‡ thus alludes to the state of those services in

\* "L'Armée Française en 1867," p. 168.

† Speech of M. Rouher. Also *Quarterly Review*, No. 129, of 1870.

‡ "Considérations Générales sur l'Etat Militaire de la France," par M. Nuques, Lieut.-Col. d'Etat-Major.



1869, that is, the year immediately preceding the outbreak of the war. According to him, "the wars in the Crimea and in Italy had demonstrated that the military system of France neither answered the requirements of the country nor the position it should maintain in the world; that although nothing of importance had been done to improve its conditions, the events of 1866 had given to a neighbouring Power success unprecedented, and aggrandisements the ulterior limits of which had not yet been attained." General Trochu further observes that so rapidly had partial changes been for some years made in the system of administration of the army, that the different services connected therewith "had ceased to be conducted in accordance with simple definite regulations readily comprehended by all; that although many of the regulations had been prepared by men of talent, their only nature indicated that their authors were either unacquainted with actual war, or if personally acquainted with it, had insufficiently observed its requirements or profited by its lessons." Of the regulations in force, some were contrary to others; officers charged with their execution were placed in doubt and difficulty; the routine which worked tolerably well in peace was inapplicable to the emergencies of war, where emergencies take place suddenly and unexpectedly. "France had, indeed, been turning out her Chassepots and mitrailleuses; it is even asserted that she had done something to raise, arm and drill her soldiers; but *something* beyond all these was needed, and in *that* she was deficient. This something has been well described as the *mechanism* of an army, composed of numerous and diversified wheels, for the successful operation of which it is necessary that they shall work in harmony." Without this *harmony* between the different parts of a military machine, successful working becomes an impossibility.

Baron Stofell\* had also pointed out at various times between 1866 and 1869, that serious defects existed in the administrative services of the French army as compared to those of Prussia; nevertheless, with all his great talents for correct observation, he was only partially aware of the extent to which, as proved by subsequent events, defects really did exist. Taking his reports in the order in which they were made, we find that first among the defects he alludes to is the imperfect organization of the medical service, and the want of a special corps of bearers of wounded men from the field of battle (p. 2). He then points out the inferiority, intellectually and in education, of men and officers in the French army, as compared with those classes in the Prussian (p. 11), and condemns the system of *substitutes* so demoralising, not only to the army, but to the nation itself. He adverts to the absence of special corps for railways and telegraphs; and in 1868,

\* Military Reports addressed to the French War Minister by Colonel Baron Stofell, Translated by Captain Home, R.E. 1872.



he wrote: "During the past fifteen years we have had two great wars; what military instruction have we obtained from these wars?" "Have we," he asks, "sought to perfect one of our institutions, to reform one of our services?" (p. 85.) He points out as deserving of adoption, the system of *inspecting* army corps pursued in Prussia, the object of which is "to ascertain the amount of fitness for war that the troops have attained." In August, 1869, he considered that war was inevitable, and, moreover, that France, "by her ignorance of the state of affairs, has not the same foresight as Prussia" (p. 135); nor does he omit to draw in bold terms a contrast between the moral conditions of the two peoples, consequently of the armies of France and Prussia (p. 142), giving to each its due importance as an element of military failure and of military success. In all this, not a word has occurred about actual combat. Events soon proved that where gallantry and pluck of contending forces in battle are equal, it becomes necessary to seek in some other elements the causes by which the issues of campaigns are decided. I believe, therefore, that from this point of view the war of 1870-71 is capable of furnishing many important lessons to such as are prepared to receive them.

When war was declared, and the French forces mobilised, the fact at once became apparent that important defects existed in the system of enumerating actual effectives in that army. Discrepancies existed between the numbers of men and horses, as shown upon paper and as they actually were. The infantry was deficient to the extent of 70,793 men, the cavalry 6,409 horses, there being a surplus of 5,816 men; the artillery was deficient in 705 men, 2,957 saddle and 9,313 draft horses, besides 11,154 horses and 708 mules lent to farmers; the engineers required no men, but were deficient in 1,308 draft and 540 saddle horses; the general staff was deficient in 54 officers; the military train to the extent of 3,700 men, 1,640 saddle and 9,019 draft horses; the army service corps to that of 3,000 *ouvriers d'administration*, and 300 *employés d'administration*, besides 80 officers of the administration, 56 of the intendance, and 900 infirmiers. At first sight it is difficult to account for such deficiencies. The circumstance has transpired, however, that in the *total* of troops shown by the *Returns* of July, 1870, to exist, were included 24,000 gens d'armes, dépôts, 28,000; home garrisons, 78,000; Algeria, 50,000; making a total of 230,500 men who were unavailable for purposes of war, although borne upon the rolls of effectives.

When the emergency of war actually occurred, and the army had to be increased, men drafted into the ranks were, as often happened, sent great distances to the dépôts,\* where alone they

\* To further illustrate what is indicated in the text, I may observe that only 35 out of 100 infantry regiments were in the same garrison as their dépôts. The 87th Regiment was at Lyons, its dépôt at St. Malo; the 98th at Dunkirk, its dépôt at



could obtain their clothing and equipment; such dépôts being situated in Paris, Lyons, Metz, Strasbourg, Perpignan, Montpellier, &c. Much time was thus lost; the men once equipped, had in many instances again to perform long journeys; proceeding to join battalions which had in the meantime left their stations, and gone, in some instances at least, to join divisions to which a different rendezvous had been appointed. Conscripts of insufficient *physique* were by the *Conseil de Revision* passed as fit for service, irrespective of the opinion of the examining surgeon; old men and substitutes also filled the ranks; many were infirm, low in stature, half worn out, uneducated, and prone to indiscipline. Men thus suddenly brought together from distant points were strangers to each other; regiments received numbers who knew not how to handle a musket, to say nothing of a Chassepôt rifle, and yet such men in some instances were sent into battle the very day they joined. *Corps d'armée* consisting of such materials rapidly thrown together were without cohesion; one portion of their administration without knowledge of how far deficiencies existed in others, nor was there time for the necessary knowledge and co-operation to be attained before actual operations began. The very principles laid down by Marshal Bugeaud had been ignored by the authorities who accepted his works as text books. "If," said he, "principles of action have not been fixed upon beforehand, how can their application be ensured in the moment of danger? We must not trust ourselves to chance inspiration in regard to matters of importance; we must act according to principles." And he continues, "The same men should as much as possible perform the same duties; they should know in advance what will be required of them, and how to perform it; thus error and hesitation will be avoided." "It is incontestible that the manner in which the military machine works at the opening of a campaign determines to a great extent the manner in which it sustains itself throughout its course."\*

When divisions marched, the men were nominally supplied with rations for four days' consumption; in reality, however, they often had not sufficient for one. There was but one place of issue for each division; troops began their march in the early morning, and although the actual distance traversed seldom exceeded ten miles, and at times not more than five, they did not reach the halting place till late in the afternoon; many men had dropped behind from weakness, hunger and fatigue. The place of issue of the rations was of necessity at a considerable distance from the great body of the troops; parties of men detailed to draw and distribute them performed their duties reluctantly and imperfectly;

Lyons. Every soldier not actually serving had to proceed to his dépôt for clothing, and then be re-conveyed to his regiment. Further, the dépôts themselves needed in several instances to be supplied with articles of equipment.

\* De Ternay, quoted by Lewal, "Conférence sur la Marche d'un Corps d'Armée," pp. 7 and 9.



soldiers strayed in search of food they were unable to obtain in a regular way; houses were robbed and pillaged; trains of provisions were seized and robbed by bands of two and three hundred of all arms; the roads in some places were strewn with broken-open chests of biscuits, salt pork, Italian pasties, and cartridges; officers' trunks were forced and plundered, and there is reason to fear that in some cases officers lost their own lives. Intendant-General Vauchelle\* had well expressed the fact when he observed that "without assured subsistence, an army can undertake nothing;" and how was the truth of his axiom being confirmed?

When regiments were ordered to take the field, they were unable to obtain even the conveyances allowed to them under ordinary conditions, for as these were in park at Satory and Vernon, instead of being kept ready and available at the head-quarters of corps and divisions, it was impossible to make them available when most needed. For all practical purposes they might as well have been non-existent. Nor could other means of regular transport be obtained in sufficient quantity for the conveyance of food and stores. Carts and horses were accordingly requisitioned. Both were alike ill-suited for their purpose; the carts broke down, horses gave in; constant delays and interruptions on the line of march were the result. Yet nothing can appear more complete than the Regulations on the subject of Transport. Napoleon the First well knew the importance attached to it. As expressed in a code of Instructions issued under his orders, "The transport service is most essential to the success of an army, and often even to its preservation." "The transport service is the soul of an army, to which it of itself communicates life and movement." "The success of operations and the honour of the administration nearly always depend upon it."† Supplementary means of this description must, as a matter of course, be always engaged. "The idea," says M. Vauchelle,‡ "of creating a system of transport sufficiently large to meet all requirements connected with food and supplies for an army on service, would never enter the mind of any reasonable man, much less that of an enlightened administrator. Supplementary means have ever been required, but then they must be well chosen, and efficient for their purpose."

It will be remembered that on the 15th of July, 1870, war was declared in the Senate and Corps Législatif. On the 18th of that month it was reported officially from Bitsche that the military chest at that place was without money. On the 20th, the Intendant-General at Metz telegraphed that the troops had neither sugar, rice, coffee, nor salt, and very little of either pork or biscuit. On the 21st, the officer in command at St. Avold reported that he had large quantities of useless charts, but was without one

\* "Cours d'Administration Militaire," Tome II., p. 174.

† Vauchelle, Tome III., p. 322.

‡ Vauchelle, Tome III., p. 333.



of the frontiers of France; and on the same day a brigadier at Belfort reported that he had arrived there, but was neither able to find his brigade or general of division; he asks for orders, as he knows nothing of the whereabouts of his regiments. On the 24th, the general officer at Thionville is without *cantines*, ambulances or waggons, and the Third Corps at Metz had neither engineers of the administration, bakers nor butchers; no ambulance-carriages, no medical officers. On the 25th, neither biscuit nor salt meat existed at Mézières; several battalions of National Mobile Guards arrived at Chalons camp unexpectedly, without arms, camp equipage, or utensils; without blankets or any other requirements for service, many of them also destitute of food; and the result was "demonstrations on the part of the citizen soldiers of a very dangerous nature." On the 26th, bakers and butchers not having arrived at Metz, the troops had to eat the biscuit that should have remained as a reserve for 12,000 men. On the 27th, there existed at the same place no tents for the use of troops arriving; and on the 29th, biscuit was needed to enable the men to march forward. Camp equipment, blankets, water-vessels, and mess-tins were deficient in quantity.

Early in August, the officer commanding the 7th Corps at Belfort was without engineers, army service men, or *train*. On the 7th, wine, brandy, sugar, pork and vegetables were urgently required at Verdun. On the 8th, there existed at Chalons camp neither a ration of biscuit nor food for the field, with the exception of sugar and coffee. On the 10th, many fugitives, sick and wounded, were arriving in that camp from the battles which had already taken place nearer the Rhine; there were still no cooking tins nor water-vessels in camp; palliasses and shirts were deficient in quantity. On the 11th, the military authorities at Strasbourg were without money to pay for food or comforts needed by the wounded, distributed among the neighbouring villages.\*

Direction and administration were concentrated in Paris. Everything had to be obtained from the capital. The various departments of the Ministry of War were suddenly overwhelmed by the number of telegraphic and other dispatches arriving from the provinces; the existing stores of material of every kind were rapidly exhausted, nor could further supplies be prepared in sufficient time to meet subsequent demands. When defects were discovered in equipment and supplies of forces at a distance from the capital, it became practically impossible to furnish them in time; thus for the purposes of war many of the stores in Paris, alike of military as of other material, could not be brought into use.

The absence of organization in regard to railways deprived the Government of the full use of these for purposes of transport. It is true that 186,000 men and 32,000 horses were by these means

\* Livraison XIV. Correspondance de la Famille Impériale.



sent to the front, and that, trusting to railways, the ordinary roads were made use of to a relatively small extent; yet the wonder is, how under such circumstances even this could be effected. The actual state of the railway service is thus described: "Everybody issued orders; the officials of the several lines received contradictory directions, first from one quarter, then from another, many of them of such a nature as to be impracticable of execution."\* Infantry, artillery and stores were dispatched by the same train; fragments of different corps and divisions sent together; officials at intermediate stations hurried off trains without reference to the state of the line at more distant points; arrangements were insufficient for supplying the troops proceeding by train with food, or for meeting their other natural requirements; at some stations the railway servants were absent—they had, in fact, ran away; means of signalling were deficient, while at some of the larger *termini*, notably at Metz and Strasbourg, "the state of confusion was beyond conception except by an eye-witness." Special arrangements of carriages and trains for the transport of sick and wounded were non-existent, nor were they introduced by the *administration* throughout the war, although the *Société des Secours aux Blessés* tried in some measure to supply this defect.

It seems hardly necessary to observe that while in war it is essential to success that the physical conditions of troops engaged shall be maintained at the highest possible point, it is no less essential that their *morale* shall be so also. So convinced was Napoleon the First of the importance of maintaining the *moral force* of armies, that he even placed it before the physical. "Moral force," he observed, "constitutes three-fourth parts to success, while physical force constitutes one-fourth." Let us now see what effect upon the troops in this important respect had the conditions we have glanced at. The soldiers were not slow to observe that although they were being hurried towards the Rhine, the real requirements for offensive operations were absent. Their *physique* had already suffered considerably, in consequence of privations, fatigue, and exposure; their *morale* became further depressed by the sad and dejected looks of the sick and wounded whom they saw in their ill-provided hospitals; and under such conditions did the first great battles of the campaign take place.

But the defects in the administrative services now related had also a most important bearing in reference to the military results of the campaign. The plan of that campaign, according to *La Liberté*, was intended to include a rapid advance upon Hesse, to neutralise the South German States, occupy Frankfort, sweep the Prussian territory on the left bank of the Rhine, enter Westphalia, and, being supported by Hanover and Denmark, drive the Prussians beyond the Elbe, and subsequently re-construct the

\* "Chemins de fer pendant la Guerre de 1870-71," par F. Jacquin.



German Confederation, to the exclusion of Austria and Prussia. Be this as it may, the object of the French Emperor is well known to have been to attack the German forces before the latter should be able to complete their concentration. The fact presenting itself that needful supplies were wanting, the administrative services defective, delay, unavoidable under the circumstances, was resolved upon, in the hope that those services might be able to extemporise in the emergency what was defective and deficient. The German forces, complete in every respect, their administrative services in perfect order and accustomed to their work, had meantime effected their concentration. The French had to scatter their divisions, not for military reasons, but in order the more readily to obtain supplies along different lines of railway; the plan of the campaign, before a blow had been struck, was changed to one of defence; portions of their now separated corps were attacked by the Germans in superior numbers; defeat followed defeat; cohesion, never complete, was destroyed; the disaster at Sedan, and finally the capitulation of Paris itself succeeding as natural results. "The absence of prevision resulted in national disaster."

Men exposed to the casualties of battle must feel satisfied in regard to, and have absolute trust in the completeness of arrangements for, and in the fitness of persons to take charge of them if struck down by wounds or sickness. They must be made to feel that by the side of the arm to strike is that to heal, or at least to give such aid as may be possible. This fact has been recognised by great conquerors and generals in all ages. In the wars of France during the 16th and 17th centuries, it was acknowledged and acted upon, yet strange although it be, neither the first nor third Napoleon bestowed that degree of consideration upon the sick and wounded of their armies which humanity and policy rendered desirable. It has, indeed, been remarked, and a similar observation might be applied in respect to another country than France, that on the occasion "of each war, those who are pompously named the guardian angels of the sick and wounded soldiers are courted and exalted; after the war they are regarded as the costly agents of a nearly useless service."\* The subordination of Medical officers to the Intendance had been continued, notwithstanding the urgent representations made on the subject; the results were that a falling off of the number of candidates on the one hand, and increase of retirements on the other, had produced a paucity in the ranks of the *service de santé* to an extent most injurious to the interests of the soldier.

We have seen some of the respects in which it was defective in the French army in the war of 1870-71, but the story remains to be completed. Not only were establishments of ambulances deficient in *personnel*, according to scale laid down in Regulations,

\* "Le Service de Santé des Armées avant et pendant le Siège de Paris, p. 28."



but in some instances divisions of the army were absolutely without ambulances. Harness for ambulance horses having to be obtained from Metz, was wanting to a great extent. Brancardiers to bring the wounded from the field of battle, and infirmiers to attend upon them in hospitals, were insufficient in numbers and without qualification for their duties. Men who could for the time being be spared from other branches of the *administration* were utilised for the purpose, but as similar deficiencies existed in all, few men, and often none, could be spared. Musicians and soldiers from regiments were "told off" to perform the duty; others quitted the ranks during actual combat to accompany, in bodies of eight, ten, or even more,\* a wounded comrade. Difficulty was experienced in getting these men to resume their places in the ranks. Experience indicates that those who have to continue in battle should see as little as possible of the havoc made in killed and wounded; thus it was found that such men as did rejoin after having seen the wreck were in a less favourable state to continue the work of fighting than if they had been uninitiated in such details.

Surgeons of the army were insufficient in numbers. They were sent by the Intendance to particular ambulances, not necessarily informed as to the state of completeness or otherwise of such ambulances, and not seldom to find them absolutely destitute of the means of preserving life; without surgical instruments, chloroform, appliances, or medicines. All such articles could only be obtained from Paris. Communication with the capital being soon cut off, it became impossible to obtain necessary supplies. The devotion of individual surgeons was great, as it always is under such circumstances; but what signified that in the absence of means? In some cases, soldiers had to undergo amputation of wounds shattered in battle by means of butchers' knives and common saws.† Wounded men were transferred from ambulance to ambulance by the Intendance, without reference to the opinion of medical officers; surgeons were without voice in the distribution of the wounded, the numbers placed in particular apartments or in regard to other hygienic arrangements connected with them, and the results were the outbreak in nearly all ambulances of hospital gangrene and pyemia. In other instances wounded were moved from ambulance to ambulance in unsuitable conveyances, unprotected from the weather, insufficiently fed, and without proper attendants. In fact, "constant confusion, weakening of the exertions of surgeons, considerable mortality and suffering for all, patients and surgeons; such was the result of the organization, or rather dis-organization of the *Service de Santé*, under the high and incompetent direction of the military *Intendance*."‡

\* At the battle of Montretout on the 19th January, 1871, I myself counted thirteen men coming to the rear with *one* wounded soldier.

† Report of Brit. Nat. Soc., p. 17.

‡ M. Le Fort, *Chirurgie Militaire*, p. 123.



## CONCLUSIONS.

Is the question asked, What are the conclusions I desire to draw from the remarks I have ventured to make in regard to the *administrative services* during the late war? What the lessons to inculcate? I would briefly summarise both.

Undoubtedly physical force must ever decide the result of a campaign. In order, however, that it may do so, it is essential that arrangements are complete for bringing it to bear upon a particular point at a definite time. Inasmuch also as an important element of this physical force is composed of reasoning and thinking men, who require to be fed, clothed, and generally taken care of, an important item in relation to their management is to maintain in them those sentiments of trust, confidence and order which together constitute the *morale* of a force. We have seen what are the views entertained by great commanders on this point. Prince Frederick Charles lays "no stress upon tactics at all, but rather upon moral supremacy." "Moral force," said the First Napoleon, "constitutes three-fourth parts to success, while physical force constitutes one-fourth;" and, I may observe, Marshal Bugeaud has stated the results of his experience that "it is easy to bring soldiers to the fire, but difficult to maintain and preserve them there." I therefore venture to observe that the teachings of the Franco-Prussian war seem to me to have been studied in this country too exclusively from a military point of view, too little from an *administrative*.

With regard to the *human material* of the contending forces, there were unquestionably important differences, *moral* as well as physical. With the Germans, this moral force combined the sentiment of national pride, love of country, solicitude for its interests and honour, in addition to the great military principles of devotion, self-sacrifice, discipline and good order; all these giving unity and strength to their organization. In France, her own writers observe that the feeling of patriotism had fallen asleep; that, masters of their own unity for two centuries, they had ceased to think of conquest from without, and that when war was declared against her old enemy, popular enthusiasm failed to be aroused thereby. It is allowed that in this general decadence military discipline had become relaxed to a serious extent; but in and beyond the army, the three great moving principles of life were absent: "respect to God, honour, and country."

In the armies of Germany was united the manhood of the country. In those of France, only a portion of her manhood, consisting of the poor and even the less desirable among them. A large number of the German troops were practised in and inured to war, physically strong, of mature years, and in all respects ready prepared for actual service. Those of France were in a large proportion immature, inexperienced, uninured to active service, un-



prepared for war, and without knowledge of what was required for its emergencies. With the Germans, *cohesion* and *confidence* extended through all ranks; with the French they were non-existent.

In Germany, preparations had been carefully matured and arrangements made *years* before, in reference to the eventuality of a war with France; officers of all grades and *departments* had learnt what were the precise positions they should occupy, what the duties they should fulfil. The soldiers, in like manner, had learnt by actual practice the precise steps each had to take, whether in the active ranks or reserves; arrangements were ample and in working order for their rapid supply with clothing, equipment, and other requirements, as well as for their conveyance along the different stages of their mobilization. In France, traditions of former times retained their sway. Corresponding preparations to those just mentioned had not been made; when the emergency of war occurred, neither officers nor men knew from practice what was required of them, and as we have seen, instead of mobilization and equipment of forces proceeding regularly and systematically, according to pre-arranged plans, all was hurry, confusion, and incompleteness.

With the Germans, the two great requirements of armies, namely, *food* and *transport*, were ensured and provided for with a degree of care and a completeness of organization hitherto unequalled in war. Above all other considerations was the importance of supplying the active forces with ample and good food; the next, that of maintaining communication and means of transport of all kinds between the advancing *corps d'armée* and the "mother country." In the case of France, the means of *feeding* the armies, by no means perfect or sufficient in themselves, were further impaired by the absence of prevision and organization in regard to transport and communication.

In the case of the German forces, very complete arrangements existed for maintaining communication between soldiers and their homes. Thus, domestic ties were never absolutely broken, nor the influence of home and friends forgotten: soldiers as they advanced and fought felt that their conduct and fate would form the matter for conversation in their several villages. And it is recorded of them, that the circumstance formed a powerful stimulus to bravery and good conduct on their part.

Unhappily it does not appear that any thing corresponding to this existed in regard to the soldiers of France. Except under the organization of *Red Cross Societies*, there is no record of special facilities being afforded for communication between them and their homes, and naturally the arrangements made by these Societies had reference, more particularly to the sick and wounded. If, therefore, as we have seen, the existence of such arrangements on a large scale was productive of the great *moral* results we have



quoted, it is equally clear what were some of the consequences which arose from their deficiency or non-existence.

Allusion has been made to the necessity in a *military* point of view, as well as from that of humanity for providing ample means under a special organisation for sending the wounded from the field of battle, conveying them to ambulances and hospitals, and for their proper attendance and care while there. If soldiers, whose purpose it is to fight, are employed after battle in traversing the field, removing the wounded and burying the dead, experience has sufficiently proved that they are less morally fitted to take part in subsequent fights than are those who have not had an opportunity of witnessing the carnage of battle; moreover, so long as life and suffering are matters for consideration, it is absolutely essential that only men carefully trained for their duties should have care of wounded, whether in progress to, or in the hospitals. With the Germans these principles were fully accepted and acted upon. Whether as *krankenträger*s, or as *infirmiers*, men so employed were carefully trained for the purpose; they had, in addition, special inducements held out to them for continuing, while in active employ, the duties connected with these vocations, knowing that openings for employment in other positions existed for them when, on the completion of their service, they returned to civil life. In the case of the armies of France, it is sufficient to indicate that the *personnel* officially employed as *brancardiers* and *infirmiers* was neither by training nor qualification fitted for the efficient performance of its important duties.

Lastly, in order of enumeration, but by no means so in importance are the medical services of the contending armies. That of Prussia, although by no means so perfect as it might have been, had been considerably improved since the war of 1866. The principle was fully acknowledged, that it was the interest of the State to provide for the soldier, who fought its battles, the best professional services that could be obtained, and to afford them, when sick and wounded, the most liberal treatment in every respect. The medical staff was both numerous and effective, ambulances and other sanitary establishments were carefully and amply supplied with all requirements, and *on actual service*, the medical officer was supreme in all that concerned the care and proper treatment of the patients. Even since the war ended, improvements, shown to be necessary in this service, have been introduced, rendering it, for its purposes, perhaps the most complete of any existing army. In the corresponding service of France, the professional care of the sick and wounded remained "a subaltern service"—subordinate to and ruled by officers necessarily ignorant of its requirements. Not only were medical officers with the armies in insufficient numbers, because candidates held aloof, and those who were able to retire did so, but such as accompanied the forces, chained as they were by routine, were

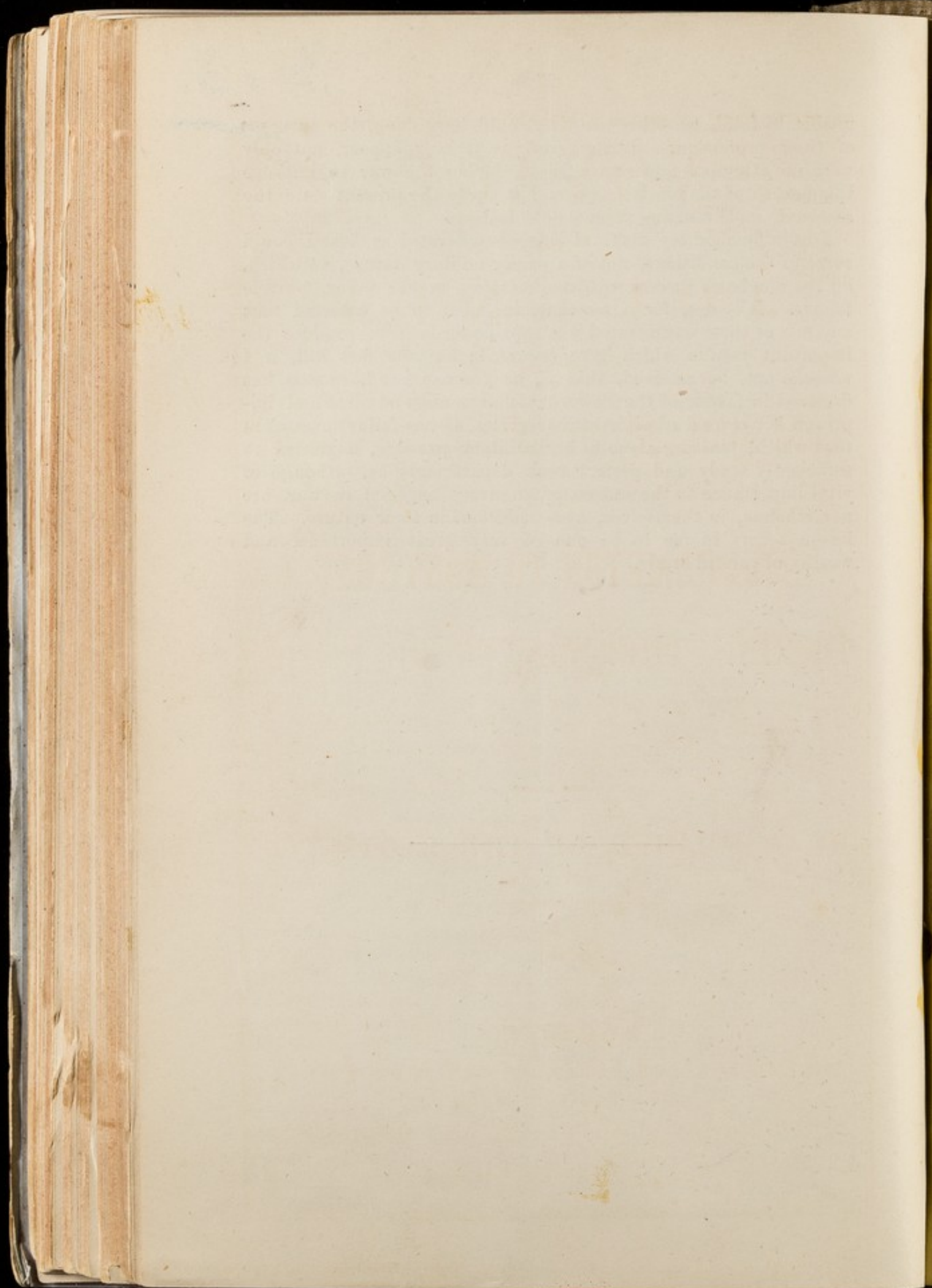


unable to fulfil, as otherwise they could have done, the purposes of their profession. Strange also as it may appear, not only were no attempts apparently made during the war to improve this branch of the official service, but up to the present date the *service de santé* remains upon its old footing.

I have finished my task. I have enumerated as best I could some of the conditions, not of a purely military nature, to which, on the one hand success was attributable—on the other, terrible failure. It is not, for a moment, intended to be asserted that any one of these enumerated was capable of itself to produce the important results which have occurred; but the fact will, if I mistake not, be received, that if, on the one hand, success has declared in favour of the Power which has most studied and improved her several administrative services, so has failure overtaken that which, trusting alone to her military prestige, neglected to sufficiently study and perfect such departments as, although of vital importance to the success of an army engaged in war, are nevertheless, in themselves, *non-combattant* in their nature. The lesson seems to me to be one of very great importance and worthy of careful study.

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No. 13

VOYAGE  
AND  
JOURNEY  
OF THE  
2nd Batt. Scots Fusilier Guards,  
FROM  
SOUTHAMPTON TO MONTREAL,  
DURING THE WINTER OF 1861-2.

---

BY A SOLDIER OF THE REGIMENT.

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MONTREAL :  
PRINTED FOR THE PUBLISHER BY JOHN WILSON  
AND FOR SALE AT THE NEWS STORES OF  
Pickup, Dalton, Flynn, and Riddell.  
1862.



VOYAGE

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# VOYAGE AND JOURNEY

OF THE

## 2nd Batt. Scots Fusilier Guards

*From Southampton (England) to Montreal  
(Canada,)*

DURING THE WINTER OF 1861-2.

THE *Route* to hold ourselves in readiness for service in Canada was received from the Horse Guards on the 11th December, 1861. From that date until the 19th, the day on which we were to leave London, we were busily employed in packing stores; inspecting to see who were fit and unfit for active service; visiting and bidding adieu to friends and relatives; making arrangements for the comfort of the married women who were all left behind; and numberless other things "too numerous to mention." I went out on the evening of the 18th to bid "good-bye" to some friends; when I came home about midnight, I expected to find the men all in bed, but was surprised when I got to my room to find them all sitting around the fire, singing songs, and apparently as merry as if they had not a single care in life. In the interval between the songs, they discussed with much animation the prospect of war with the Northern States of America; most of them entertained the opinion that the disgusting pride of the Yankees would make them stick to their prisoners,\* when a war must inevitably ensue; and, as a matter of course, gold chains, wooden legs, arms in slings, and Victoria Crosses, would be the order of the day. We continued singing and talking until sleep gradually overpowered us; no one, however, thought of going to bed, but slept where they sat or lay. We were roused about 4 a.m. to get breakfast, and put our traps together. We fell in on parade whilst it was yet dark; we were inspected and the roll called, when, to the credit of the battalion be it said, not a man was absent. The Grenadier Guards, also for service in Canada, started half an hour before us. Numbers of ladies, officers, and relations and friends of the men, were assembled in the barrack square to see us off. When the word of command, "Fours Right," was given, such a cheer arose as made the welkin ring again. Unfortunately, owing to the lamented death of His Royal Highness the Prince Consort, we had no music to cheer us on our march, Military Bands in London not being allowed to play while the Court is in mourning. We missed the familiar strains of the "Girl I left behind me," and other tunes usually played on leaving a station. Many said it was like going to a funeral, and that it was a bad omen. To make up for the deficiency in instrumental music, there was plenty of vocal. "To the West," "Cheer Boys, Cheer," and "Dixie's Land," were sung again and again in our progress through the streets. People were continually rushing into the ranks to shake hands, and bid adieu to friends, sweethearts or relations.

Wives walked by the side of their husbands, their eyes red and swollen with weeping; they fully believed (as did most of the men) that we were going on active service, and the thought that they might never see each other again was doubtless uppermost in their minds. It must have been a severe trial to part thus from their husbands, especially those who had been newly married; and I am afraid (judging from my own feelings) that a good deal of the mirth seen upon the faces of the single men was only assumed, to put a good face on our parting. Most of us left relatives behind, and I did not know one who did not leave somebody dearer than any relative.

\* Mason and Slidell.



Considering the size of London, but few people had turned out to see us off; and among the lookers on, criticisms on our appearance were heard oftener than "God speed you." We arrived at the Waterloo Station of the South Western Railway at 7½ a.m., and in a few minutes we were seated in the train. When the train moved off, the scene at the station could hardly be gazed upon; wives and sweethearts were crying fit to break their hearts, their husbands in the train looking a last, fond adieu. We were quickly whirled past many familiar scenes; the last we saw which we all knew was Aldershot; but a sight of it was devoid of any pleasant recollections. We arrived at Southampton at 12 a.m.; a number of people were assembled at the station, and a band belonging to a volunteer regiment played us to the ship's side; it took nearly two hours to get on board and get our accoutrements stowed away; immediately we were all on board, the ship steamed out of the dock. The quays were crowded with the inhabitants, who apparently to a man, had turned out to see us off; the ladies, dear creatures, waved their white handkerchiefs; the men cheered and waved their hats, the band meanwhile playing the inspiring strain of "Cheer boys, cheer," and then the melting melody, "Auld lang syne." It was a scene which we can never forget, and did great credit to the people of Southampton; we contrasted it with the parting at Waterloo, not favourably to the latter. After getting clear of the dock the anchor was dropped, and we lay at anchor until morning. While the ship lay at anchor, I examined her machinery and other portions of her. The ship herself, the *Parana*, Captain Sawyer, was of 2800 tons burthen, and 800 horse power; there were 35 officers and 850 men of our Battalion, 5 officers and 120 men of the Royal Engineers, a few casuals of other regiments, and the crew; in all, 1200 souls.

We were told off in messes, 12 men to each mess; each mess had a table and mess traps; each man was provided with a hammock, which was hung from hooks in the deck, above his own table; one man of each mess was excused all other duty, for the purpose of waiting on his mess; his duty was to draw provisions, take them to the cook, and bring them back when cooked and distribute them to his mess. Our rations were salt pork and beef, on alternate days; on pork days we had pudding of flour, suet and raisins; the raisins few and far between. We had half a gill of rum in water each day; they call it "grog" at sea; and each had one pound of sea biscuits per diem; we had chocolate for breakfast at 8 in the morning, dinner at 1, and tea at 5. I could never drink the chocolate, it was so greasy, and smelt abominably. The crew of the ship was the worst I ever saw,—a lot of worn-out old men, hardly able to walk the deck, and totally unfit for duty in the rigging. The ship had been commissioned in a hurry, and they could not find good sailors to go a voyage to Canada in the winter time. It is reported that when the Government Inspectors inspected the ship and crew, that the company had collected together a number of able seamen from the other ships belonging to them, and so passed muster. Certain it is, as after experience proved, had it not been for the assistance of our men, some of whom were as good sailors as soldiers, they would never have managed to set or take in sail. Having now given some idea of our board and lodging, with permission we will weigh anchor.

THE VOYAGE. December 20th, 1861. At 8 o'clock a.m. the anchor was weighed, and we slowly sailed down the English Channel. The morning was fine, but dull; we walked about the deck looking at the various landscapes which we were passing, and making our comments thereon. When at sea anything unusual that passes becomes an object of interest, and affords matter for conversation. We were sailing along the coast, with the beautiful Isle of Wight on one side, and the mainland on the other; we here saw a number of empty bottles floating about; various opinions were given as to how they came there, some saying Neptune had been on the spree, others that a pic-nic party had been there the night before. At noon we sailed through the narrow passage called the Needles; there is a Fort upon one side called "Hurst Castle," commanding the passage. The channel here is very shallow, so a sailor was on each paddle box taking soundings; one of them gave the soundings in a very musical manner; I stood and watched him for a long time, charmed to hear him sing "by the deep nine," or whatever the depth might be. I saw



several porpoises—large fish which swim with surprising swiftness, but in a very ungainly, rolling manner; they swim in a straight line through the waves, which causes them to be a good deal out of the water when they come to the trough of a wave. We had fresh meat for dinner to-day; we recommended the cook to wash up with the soup. We were served out in the afternoon with a sea-kit, marine soap, and one pound of tobacco; government charges one shilling for the pound of tobacco. A large steamer passed us in the evening; when twilight came upon us we formed a ring on the fore-castle, and held a sort of free and easy concert, calling on the landlord (who, I need not say, never came) to "bring another pot." About eight o'clock we went below to go to bed; I partly undressed and got into my hammock, but as I had not learned the art of slinging it properly I could not sleep in it, so I tumbled out, rolled a blanket round me and slept on the floor; the previous night being fine, I slept on the upper deck.

*December 21st.*—When I got up in the morning the Lizard point was in sight; the morning was rather a cold one, but fair, with a favorable breeze from the east. We passed the Scilly islands at 10 a.m., a rugged looking and dangerous group of rocks, off the Land's End—the brave Sir Cloudsley Shovel who commanded the fleet at the siege of Gibraltar, was wrecked on these rocks, every soul in his ship being lost. We lost sight of our native land about noon; I stood and watched the lighthouse on the Land's End gradually sink into the horizon, and when it had entirely faded from my view, I said "farewell," and wondered within myself whether I should be fortunate enough to see it again. The engines were only going at half speed, but they set all the sails, which helped us along. We were now fairly in the Atlantic, nothing to be seen but a waste of sea and sky. We had salt beef for dinner; I did not like it, contented myself with the weak soup, steeping a biscuit in it. The ship had now begun to roll, and a good many gave their dinner to the fishes. We had some good singing in the evening; we also had the drums, fifes, and pipes playing for an hour. A man of war passed us, all sails set; she looked a fine specimen of man's handiwork. The pipes must have frightened the fishes and old Daddy Neptune, for such a noise I am certain they never heard before. As we were rather crowded below when it came to sleeping time, one-third of the battalion was put upon watch; at night they were not allowed to go to bed, thus leaving plenty of room for the remainder; the watch's duty was to help the sailors, carry water to the cooks, and keep the decks clean. I was on watch to-night; I had nothing to do but smoke or walk up and down the deck.

*December 22nd, Sunday.* A cold raw morning, I managed to get a cup of tea instead of the detested chocolate; we paraded at ten o'clock for a sermon as we thought, but it turned out to be a lecture; the text was "Cleanliness next to godliness"—the Captain seeing no reason why we should not turn out a little smarter, brush boots, and stars, and look a little more respectable in general. We saw a reason, though he did not. The wind blew away a jib; another was sent up in the course of the day. Some of our men sick again at dinner time. Was served out with a blue woollen guernsey. In the evening some of us assembled round the capstan, and sang some of our beautiful psalm tunes. Met with a very intelligent countryman belonging to the Royal Engineers; had a long talk with him on all sorts of subjects. A number of tracts were distributed by the officers. Wind beginning to whistle amongst the rigging. To-night, for the first time slept in a hammock; rather enjoyed it than otherwise.

*December 23rd.*—This was a beautiful morning, there was hardly any wind; a homeward bound ship passed us; we had the fiddler up this forenoon, and had a dance on the fore-castle; saw a shoal of porpoises, and great numbers of strange looking sea fowl. More tracts and hymn books distributed amongst the soldiers and crew; all the sails were set, and we went merrily along. As we got farther into the Atlantic the water appeared, instead of the light color observable in the English Channel, to be of a deep blue, almost amounting to blackness, showing that the water was of immense depth, perhaps four or five miles. We had a concert in the evening, officers and men joining together. When I went to my hammock the wind was rising.

*December 24th.*—When I got up I found the weather looking very stormy; about 9 a.m. it began to rain, a cold wind blowing. I mounted guard at 10



a.m.; we passed a large French ship at 11 a.m.; we signalled her; she answered and saluted the English flag. It continued raining until 6 p.m., when the clouds cleared away. The Planet Venus, or Evening Star, was seen to shine with splendid brilliancy; her rays shone upon the water, and her light was but little inferior to that of the moon in the old country; all the stars seemed larger and brighter than I had ever seen them before. The wind again began to rise, and by 11 p.m. it had increased to a gale; being on guard I was of course up all night, and had the full benefit of the storm. I was on sentry on the engine tank from 12 till 2 in the morning.

*December 25th.*—While standing half asleep looking at the engines, I saw the water inundating the floor, on which numbers of the men had made down their beds; although it was anything but pleasant to them I could not help laughing at the miserable expression on their faces, when they found themselves in danger of being floated away on their beds; they had to take them up and walk in search of a drier place to finish their nap on. The ship was now rolling a good deal and shipping water, which I could hear dashing over the ship above my head. At 2 a.m. I went on the upper deck; I had great difficulty in keeping my feet; got them wet by the water which was dashing about the decks, and my face washed by the spray which dashed over the ship. Towards morning the wind shifted and then fell, and by day-light it was quite calm again, the sun shining out beautifully. I had nearly forgotten it was Christmas Day, and when it came to my recollection it did not tend to increase of good spirits. I thought of how differently I might have been enjoying myself in London, in the company of those I loved. Thoughts of roast beef and plum pudding floated through my head, but the reality was salt pork and biscuits, hard enough to require a hammer to break them. Because it was Christmas Day we got a double allowance of rum; I went to bed early, and fell asleep, thinking of home.

*December 26th.*—About 7 a.m., commenced to blow very hard, and soon had increased to a gale; although it rained I kept on deck, sheltering myself in the lee of the cow-house; a goodly number of us stood there watching the waves, which were running mountains high. We had lots of fun seeing the men tumbling about the decks as the ship rose on the crest, or sunk into the hollow of a wave. The cooks got scalded whenever they took the cover off a "copper," the motion of the ship threw the boiling water over them, to the great danger of their precious lives; in consequence, our dinner was at a rather fashionable hour. Two vessels passed us to-day, both homeward bound; I and a few more wished we had been going the same road. Great fun at dinner time; the dishes betrayed a decided inclination towards the bottom of the table, and from thence to the floor was but a short way; in fact you could hardly find the way to your own mouth. It is very disagreeable to be below in a storm; the motion below tends more to sea sickness. There were a great many sea-sick to-day. We had a double allowance of grog to keep out the cold; a fog gathered round us, so that we could see nothing. To-day they found such difficulty in furling and unfurling the sails, that they engaged a number of our men to assist in working the ship. The rain and wind kept up the whole of the day; I went to bed at 4 in the afternoon, and had a capital sleep until morning.

*December 27th.*—The gale had abated during the night; a vessel appeared on the starboard side, sailing on the same course as ourselves; we gradually left her behind. About mid-day commenced raining, and by evening once more blew a gale of wind; we rather liked the gales at first, but we were now heartily tired of them; every mile we were advancing we felt it growing colder and colder; it also began to get very foggy, showing we were not far from the banks of Newfoundland, where fogs prevail.

*December 28th.*—Very cold frosty morning; all the sails were furled, and every thing made ready for a storm; but we were agreeably disappointed; it turned out a fine day and still finer evening, Venus again shining beautifully. An immense number of diving birds were swimming and diving about the ship; they can remain for an extraordinary long time below water. We again had singing on the upper deck, and afterwards a great deal of talk about seeing land.

*December 29th.*—Sunday morning, cold and raining, steam shut off to take soundings; the depth was 90 fathoms. We were served out with long boots to-day. At noon we were reported 100 miles from Cape Race, on Newfound-



land. A number of land birds flying about; a few of us joined together and sang some psalms, the time now hanging heavily on our hands, and "land," "land" was all the talk, both amongst officers and men.

*December 30th.*—Still foggy and dreadfully cold; owing to the fog no observation could be taken, and they did not seem to know very well where they were; they kept sounding, the depth gradually decreasing; there was a man at the mast head on the look out for land; the Captain and all the officers of the ship were on the paddle boxes evidently expecting to see land; they very frequently directed their telescopes to a certain point, the man at the mast head looking in the same direction; of course every body took the cue from them, and looked the same way, but the fog was so thick we could only see a short distance around us. When the man at the mast head came down he was covered with ice, and nearly insensible from the effects of the cold. No land was seen, and no change in the weather occurred during the day.

*December 31st.*—Land reported in sight; turned out to be a false alarm. More warm clothing given us to-day—woollen shirts, drawers and comforters. I was very much depressed to-day; I had found out that we were not going to Halifax, but up the St. Lawrence. I knew from books the dangers of the St. Lawrence, especially in the winter time, and that it was impossible in fact to go to Bic, where we were to have been disembarked. It was hogmanay night, a night on which a true Scot likes to enjoy himself, of all the nights in the year. It was certainly the most cheerless and coldest I ever spent; I went to bed in bad humour with myself, the weather, and things in general.

*January 1st, 1862.*—At 7 a.m., land in sight. This was my first glimpse of the New World, and most certainly its appearance was not inviting; it rose steeply from the water, and was covered with snow; a few stunted trees were scattered here and there; there was a light-house, the keeper's, and two or three more houses on the island, which was called St. Paul's. A terribly cold wind blew off the land, nearly taking the breath, and making the teeth chatter, whilst we were not very sure whether our toes were on our feet or in our pockets; there was also land on the other side, high, rocky, and precipitous, and apparently uninhabited. We ran up the signal for a pilot at the fore peak; three men came running out of a house waving a red flag, which they planted in the snow, and then ran back to their house, again coming back and waving the flag; but no one came off; we understood the red flag to mean that it was dangerous to go farther up the gulf. If such was their meaning, the warning was unheeded, and we proceeded on our voyage upwards. The strange sight of land made us forget the cold for a time, and gave us something to talk about. The sudden changes in the weather was something astonishing; at 12 a.m. it was bitterly cold, and a high sea running; in two hours after, the sea was as smooth as a mill pond, not a breath of air ruffling its surface. I passed the whole of this afternoon at the bow of the ship, musing on the beauty of the scene, and of the tremendous power of Him who rules the waves. Immense numbers of porpoises played round the ship; they also seemed to enjoy the beautiful evening, and as they jumped and tumbled over each other, I wondered whether these were young porpoises just let out of school, and whether they were playing at leap frog, or some other sea game, the name of which I knew not. About 3 p.m. passed a rock called Bird Island; we got our fur caps and gloves this afternoon. I immediately put mine on; found them very warm; the gloves were furred inside as well as out. We had singing again in the evening. Beautiful night.

*January 2nd.*—A good deal of snow fell during the night; the sails, ropes, and the whole of the ship was one mass of ice; ashes had to be sprinkled over the deck before we could walk on it. I have no occasion, I suppose, to say that the frost was most intense. We paraded in complete marching order to-day, in the anticipation that we should be landed on the morrow. A dog named "Peter" who belonged to the Battalion, had been teased by one of the Officers of the ship until he bit him; he was then ordered to be drowned; they were a long time in finding him, as the men endeavoured to hide him; he however, was found, and thrown overboard into the cold icy sea. All this day we had the left bank of the river in sight; nothing was to be seen but hill upon hill covered with the white snow, relieved by patches of wood here and there, which relieved the eye after



gazing so long upon the dazzling brightness of the snow. Towards the evening we stood away from the land.

*January 3rd.*—Snow falling; no land in sight. The greatest cold we have felt was this forenoon. We formed circles and ran round and round endeavouring to keep our feet warm, but after running till we were ready to drop, we were still cold as ever. We were so miserable this forenoon, that but for the thought that we might disembark in the evening, many of the men would have been tempted to throw themselves overboard; one man actually went delirious from the effects of the cold, and attempted to throw himself amongst the machinery; numbers were gathered round the funnels, endeavouring to warm themselves. The hot steam, escaping from one of the pipes, froze as it escaped, and hung from the warm pipe in a large tangle of ice. The snow was falling so thickly that we could only see a few yards around us. After dinner I tumbled into my hammock as being the most comfortable place I could find. About 3 p.m. I was awoke by one of the men; he told me that the ship had run aground, and that every body was ordered up on deck. I jumped up, put on my boots, and went on deck; I met an officer at the top of the stairs, who asked me to go forward and assist the crew, who were setting the forward sails; after this was done I had time to look about; the ship had grounded on a sand bank, and was apparently immovable; the engines were stopped, and then reversed to try and force her off; all the men, except those who were setting the sails having been sent aft to lighten the vessel forward; the land was only 400 yards off on the port side; land was also seen directly ahead of us. In about twenty minutes the engines succeeded in forcing her off, and we were rescued from great peril. Had we not grounded where we did, we might have sailed on until we struck on the rocks, when nothing could have saved the ship from becoming a complete wreck. We again breathed freely when we were in deep water, and thanked God for our deliverance. At 5 p.m. a man who was hanging a lamp on the paddle-box, which was covered with ice, slipped and fell on to the deck; he never recovered consciousness, and died at 6 p.m.; he left a wife and family to bewail his untimely fate; between 7 and 8 p.m. we sailed through two large fields of floating ice, and entered a third extending as far as the eye could see; the ship stuck fast in the ice, so they were obliged to back her out; a consultation was then held amongst the officers of the ship, which resulted in putting on full steam and trying to force a passage; this failed; we again stuck fast, and to avoid being frozen in they again had to back out, and the ship's head was turned down the gulf. We, when we turned back, were within four hours sail of the Island of Bic, where we were to have disembarked. The men grumbled dreadfully when they knew we were going back; they blamed the Captain, saying he was not fit to command a ship, and that he had no business to bring us up the gulf at this season of the year. But he had received his orders from Government, to try the passage of the Gulf, and was of course obliged to try his best. Conjecture was now busy wondering where we were to go next; some said we were going to Halifax, others that we were bound for Sydney to take in coals, of which we were running short. Terribly cold during the night; could not sleep.

*January 4th.*—As cold as yesterday; water getting short; could not get any to make the breakfast; on board a steam vessel they make their own fresh water, and as coals were short, and the engines barely moving, of course we were not making much fresh water. I wandered about the deck until dinner time as miserable as a man possibly could be; we had another long voyage before us, and then a long journey, the dangers of which were greatly magnified; this afternoon the man who died last night, was sewed up in his hammock, the burial service read over him, and then plunged into the sea; he now sleeps beneath the billows of the St. Lawrence, with the winds to sing his requiem, and the raging billows to preach a funeral sermon to the survivors. It was an awful lesson on the brevity of life; I hope it made many of our men think; it certainly made me.

*January 5th.*—The third Sunday at sea. To-day the officers read part of the Church of England service to their companies. We stopped several times to take soundings. Psalm-singing again in the evening; a sailor boy fell down a hatchway, hurt himself severely. Frost still severe. Lights were seen during the night.



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*January 6th.*—Not so cold as yesterday ; saw land at 9 a.m. Bold hilly-looking country. At 12 a.m. we anchored in Sydney Harbour on the Island of Cape Breton, which lies at the mouth of the Gulf of St Lawrence. Sydney Bar is the name of the town, or rather large village ; it consists of several hundred houses, all built of wood ; I thought I should never tire feasting my eyes with the various sights to be seen on shore ; I first saw a sleigh here ; exclamations were constantly uttered, such as—" Oh ! look, there's a man ;" or, more interesting still, " a woman ;" or, " a dog ;" or, " a pig ;" or anything that appeared in sight which we had not been in the habit of seeing on board ship. We were as silly as grown up children ; but any one who has been out of sight of land, and enduring what we had done, will be able to understand our feelings on this occasion. There were several coasting vessels in the harbour, and one building on the stocks. Most of the officers went on shore ; on their return we heard that there was no danger of war between England and the States. In the evening the drums and fifes marched round the decks playing inspiring airs. We then had dancing to the pipes, and were all as happy as possible. They told us that a mail would be sent away to-morrow, so a great many of us wrote letters.

*January 7th.*—Beautiful morning. The Battalion was to be allowed to go on shore ; two companies went on shore in the forenoon, lots of them got tipsy, so apprehending that no more would be allowed on shore, I slept ashore in a steam tug which had been employed to carry our people backward and forward. My first impulse on getting on shore was to start off in a run up the hill, but the snow was too deep and slippery for running, so I was obliged to walk, or rather tumble along. There was nothing worth looking at in the town ; the people did not seem very communicative outside, so I thought I would try them inside. I went into a public house called the "Cape Breton Hotel," I saw no sign of beer, so I asked for three pennyworth of rum ; to my astonishment she nearly filled a tumbler with it ; I tendered a sixpence to pay for it, and to my still greater astonishment, I got 6 pennies in change ; I asked if she had not mistaken ; she said no, and explained that an English 6d. was worth 7½ currency ; their copper money not being worth so much as ours. I then fell into conversation with some natives at the bar ; found them intelligent enough on domestic matters, but newspapers were evidently scarce amongst them ; they did not know much of what was going on in the outer world. They have a strong feeling of dislike to the Yankees, and hoped we would give them a good thrashing ; I found that most of the inhabitants were either Scotch and Irish, or descended from Scotchmen and Irishmen ; a good many of them speak Gaelic, and were hand and glove with our pipers, who had brought their pipes ashore, and played through the principal streets. There seemed to be no poor people in the place ; most of them earn enough in the summer, to keep them during the winter months. Nearly every house was a shop, having something to sell, however trifling it might be. The place is important from possessing extensive coal-mines ; vessels going up and down the St. Lawrence generally call here for coals ; they get them delivered at the side of the ship for 8s 6d. per ton. After getting all the information I could, I took a walk, and then went on board again, rather tired than pleased with my run ashore. Numbers of boats were around the ship selling fresh provisions to our men ; a loaf weighing 1½ lbs cost an English 6d., and 1 lb of butter cost 1s. ; fish were cheap ; the water where we anchored, teemed with the finest in America. You can scarcely imagine what a luxury a slice of wheaten bread and butter is, after having been trying our teeth with hard biscuit and point for 18 days. I ate more butter during the time we lay at Sydney, than I would eat in six weeks in London. The people here made more money during our stay of six days, than they did all the rest of the winter.

*January 8th to 12th.*—During these days we were busily engaged in taking in coals and fresh water ; they could not get men on the island to coal the ship, so they forced us to volunteer to do it, promising that we should get paid for it ; we worked in reliefs of about 100 men, who worked 4 hours at a time. We shipped 1000 tons in 4 days, working night and day ; after we had done, and had destroyed our clothes, and made ourselves like Ethiopians, or a dirtier sweep than you usually see, £50 was divided equally amongst the Battalion, those who had only worked 1 hour receiving as much as those who had worked 12, in imitation of the parable of the labourers. I was getting most heartily tired of lying here ;



it was worse even than being at sea; there was no temptation to leave the ship then, but here the land was within a few hundred yards, and no one allowed to go on shore. On the morning of the 11th January it was very cold, and ice was forming in the harbour, and there was a prospect of getting frozen in, in an out of the way corner of the world; but glancing my eye to the foretop, I saw the "Blue Peter" flying, the signal that we were about to sail; shortly after, three guns were fired to bring boats off, some of the officers being ashore. At 12 a.m. the Fusiliers manned the capstan bars to raise the anchor, the fifes playing merry tunes, as they ran round, raising the anchor as easily as if it had not weighed a cwt. I was just beginning to get merry again at the prospect of soon being at the end of our voyage, but after sailing about 100 yards the anchor was again dropped; this was in consequence of the barometer having foretold a storm; nor was it in this instance a false prophet; in ten minutes from the time we dropped anchor we had a gale of wind and snow, which would most likely have sent us to the bottom. The water of the harbour was lashed into waves, which made us pitch as if we had actually been at sea; the cold was so intense, and the wind blew so strongly, that we were obliged to keep below, and thank providence we were not at sea. The wind fell during the night, and when I went on deck in the morning the "Blue Peter" was again at the fore peak.

*January 12th.*—We weighed anchor at 7 a.m. and sailed away; we met the *Magdalena* Steamship, which had brought out the 16th Regiment; she had landed them safely, and was now on her way to St. John, Newfoundland, with a battery of Artillery on board, who were to be landed there for the purpose of quelling some riot which was going on there. The *Magdalena* lowered a boat, her captain and the Halifax pilot coming on board us; from them we learned that the Grenadier Guards, which left London the same day as we did, had safely arrived at St. John, N. B., and that a report was in circulation that we had been lost in the Gulf of St. Lawrence. The captain then went on board his own ship, the pilot remaining with us to take us into Halifax; we had the church service read to us by the officers in the afternoon; we were now sailing along the coast of Nova Scotia, which reminded me a good deal of the coast of Scotland, it deriving its name from its general resemblance to Scotland; I went to bed early, but could not sleep; the wind began to blow, and had in a very short time increased to a storm; the hammocks swayed to and fro, like cradles in motion, the waves dashing against and over the ship, with a noise like the firing of Artillery.

*January 13th.*—Whilst lying half asleep, half awake, I was startled by hearing a dreadful noise, as if some heavy object, such as a cannon, had fallen through the deck; I got up to ascertain what was the matter, and found that a ladder had fallen within a few inches of where a number of our men were lying sleeping; Providence, however, directed its course, and no one was hurt, but a good many woke up, dreadfully frightened, and anxious to know whether the ship was sinking; about 6 a.m. whilst it was yet dark, I went on deck to see how matters were going on there; I had difficulty in keeping my feet, the ship rolled so dreadfully; the first thing I saw was the cannon overturned, bales of hay, boxes and stores, knocking about the deck, to the danger of all who came near them; carcasses of fresh meat which we had taken in at Sydney, had been knocked off the hooks on which they hung, and were lying on the deck, bleached white by the water, which was pouring on them. The decks were washed so clean, that as they say in Scotia, "you might have supped your porridge of them;" I now found out that the dreadful rolling of the ship was caused by the rudder chain having broke, thus leaving us at the mercy of the winds and waves; they were two hours in getting the chain repaired, the ship in the interval being quite unmanageable; after the chain was repaired the ship did not roll about so much, and as the day wore on the storm abated; this was the greatest danger we had encountered on our hapless voyage; had we been near shore, and the wind blowing towards it, during the two hours the ship was unmanageable, we must have been driven upon a rocky, inhospitable shore, and in all probability not a soul would have been left to tell the tale of misfortune. During the time the storm lasted many of our men were sick, and the confusion and noise that prevailed below, completely baffles description; men sleeping on tables and benches, were pitched on to the floor; iron plates and jugs tumbled from side to side according as the ship swayed, making a horrible noise. But few this morn-



ing could eat any breakfast, the greater part being sick, and the remainder afraid to eat, for fear they also should become sick; by noon the gale had abated, although the sea still ran high; we again sighted land, and we now began to look out for Halifax; as I had not slept the night before I went to bed early, and was awoke about 11½ by the noise of the chain made as they dropped the anchor in the harbour of Halifax, Nova Scotia.

*January 14th.*—I got up at 6 a.m. as I was for duty; went on deck, and found that the ship was one mass of ice, to the depth of a couple of inches; the frost was most intense, it made me feel as if some one was pricking my ears with needles; my breath was frozen as it escaped from my mouth, and hung in icicles from it, whilst my comforter was frozen to my neck, and I had to feel every now and then to make sure that my nose was in its proper place; but the feet suffered most; they soon got entirely destitute of feeling; it made me grin most dreadfully, and I was in such pain that had it been fashionable to express my misery in that way, I should have cried; the sky was so clear and bright, you could scarcely imagine it could have been so cold. As the day broke we were able to see what like a place we had got to. Halifax, the capital of the province of Nova Scotia, is built at the side of a beautiful inlet, rising very steeply from the water; the hill is crowned by a fort, which commands the town and the entrance to the harbour; there are two more forts, one on an islet in the middle of the entrance to the harbour, and one on the left side; there are a goodly number of churches and chapels here, with really handsome spires; the houses, with only few exceptions, are built of wood, a great many of them being detached, or semi-detached, to prevent accidents from fire. There were a good many coasting vessels lying in the harbour, a mail packet and two men of war; the harbour is a very fine one, large and deep enough to shelter a navy; there is a suburb to Halifax, on the opposite side of the harbour, called New Windsor. I did nothing all day but walk about the deck, looking at the town, and any object of interest that turned up. We again procured fresh provisions; no one, excepting officers, were allowed to land, so I am not able to say anything about the internal appearance of the town.

*January 15th.*—Beautiful morning, clear and frosty, and of course very cold. The *Orlando*, 51 guns, came into harbour at ten a.m., her band playing the "British Grenadiers," the sailors manning the yards, and giving three cheers for our men, who returned the compliment with interest; she had been caught in the storm of the 13th, and had suffered a great deal of damage, and was near foundering; we heard that she had also lost some of her crew. During the day, the weather again grew stormy, snow falling in great quantities, whilst the water of the harbour was in such a turmoil, that no boats could come near the ship.

*January 16th.*—Blue Peter at the mast-head; fired several guns to bring those off who had been on shore all night; the water was so rough they experienced considerable difficulty in getting on board again; at length we got them all on board, when the anchor was once more weighed, and we set sail for St. John. Nothing of any importance occurred to-day; the sea was still high with a strong head-wind; we had the coast of Nova Scotia in sight all day, and at night stood away from it.

*January 17th.*—Vessel presented an extraordinary appearance, would have been a fine picture for a photographer; every inch of the ship was one mass of sheet-ice; she looked more like a ship of glass than anything else I could compare her to; must have been terribly cold during the night; the spray froze as it fell on the deck; land and a lighthouse on the starboard bow; the men seemed more contented than they did a week ago; the intelligence that we were to march from St. John to Quebec made them put up with the present evil, rather than rush to one they knew not of. We were sailing slowly during the afternoon and night.

*January 18th.*—No land in sight; snow falling thickly; could only see for a short distance around us. At 6 p.m., whilst going very slowly, we suddenly found that the ship was almost touching the land; one in the darkness could almost have supposed that we could have jumped ashore; the helm was immediately put hard a-port, and in a moment afterwards the anchor was dropped; going on deck I could indistinctly see the land; it appeared to be only a few yards off; a gun was fired, but no answering signal was heard. About 7 p.m. the snow cleared off, and we could see the land quite distinctly; the pilot went on shore to reconnoitre, and if possible ascertain our whereabouts; he came back



at 12 p.m. with the intelligence that we were only 8 miles from St. John; after receiving this intelligence I went to bed and slept comfortably until morning.

*January 19th.*—Beautiful, mild morning; we were only 200 yards from the shore; the pilot said the water was so deep that the ship might have touched the land with her bowsprit, and not have touched with her keel; we were a long time in weighing anchor; the water was deep, and the bottom rocky; the fifers played a good many tunes,—and many a hundred revolutions of the capstan was made, before it was hanging in its usual place. We anchored in the harbour of St. John at 10 a.m., and disembarked at 2 p.m.; a great number of the inhabitants were waiting on the pier to welcome us; they were the most respectable looking crowd I ever saw, all apparently comfortable and well to do in the world. Our voyage of 32 days was replete with hardships and privations, whilst the cheerfulness, coolness and courage displayed by our men was really astonishing; they were particularly complimented by the captain of the ship for their coolness on the day the ship ran aground in the St. Lawrence. We were all thankful when we got our feet on the land, and I hope when they went to bed that night they thanked Him who had preserved us through so many dangers. The distance from the ship to the "Temporary Barracks" where we were accommodated during our stay in St. John, was about half a mile; the snow was deep and our loads heavy, which made us perspire very freely; the furniture was but scanty, but each man had a place to hang his things on; we were rather crowded, but anything was welcome after the confinement on board the ship; I had a good comfortable night's rest, and rose in the morning quite happy to find myself on land. We were very busy the first day or two getting our arms and accoutrements in good order, and in getting our linen washed; for the time being we had to do our own washing, and I may say, without egotism, that I turned out as clean linen as the best washerwoman in Kensal Green could have done. On the forenoon of the 20th I was down at the ship getting out the luggage and stores. In the afternoon I went out to have a look at the town; it, like Halifax, is built round the harbour, but does not rise quite so steeply; its population I should, at a rough guess, estimate to be about 20,000, principally Scotch, Irish and English; the town is laid out very regularly, the whole of the streets crossing each other at right angles; King Street can boast of some shops quite as good as the best in Regent Street, London; the public and the better class of private houses, were really handsome, substantial looking buildings; people in affluent circumstances all have double doors and windows to their dwellings. I did not see a beggar during my stay in St. John, and saw only one case of drunkenness. There are a few people of African descent, principally employed as coachmen, or domestic servants; few of the darkies appeared to be in good circumstances; they are still under the curse of Ham, "*servants of servants*." No matter how rich they may be, they are never generally received in good "*white society*." The town was full of troops of all arms of the service, and presented a very lively appearance. On the 23rd January, the Scotch gentlemen of the city entertained us to a public dinner; we paraded at 1 p.m. and marched through the town, the drums, fifes and pipers at our head playing as we went along; the building in which we dined was a large car shed belonging to the Railway Company; it had been previously used as a Barracks by the Grenadier Guards, the last of whom went up the country to-day; a Guard of Honor, consisting of a Company of the St John "Scottish Volunteers," received us with presented arms at the station, their piper playing the "*Campbells are coming*;" they wore the Highland plaid and Glengarry bonnet and feather; the climate is too cold to wear the kilt in the winter time; as we marched in, the Volunteer Band played "*O a' the airts the wind can blaw*," and several other Scottish airs; there were only two tables, but each was 300 feet in length; the public were accommodated with seats between the tables and along each side; the tables were beautifully laid out and ornamented with small flags, having emblazoned on them some appropriate sentence of loyalty or welcome; the tables were loaded with good cheer of every kind—turkeys, ducks, chickens, ham, beef, mutton, pies, tarts, jellies, and confections without number; plates of fruit, with their rosy cheeks, pleased the eye, and adorned the table; silence having been proclaimed, one of the gentlemen, in a very neat speech bade us welcome to New Brunswick, saying that this entertainment was given, not only for our own sakes, but for that also of Her Most Gracious Majesty the Queen, whose best and bravest troops she had sent out to



defend the Colonies; he then in feeling language, alluded to the death of H. R. H. Prince Albert, and concluded his address by again, for himself, and the rest of our entertainers, wishing us all sorts of happiness and prosperity, and a hearty welcome wherever it might be our lot to go. Our Commanding Officer, Colonel Dalrymple, then rose, and in the name of the Battalion gave thanks for the great honor they had done us; he said that when we left England, we had expected a reception of quite a different character, (alluding to the Yankees;) that now, happily, there was little chance of fighting, but he knew that if the occasion did arise, that we would not be second in the field; he then sat down amid tremendous cheering. The Bishop of Fredericton then craved leave to say a few words before we commenced dinner; the Bishop's speech made us all laugh heartily, and who knows not that a good laugh is conducive to good appetite; Bishops and Ministers generally give the funniest speeches. The Bishop's speech was as follows:—"Well, my lads, I am most happy to see you here this day, and bid you welcome to New Brunswick; when you left England you expected doubtless to have encountered a dangerous and troublesome enemy; but what is the reality, why the enemy turns out to be turkeys, geese, ducks, and such like; they will make no resistance unless you have bad teeth; but as most of you are young men, I do not suppose you are troubled with that evil of old age; I expect you to give a good account of the enemy, and when you are done, I hope none of them will be left on the field." He then gave us warning against the evils of intemperance; gave us an outline in geography which was very amusing, and told us that John Frost was a good master, that he bridged the rivers, made the roads, and put the ruddy hue of health upon their faces; he ended, amid great cheering for the funny Bishop; when the noise had subsided he said grace, and we then fell to, and did justice to the good things before us; coffee was served during dinner in unlimited quantity, but no alcoholic liquors were seen; after dinner, one of the "Glee Club of St. John" sang the solo of "Rule Britannia," all our men singing chorus, with a strength of lungs that made the building shake; our singing class then sang several glees; more speeches were delivered and responded to; there were great numbers of ladies present who seemed to enjoy the scene immensely; the speakers seemed to be very proud of their women, and spoke highly of their beauty, and of the honor conferred by their presence, intimating that they were not afraid of the ladies of any other land bearing off the palm of beauty from New Brunswick; I smiled inwardly when I heard them talk thus, for their women had very little in the way of beauty to boast of; but they, if possessing little beauty, had plenty of kindness; they smiled, and pressed us so much to eat, that had we taken their advice we should have shared the fate of the frog who tried to make himself look as big as a bullock. After dinner our pipers played several pibrochs, which seemed greatly to please the Scottish portion of our entertainers; after some more singing and speechifying, the whole of us sang "God Save the Queen." We then formed up outside, and went home singing songs all the way; we were repeatedly asked to sing "Dixie," which seemed to be a sort of "National Anthem" here; they were obliged not only with "Dixie" but also with the "Strand;" and with many of us the wish to be in the "Strand" was not an idle one. We got all safely to barracks, in good humour with everybody and everything, and ready to shake hands even with a Yankee, if one had turned up. The inhabitants of Nova Scotia, and New Brunswick also, if born in either of these provinces, call themselves *blue-noses*; one need not infer from the word that their noses are of the heavenly colour; it is, I believe, a nickname given them by Judge Haliburton, (who wrote Sam Slick;") they do not take offence at the name, for if one is asked what countryman he is, he will very likely say "I am a blue-nose;" at all events the blue-noses are a loyal and kind hearted people, who uniformly showed the greatest kindness and hospitality to our men; not only did they entertain our battalion thus, but every soldier who passed through St John to Canada, was treated in the same hospitable manner; and give the credit to those who most deserve it. This movement of giving entertainments to the troops, began amongst a few ladies; some of the Grenadier Guards, to the number of 150, were quartered near those ladies' houses; they privately subscribed together and treated the party to a dinner, an example which was soon followed by the rest of the inhabitants. On the 24th of January our battalion began to go up the country; I went on the morning of the 30th; we paraded at 7 a.m.; I had all my warm clothing on, a



blanket for my feet, and one to sit on, or put over the shoulders, as the state of the weather made advisable ; we did not wear our boots, we wore moccasins which were warmer to one who meant to remain in the sleigh ; those who were restless and liked to have a walk or run now and then, kept their boots on ; one of our blankets was doubled up and sewed up the side, thus forming a bag for the feet. There were 160 men to go to-day belonging to the 3rd, 4th, and 5th companies ; these occupied 20 sleighs, 8 in each, 1 for the officers, and 2 with baggage, 23 in all ; being the centre companies we had the colours with us ; the sleighs we went in were just long boxes with seats in them, the boxes being fastened to two traverse bars, which slipped along easily over the smooth snow or ice ; we were seated in twos, facing each other ; our firelocks had been sewed up in pieces of canvass to protect them from damp ; they, and our knapsacks and accoutrements were stowed away below the seats, and amongst our feet ; we wore our haversacks on our shoulders ; they contained a day's ration in advance, and something warmer in the shape of a bottle of rum, and a bundle of cigars, with a box of matches to light them. By half past 7 we had all got into our blankets, and looked like a lot of men going to run a sack race ; we had a buffalo robe to spread over our knees, and with the other blanket over our shoulders seemed as if we could defy cold ; vain thought, as we afterwards found out. We now started, and dashed along the streets, to the music of the sleigh bells, which are hung on the harness of every horse to give intimation of their approach ; as the sleigh makes no noise in its progress over the snow, they would be dangerous to foot passengers if they had no bells ; numbers of the inhabitants were in the streets to see us off, others peeped from their windows, hardly awake, and wondering what all the stir was about ; we soon left the town behind, and in a few minutes we were on the river St. John, our road lying across a bay on the river ; you must remember that all the rivers in this part of the country are frozen over, and are used as roads ; the ice is from 2 to 4 feet in thickness ; the roads across rivers are marked by branches of trees stuck in the snow ; were it not for this precaution, people would often get lost in the snow storms which occur so often and so suddenly ; the roads were very rough and full of ruts, which made the sleighs jolt terribly, sometimes nearly throwing us out ; the scenery to day was most beautiful ; at one time we were on the crest of a high hill, the country below us broken into hill upon hill, glen upon glen, and all covered with forests of large, beautiful and useful trees, such as the American pine, which may not improperly be called the king of the American forests, it overtops all the other trees, and is entirely destitute of branches, until within a short distance of the top ; the average height in New Brunswick of the pine is 100 feet, but in the backwoods they sometimes attain to the enormous attitude of 200 feet. The sugar-maple is another most interesting and valuable tree ; it is from this tree that maple-sugar is made ; in the months of March and April they generally make their sugar ; they commence by boring a hole in the tree two or three feet from the ground, and then inserting a reed in the hole ; the sap is allowed to run into tubs ; one person can attend to a great many trees ; the sap is collected and boiled in large coppers, the scum being taken off, fresh sap added, and reboiled, strained and allowed to cool, when it crystalizes ; the fineness of the sugar depends on the skill of the person who attends the coppers whilst they are boiling ; the refuse makes a very fine molasses ; various other valuable trees grow in these forests, such as the cedar, birch, ash, larch, cypress, and many other varieties unknown in Europe. At one time we got into a glen, with a rock rising at our side 1000 feet, in nearly perpendicular height ; although the rock was so steep, it bore a dense crop of trees ; it seemed most astonishing where they got nourishment from, there being very little soil ; looking up at this tremendous rock, one wishes that he were not quite so near the base of it ; you fancy you can see a lump of rock on the face of the precipice just ready to tumble down, and grind you to an impalpable powder ; the driver of the sleigh told me the name of this rock, but it has now escaped my memory ; we saw numerous clearings, with houses on them of all sorts and sizes, and of all the orders of architecture that have ever been known. Before I go farther I must explain what clearings are ; in a few words, a clearing is another name for farm ; when a settler comes out and buys a piece of land, he generally finds it covered with trees ; his first duty is to build a house for himself, and the next to find one of a larger size to serve as a barn and byre ; he then attacks the trees, cutting



them down, about two feet or more from the ground, he then drags them off the ground and burns them, or, makes a *snake-fence* with them; snake-fencing is a very simple process—the logs which have been cut down being simply laid on the top of each other in a zigzag manner, their weight being too much for cattle to knock down; when the trees have been thus got off, the land is said to be clear, and the farmer in his pride at what his own hands have done, calls it a clearing. The frost strikes very deeply into the ground, and when the thaw comes in spring the frost leaves the land so loose that the seed only requires to be harrowed in. When a new settler comes out, all the neighbours round about come and help him to put up his log hut, which they generally do in a day, he doing the like for the next comer; meetings of this sort are called “Bees.” A log hut is a very rude building; the trees are roughly squared, and laid on the top of each other, the interstices between the logs being filled up with clay; they do not build the walls above 8 feet in height; a few rafters are then put up, and boarded over with shingles; a couple of small windows are put in, and his house is ready to live in; if he has brought no furniture, as few settlers do, they knock a few boards together and form seats, which answer the purpose as well as mahogany would do. A settler coming into a new country must make up his mind to rough it a good deal; after a year or two he will be able to build a proper wood house, and in a few more will be, to all intents, an independent man, only he must work hard at first; during the winter months they have little to do beyond cutting firewood, and attending to their cattle. It snowed during part of our journey to-day, but was very warm; we stopped at an Inn about 11 a.m. to feed the horses and refresh ourselves; we pulled out our meat and bread, got some beer from the Inn, and made a good lunch, besides replenishing the bottle; in about an hour we started again, all as lively as crickets; we commenced singing songs, to the great delight of our drivers, who evidently had not been accustomed to much singing. The roads were very uneven; we were generally either toiling up a hill in slow time, or going at a gallop down the other side; the sleigh once set in motion would have slid over the smooth snow by its own impetus; nor was their wanting a little danger to enliven our journey; something would happen to the sleigh in front, when the one behind coming down like the wind, and unable to stop would run into it, endangering those who were in it; sometimes our road lay along the edge of a precipice, with only a bank of loose snow to prevent us going over; in jolting over the ruts, some one who was not on the *qui vive* might get pitched out of the sleigh into a wreath of snow, amid the laughter of his comrades, which was greatly increased if some other one who had laughed so much at the others got pitched out himself; of course no one could get hurt amongst the soft snow. The inhabitants along the road side generally turned out to have a look at us, and give us a kind word as we passed; at a hamlet called Welshford, they had got up a little bit of display; a flag was hung across the road, and others were put up over gateways; they all bore inscriptions; on the one across the road was “Welcome Victoria’s Heroes,” and on the reverse side was seen, on looking back, the word “Farewell;” one old gentleman, who had a fine house and comfortable looking farm, stood with his servants, cheering the men as the different sleighs came up; when the last sleigh had passed, he got into his own sleigh bringing up the rear of the procession, and accompanied us to our halting place for the night; this was the only place during our journey, where the inhabitants attempted a display, or gave us a cheer; we will remember the gentleman at Welshford for a long time. We arrived at a place called Petersville about 3 p.m.; our quarters was a large log hut, which accommodated 120 of us, the remainder going to a house half a mile farther on; we had been led to expect a hot dinner when we got in, but we were disappointed; it had to be cooked after our arrival; we got dinner at 8 p.m. and tea at 10 p.m. but most of the men were by that time asleep; there were no beds to sleep on; the floor was covered with branches of the pine tree; each man had only the two blankets which we had brought with us; the best plan of sleeping was to undress and get into the blanket which was sewed up, roll the other around, great coat on the top, the rest of the clothing under forming a mattress, and the knapsack made a capital pillow; this was the way I slept during the whole of the journey; once I got into my bag no air could get at me, and when you can exclude the air, you are sure to be warm. The officers had a small hut to themselves, but otherwise they fared no better than we did; one of the sergeants had occasion to see



Colonel Lambton; he went into the hut, and seeing some one cooking at the fire, asked if the Colonel was in; "yes," replied the individual who was cooking, who was no other than the Colonel himself, cooking an omelet for his own supper; they also had to sleep on feathers of the trees, as we did; we, as we lay on our backs could see the light through the top of the hut, but although the night was very cold, we did not feel it; a couple of men were up all night to keep the fires in; there were four stoves in the hut; I slept middling, being now and again woke up by a larger pine bough than ordinary having got into the small of my back, or a piece of wood, or prickle running into my leg, when I rid myself of the offensive object, turn round, and sleep again; there was something so romantic in this sort of life that I rather enjoyed it.

*January 31st.*—Got up and performed my ablutions in a clear running stream; had breakfast, and got into the sleighs again. The country to-day was very clear of trees; a great fire called the Miramsi fire, had burnt the forest some years previously, and blackened, charred stumps were all that remained of what had once been a fine forest, a fire in the forest is a terrible thing, the long grass and underwood, and the trees themselves, are so dry that they burn up like tinder; the fire itself raises a gale of wind which helps to drive it along; every house was burned up, and the inhabitants driven to take refuge in the rivers to preserve their lives; it was dreadfully cold, and in a few moments tangles of ice were hanging from the beards and mustaches of the men; the wind was so keen that it was impossible to hold the face toward it, and well wrapped up as we were, we felt the wind piercing through all; our feet also got cold, and many of the men got out and walked up the hills, jumping in again when we came to go down hill, and so on. We passed a great many clearings to-day, stopping about half-way to feed the horses and get refreshments; our men often remarked that no birds, not even a sparrow was to be seen, and the only wild animal we had seen was a rabbit.—We arrived at Fredericton the capital of the Province of New Brunswick; the Lieutenant Governor lives here in a large handsome brick house; Fredericton is a small town of about 2000 inhabitants; we were lodged in a barracks here; the river St. John runs past the town; there was a village of Indians on the opposite side of the river, so I crossed on the ice, and paid them a visit; on the pretence of wanting a light for my pipe, I went into one of their huts, or wigwams as they call them; it was a very rude place; they use no furniture, they never sit, but squat on the ground upon buffalo skins, some sort of a bed lying in a corner; their women are called squaws and their babies papooses; one of their babies was hung up in a basket on the wall; it was upright in the basket, nothing to be seen but its little ugly shaped head, for the Indian squaws squeeze their papooses heads whilst they are young, giving them the retreating forehead observable in Indians. Those Indians that I visited are civilized, and generally belonging to the Roman Catholic Church; they are very lazy, and hardly ever work more than one day at a time; the only occupation they take any delight in is hunting; their squaws do all the hard work, cultivating their clearings, making embroidered moccasins, and other ornamental articles; they, when they have a young child, may be seen working in the fields, with the papoose in its basket, hung on their backs by a strap passing round the forehead; their squaws seem to be very fond of their husbands, and are reported to be very faithful; a smile is hardly ever seen upon their faces; I entered into conversation with one who could talk English; I found him very intelligent, and fond of talking about hunting; he told me that there were plenty of wild animals, bears, wolves, raccoons, hares, rabbits, &c. &c.; there are also plenty of deer; he gave me a particular account of moose hunting on snow-shoes; the moose is a deer as large as an ordinary sized ox, and is a very dangerous animal to hunt. As the snow is, on an average, 4 feet in depth, snow-shoes must be used, wherever there are not beaten roads; they are about 3 feet in length and  $1\frac{1}{2}$  in breadth at the middle, tapering off to a point at both ends; they are made of a frame of wood with two cross-bars, filled up with a net-work of moose's skin on which the foot rests; the foot is fastened to them by the toe, the heel being left free play, the snow-shoe is dragged along rather than lifted; great care is requisite in walking with them; if you allow the point to dig into the snow you are sure to fall upon your face, and in turning care must be taken not to tread on your own toes; if you do down you fall; going backwards is still more



dangerous, as you are more liable to dig in the heel and so tumble; I thanked my Indians for their information, which has been of use, as I have not yet had a tumble in the snow-shoes. I returned to barracks, found the dinner ready, had it and went to bed; had sound sleep on a good bed.

*February 1st.*—Had hare-soup and coffee for breakfast; nothing like a good breakfast for tackling a long road; I forgot to mention that the first two days journey, were each 30 miles in length; we started at 7 a.m., noticed a church with a spire and a very appropriate device on the top of it; it was a hand with the fingers clinched, excepting the forefinger, which was pointing heavenward; such a device as this makes a man think of heaven whether he will or not; if it had been a weathercock, I might have only thought which way the wind blew, but that finger made me think of what it was intended we should never forget. Our route to-day lay along the banks of the river St. John; there was little difference in the appearance of the country, it has not the least appearance of having any great plains; nothing was to be seen but hill upon hill, forest upon forest, with a strip of cleared land varying from 1 to 4 miles in breadth; the men now began to tire of sitting so long in the sleighs, and great numbers of them were to be seen walking, or running and tumbling along behind the sleighs; some of the sleighs occasionally had no one with them but the driver; there was sometimes as much as 2 miles between the first and last sleigh; the only time that we were together was at the halting places, and at wells by the roadside where they watered their horses; we had a piper in our sleigh to-day who gave us a tune occasionally; we would also have a song now and then; we arrived at our resting place for the night at 4½ p.m.; we were lodged in the garret of a hotel called Tilley's; we had not room to stand up in it, and just enough to lie down on our backs; there was a couple of stoves in the place which were kept burning all night, nearly stifling us with heat and smoke; some of the blue noses came amongst us to-night, we chatted with, and made them stare when we told them of the size and grandeur of London; they had no idea that there was a larger town than Fredericton, or a greater man than the Governor; on looking closely at them I thought they all chewed tobacco, but on questioning them, found it was spruce-gum; they were all teetotallers; they had a very simple contented look; they sang us some of their country songs with evident pride; I admired the words of one, called "Mary of the Wild Moor;" it was sung to a very old tune; some of our men then obliged them with a stave or two, to their evident gratification; they departed at a late hour, with great reluctance. There is not much society in the backwoods, miles sometimes intervening between the houses, and such an opportunity for enjoying themselves and displaying their vocal powers, seldom occurs. Our journey was 35 miles in length to-day.

*February 2nd.*—Sunday morning. Started at 7 a.m.; snowed for an hour; the piper and I were talking about home; he was conjuring up a picture of breakfast in London—tea, toast and bacon, and better than all, the wife pouring out the coffee, and with a smile inviting him to commence. I laughed at him and rallied him on his home-sickness; being Sunday we could not sing songs, so we sang psalms; at the half-way-house I had some stuff they called coffee, paying six cents for a pint; I drank it because it was hot, and I was cold; it did me a deal of good, whatever it was; they here charged most exorbitant prices for everything—a mouthful of bread and cheese cost six pence, and a glass of ale four pence, weaker than table beer, and thick and muddy looking; they were Yankees who kept the house; we met some Indians and their squaws; they generally wore blankets and steeple hats; met a funeral, the minister was in the first sleigh, then the coffin followed by the relatives of the deceased; the women and men all wore white crape; a great many of the neighbors attended to show their respect; they did not, however, wear any symbol of mourning; I judged it to be the funeral of a young woman; it is wonderful how solemn the presence of death makes men, not a word or a whisper was heard until the party had passed, and for some time afterwards not a word was spoken by any of us; we all apparently felt that the place was hallowed by the presence of death. We arrived at Woodstock at 3½ p.m.; our day's journey 32 miles; we were again lodged in a temporary barracks; after dinner I went out to have a look at the town; I met two countrymen only six months out; they were both carpenters, and were working at their trade; I went with one of them into a



Free-Will Baptist Church; now I am generally reverent in a church, but the manner in which they conducted their devotions nearly made me laugh outright; they began by one gentleman giving out a psalm; during the time he was reading, another gent starts up and bawls out a number and the name of a tune; they then sang it to a ranting air; then one prayed, then another, until six men had prayed, and then, as a climax, a young lady pops on her knees and prayed; this young lady's prayer, which I thought better and sweeter than the men's, finished the praying department; there was no one in the pulpit; after the praying was done, one old gentleman invited any one to step up and give their "experience"; no one stepped up, however, so he gave us his own experience, beginning in a whisper, getting louder and louder as he went on until he ended in a bellow, and sat down quite exhausted. I left the church before the service concluded; I was quite disgusted with the exhibition; I could not call it a religious service. We did not leave Woodstock next day; we took a rest to-day, but it was no rest to me, for I was on guard; Woodstock is a small village, only distant 12 miles from the State of Maine.

*February 4th.*—Left at 9 a.m., only six men in a sleigh; as the roads were getting worse, passed through several villages; walked a good deal to-day, our course still lying along the bank of the St. John River; we arrived at the village of Florenceville at 3 p.m.; travelled 25 miles to-day; lodged in the basement rooms of a hotel; lay again on the floor, which was only covered with pine-boughs.

*February 5th.*—Left Florenceville at 7 a.m.; roads very bad; still along the bank of the river, and close by the State of Maine; weather clear, frosty and cold; no villages along the road, but plenty of clearings; saw a small animal resembling a squirrel, a crow, and some birds of most beautiful plumage; arrived at a pretty village called Tobique; slept on pine boughs freshly gathered; day's journey, 40 miles; very tired.

*February 6th.*—Nearly frost-bitten in the fingers; when I washed in the morning the iron basin stuck to my wet fingers; was obliged to run inside and rub my fingers. Left Tobique at 8½ a.m., crossed the river Roustac on a very handsome bridge, leaving the St. John on our right; saw a large grist mill; our road lay for the most part through a forest, saw some splendid pine-trees; arrived at the Grand Falls of St. John at 2½ p.m., good quarters, plenty of room, and pine branches to sleep on; had my dinner, and then went out to have a look at the falls; there is a bridge about one hundred and fifty yards below the falls, from which a splendid view is obtained; the river here tumbles over a rock seventy-four feet in perpendicular height, whilst the spray rose in a misty cloud above it; below the grand falls it rushes away at the rate of forty miles an hour, falling seventy feet more in a few hundred yards length; after feasting my eyes with this truly grand and terrific sight, I took a stroll through the village, and then went to bed—our day's journey twenty-five miles.

*February 7th.*—Left Grand Falls at 8 a.m.; the settlers in this part of the country are all French; we crossed the river on the ice to the right bank along which our road lay for many miles; the roads were very bad to-day, full of ruts, and very dangerous. The pigs in this part are of a French breed, very lean, would make good hunters; they have a hump on their backs like camels; they are of a dirty brown, or russet colour, some of them having a white ring round their body, which give them a strange appearance; others were striped like tigers; they were the dirtiest and most disgusting looking pigs that belong to the porcine tribe. Crossed several rivulets spanned by handsome wooden bridges; it snowed during the last two hours of our journey; we passed a handsome French Church, covered all over with crosses, also a college and shrine. We arrived at Little Falls at 5 p.m., terribly tired, having been 9 hours on the road; Little Falls is a French village; we had travelled 40 miles to-day. We again had pine-boughs to sleep on; numbers of the Frenchmen came to hear the pipers play.

*February 8th.*—Left Little Falls at 7 a.m.; terribly cold to-day; the first 7 miles we were nearly shaken to pieces, the roads were so bad; the snow had also drifted a good deal during the night; we crossed the boundary line between Canada and New Brunswick about 9 a.m.; the road was now broad and good; snow ploughs go along every day to keep it clear, and we went along as smoothly as on a railway, and at a greatly increased speed; our road to-day



lay along the bank of the Madawaska river, and for 20 miles along the side of a large lake called Temiscouata; we arrived at Fort Ingall at 5 p.m., distance 40 miles to-day. There was a barracks here, so we had beds to sleep on, for which I was thankful; through lying on the boards so long, I did not sleep quite so well as I expected. There are some remains of the fortifications still to be seen; doubtless wild red Indians intent upon scalps, have assembled round this fort in their paint and feathers, but such days have now passed away; the white men hold with a strong hand what was once the Indian's patrimony, whilst they themselves have nearly disappeared from the land of their forefathers.

*February 9th.*—Left Fort Ingall at 7 a.m., halted 12 miles from the fort, and again at the 24th, where government had a log-hut, and an extra ration of warm tea; we rested here an hour; the rest of the afternoon was the coldest we had felt since we started on our journey; we arrived at Riviere du Loup, 40 miles from the fort, at 5 p.m.; 10 hours on the road; we again had beds to sleep on, our windows looking upon the river St. Lawrence, which is here 2 miles in width; the Riviere du Loup is only two days of sleigh journeying from the place where we turned back on the St. Lawrence, so you will see what a round about way we had come; our sleigh journey ended here. Riviere du Loup is 331 miles from St. John; Riviere du Loup is the name of a river and village; the Grand Trunk Railway has its terminus here; there were several large stores in this place; we found provisions cheaper here than at any other place along the road; the inhabitants are mostly French, and very civil and polite.

*February 10th.*—We paraded at 8 a.m.: we had about a mile to walk to the station, and as we had got heavy kits, and a blanket rolled round the knapsack, we were rather short of wind when we got to the station; the road was very steep all the way. The carriages were in waiting, and we immediately took our seats; one carriage held sixty men; they are built on an altogether different plan from English carriages; there are no doors in the sides of the carriages, but one at each end; all the carriages communicate with each other, they are seated crosswise, with a passage down the centre; two persons sit on each seat, other two facing them; not only can the guard and driver communicate by passing through the carriages, but instantaneous communication can be held by a bell which passes through the carriages; each carriage is provided with a closet, drinking water, stove, and, in ordinary passenger trains, with smoking and sleeping carriages. There is only a single line of rails, and but little difficulty has been experienced in making the permanent way; the country through which the railway passes is very flat, the rails are laid down at about the same gauge as the English Great Western Railway; the engines burn wood instead of coal, which necessitates their stopping very often to take in wood; we had two day's provisions in our haversacks; the train started at 9 a.m.—The line of railway from Riviere du Loup to Quebec runs within a short distance of the St. Lawrence; there was a good deal of cleared land along the line of railway, and numerous villages, the names of which I can only just mention—St. Alexandre, St. Paschal, Rivier Ouelle, St. Anne, St. Roch, St. Jean, L'Islet, St. Thomas, St. Francis, St. Charles, Traverse Chemine De Fere and Chaudiere. We stopped at most of these places to wood or water, but nothing was seen worthy of recording; we arrived at Chaudiere at 3½ p.m.; Chaudiere station is about eight miles from Quebec; we had to stay here 4½ hours, waiting for another train; we cooked our tea which we had brought with us on the stoves in the carriages; we got very tired sitting in the carriages doing nothing; all our old songs were sung, and topics of conversation exhausted long before the engine was again put to the carriages; many of the men were just dropping off to sleep when we again started at 8 p.m. The frost was very severe to-night, and away from the stove we soon got chilly. The carriage was full of smoke nearly all the way, owing to the wood having been cut too long to allow the stove door to be shut. We were dreadfully uncomfortable the whole of the night; owing to the jolting of the carriages we could not sleep, although we felt a great inclination to do so.

*February 11th.*—Arrived at Richmond at 2 a.m.; Richmond is a large village, as far as I could judge in the darkness; it has some good houses; there was



a fine hotel close to the station; I tried to enter into conversation with some of the people about the station, but they apparently could only talk French. At 5 a.m. we arrived at the town and station of St. Hyacinthe, this appeared to be a large town, plenty of fine looking houses and churches, with tall glittering spires. The station was very handsomely fitted up. Between this place and Montreal there was more of the country cleared than any place we had previously seen. We crossed the St. Lawrence on the Victoria Tubular Bridge; this bridge is the longest in the world; it has 25 arches of immense height and span, and with the abutments is more than two miles in length; the piers are of immense size and strength, it must receive a severe trial to its strength when the ice breaks up; in a few more minutes we got out at the Bonaventure station, and marched through the streets to the Victoria Barracks; the building is very large and handsome, accommodating not only us, but also the Grenadier Guards, who had arrived here a fortnight before us. The barracks belong to a nunnery close by us; it had, before government leased it, been intended for store rooms; the rooms are of great length and breadth, each accommodating 50 men; they are well lighted and ventilated, and have two stoves in each; the windows on one side look upon the St. Lawrence, which will present a lively scene in the summer time.

Montreal is the largest town in Canada, its population exceeds 100,000, and possesses more buildings of stone and brick than any other town in this country; the principal buildings (which are all built of stone) are the French Cathedral, where 10,000 people may worship at one time, the Court House, the three principal Banks, the Scotch Church, the Episcopalian Cathedral, a fine new building, and beautifully decorated inside; St. Patrick's Church and the Methodist Church; McGill College, the Jesuits' College, the General Hospital, Exhibition Building, Post Office, and Custom House, &c. &c. There are two fine markets, Bonsecours and St. Ann's; Bonsecours is said to be the finest market in America; there is a large hall above the market place, where balls and concerts take place. The town is lighted with gas, and some of the principal streets are paved with stone; in the same street the pavements are found to be made of wood, brick and stone, from which I infer that the proprietors of houses pave it themselves, and with what they like. Montreal is situated on an island of the same name, 180 miles above Quebec; it is 30 miles in length and 10 in breadth—it is fertile and level, except one elevation just outside the town, called Mount Royal, from which the island derives its name; it is about 600 feet in height, and is covered with trees; there is a reservoir of water at the base of the mountain, from which the town is supplied. Most of the manufactures in Canada are centered here, some of them on a very extensive scale. The St. Lawrence is navigable as far as Montreal by vessels of 2000 tons burthen; a few miles above the town the rapids of the St. Lawrence commence, rendering the navigation only fit for vessels of a small draught of water; vessels do not sail up the rapids, but up a canal which is cut from a point below to a point above the rapids, again taking the river until the next rapid, when another canal obviates the difficulty; while the river is open the mails sail direct from here to England. The population is a mixture of French, Irish, Scotch and English, with a sprinkling of Yankees from Bull's Run. On a Sunday afternoon as the Guards are going to and from church, Great St. James Street presents a very gay and brilliant appearance; the pavement is crowded with well dressed ladies and gentlemen—the ladies dressed in very brilliant colors: the head-dress generally consists of round fur caps—what they would call *pork-pies* in London; very few wear bonnets of chip or silk, and they who wear them are generally the most sedate and elderly looking; they must study the art of dressing much, and wear only what suits the complexion, for I have not seen what I could call a "decidedly ugly woman." I think the average height of the natives of this country is greater than the average in England; they have more room to grow here. The men wear fur caps with turn down flaps for the ears; they have a very sturdy, healthy look about them, and rather a decided inclination to be stout. The London cabbies are thought to be a pretty sharp class, and ready at repartee, but the sleigh drivers here decidedly beat them in forcing trade and making remarks to passers-by; great numbers of them are French, and have the advantage of, when it is safe, abusing in English, if not safe they use French. Looking at the streets, and the police reports,



I should say they are a very moral people; most of the crimes are theft and drunkenness; the thefts are generally of a petty nature: I have not heard of any great man abusing trust, nor of a secretary absconding with the cash-box; no violent assaults, and nothing in the shape of murder. Drunkards are rarely seen in the streets; a drunkard in America is looked down upon by everybody, no matter what he may be. Books are cheaper here than in England; a book which sells in England for 30 shillings may be had here for as many cents. There are several circulating Libraries, well supplied with books, principally from the New York publishers; judging from books I saw on the shelves of one, I should say there are too many books in the Newgate style, such as the Claude Duval series, and Reynolds' works. There are several daily newspapers, some bi-weekly and others weekly; some of them are published and sold for one cent. For the size of the town there are a good many music shops, or rather stores—all shops being called "*stores*." There are several regiments of volunteers and militia in this town; they are busy drilling every evening, and I am informed they pick up their drill very quick; on one or two occasions I have seen them marching through the streets with their band; considering the roughness of the streets they marched steadily and in good time, and with a proud, martial bearing; they did not appear to be the sort of men that would willingly submit to Yankee domineering, and should the Yankees ever take it into their heads to have a slap at Canada, they will meet with a warm reception. The houses are all covered with sheets of tin instead of slates or tiles; when the sun shines on them they dazzle the eye with their brightness; the roofs are generally steep, so that the snow may slip off easily. There are many charitable institutions in this city, and several for promoting learning and religion. Now that the thaw has commenced, (23rd March) it is very unpleasant walking in the streets; some dig away the snow of the pavement in front of their houses—the one next door does not; in consequence a pool of water collects where the snow has been dug away, only making the former evil the better of the two. We have had several parades to practice field movement on snow-shoes; we one day crossed on the ice to the small Island of St. Helens, on which there is a number of guns but no fortifications; we climbed and slid down the steepest hills on the Island; acting as Light Infantry there were a good many betrayed a decided inclination for the horizontal position to the great amusement of those who could maintain the perpendicular. The inhabitants are very fond of racing on snow-shoes; the Indians are the fleetest runners, they have most practice. Our men like this place well enough, the inhabitants and us agree very well; the only drawback is cheap drink, and a lack of those amusements which only London can afford; provisions also are cheaper than in the old country; the tobacco is cheaper but of inferior quality; manufactured goods are dearer than in England, clothing especially. There is no occasion for any one to be in poverty in this county, excepting from long sickness; that there are poor people there is no question, but improvidence is generally the cause; trade is not so brisk during the winter as in the summer, and something ought to be saved for the rainy day. The climate is very dry, the snow does not weigh more than half of what a like quantity of English snow would; the cold is great, but nothing to what we had expected. There is always plenty of work to be had, and I think a person who is only earning small wages at home should emigrate. If I were discharged to-day I should stay here, or go to Upper Canada; the persons most wanted are agriculturists and mechanics, such as carpenters, masons, and slaters of tin.

The foregoing account of our voyage and journey was not originally intended for publication—but having shown it to some friends they thought it of sufficient merit to advise me to publish it. I have accordingly done so, and have no doubts that the well known kindness of a generous public will pardon any imperfection in the construction of sentences, &c., and will take it for what it is—a true and correct account of our journey from London to Montreal. Whether our stay in this country may be for a short or a long period—we, when we return to "Dear Old England," will gratefully remember, and talk in our old age of the fine country, and finer people it was our lot to be thrown amongst.







No: 14

# TWO LECTURES:

I.

*LECTURES, BOOKS, AND PRACTICAL  
TEACHING;*

II.

*CLINICAL INSTRUCTION;*

BEING INTRODUCTORY ADDRESSES DELIVERED IN THE UNIVERSITY  
OF GLASGOW, AND IN THE WESTERN INFIRMARY, SESSION 1877-78.

BY

W. T. GAIRDNER, M.D.,

PROFESSOR OF PRACTICE OF MEDICINE IN THE UNIVERSITY OF GLASGOW;  
PHYSICIAN IN ORDINARY TO HER MAJESTY THE QUEEN IN SCOTLAND.

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No. 14

I.

LECTURES, BOOKS, AND PRACTICAL  
TEACHING ;

BEING AN INTRODUCTORY LECTURE TO A COURSE OF PRACTICE  
OF MEDICINE, 1877-78.

A QUESTION which has been of late a good deal discussed in medical councils and societies has been this—Whether lectures, as compared with books on the one hand, and strictly practical studies on the other, have not been allowed to assume a too prominent position in medical education? Or perhaps it would be a more correct way of representing the views of some persons to say—Whether lectures (*i.e.*, oral instruction *ex cathedrâ*) be not an exploded and effete system, soon to be elbowed out, or displaced entirely, by the other methods just named? As one holding a commission to teach by lectures in this University a subject of the widest range, and of the most far-reaching practical importance to all of you; as one, moreover, who has for fully a quarter of a century had this problem constantly presented to his mind amid all the changing lights of experience, and amid the actual necessities arising out of the teaching of large classes of students—not one of which many and varied groups of pupils has at any time appeared at all unwilling to be so taught—I have thought that it might be not uninteresting to you, and certainly not unbecoming in me, to anticipate our course of instruction in the present session by a few words on this matter, and to point out its bearing on the



serious business we have before us—the study of the practice of medicine.

I begin with one concession to the view that tends to look upon lectures as obsolete and effete. There have been, nay, perhaps, there still are, lectures of which it might very well be said that they encumber the curriculum of study. The whole processes and methods—I do not say of *medical* teaching only, but of the discipline of the human mind in almost every science and every art—have undergone immense changes even with the present generation, still more since the invention of printing made a great revolution in learning, and since modern inductive science carried the “dry light” of exact observation and experiment into every department of nature. In medicine, as in everything else, we simply cannot stand still, for stagnation is annihilation. If we have failed to accept the lessons of experience, and to adapt our teaching to the wants of the human mind, not to speak of the needs of the human body, in this nineteenth century of ours, then for us, truly, there is no room in a scheme of modern medical education. Call the instruction we pretend to give *lectures*, or call it what you will, it must be such as not only conveys to you the bare facts and doctrines of modern medicine, but such as is fitted to impress these upon your minds, and to inspire them with the spirit of modern medicine. Nay, I will go even further in the way of concession. It will not do for a lecturer merely to preach to, or at, his students now-a-days, in however elegant or appropriate words he does so. The end of a lecture (supposing that lectures are to continue to exist) is not to be attained merely by taking notes of it, and transcribing these, or getting them by heart. I have, indeed, in my time, known and attended lectures which were nothing but articulate text-books; and of such lectures it might very well be said that they were neither better nor worse than text-books; or, if anything, worse, seeing that they cost the labour of listening and transcription, while the text-book is procurable for a moderate sum, in the very words of the author, and is always at hand for consultation. Of lectures constructed on this plan I am no apologist. They belong to the past, and may



be justly considered as superseded in the present day, when text-books are abundant and good, and when the time of students has become valuable in consequence of the multiplication of subjects. It is impossible even to conceive, now, of a Professor of Physic after the type of the great Hermann Boerhaave of Leyden, whose fame, in the earlier part of last century, filled Europe, and whose system of doctrines, widely propagated after his death by Van Swieten and others, may be said to have dominated the whole academic teaching of most of the greater universities, at least down to the time when Cullen occupied this chair in Glasgow, and afterwards the corresponding one in Edinburgh; *i.e.*, till the latter part of the century.<sup>1</sup> Between Sydenham, in the middle of the seventeenth century, and Cullen, at the end of the eighteenth, there is certainly no name whose authority can be compared with that of Boerhaave as an expounder of medical doctrine; and yet, so great have been the changes in the interval, that his voluminous works are now, to us of the present day, almost as antiquated as those of Galen, whom he greatly resembled in the character of his intellect, and also of his influence over the minds of men. The causes of this immense influence, as an historical fact, and of its nearly complete extinction, it would be tedious to discuss at present in such a way as to make them intelligible to you; but in general terms it is safe to say this—that Boerhaave was essentially what I have elsewhere called a *system-builder*; an eclectic and a genuine system-builder, it is true, equally removed from charlatanism and from one-sided enthusiasm, but still essentially a dogmatist—*i.e.*, one whose influence as a teacher depended largely upon the acceptance of his fundamental doctrines, or *dogmata*, as regards the nature of disease in the abstract, its causes, and its cure. The aim of Boerhaave was obviously to build up a coherent, and all but complete

Boerhaave was born in 1668, and died in 1738, having lectured on the Institutes of Medicine from 1701 onwards, and been elected to the chair of Medicine and Botany, at Leyden, in 1709. Cullen began to lecture on the Practice of Physic, in Glasgow, in 1751, and died in Edinburgh in 1790. His "First Lines of the Practice of Physic," was published, in Edinburgh, in 1777.



structure of preliminary doctrines or aphorisms, on which, as on an hypothesis, all the detailed investigation of individual cases or diseases was thereafter to rest. His method, therefore, was essentially that of the theologian; like that of Calvin in the Institutes, for example, or of Augustine in that great system of mediæval doctrine which was called Catholic, because it was supposed to be for all time and for every place alike, and which, in fact, has thus far corresponded with the title, that it was adopted in its main features and logical sequence by the Reformers no less than by the Church of Rome. The system of Boerhaave was eclectic; that is, it professed to be drawn from a comprehensive study of all previous doctrine in all ages, but especially in the immediately preceding age; it adopted freely whatever seemed to be well founded in the teaching of the mathematical (or rather mechanical) and of the chemical schools, and did not disdain the acknowledgment of its obligations to the past; but the ultimate end was to be a *system*, *i.e.*, a scheme of doctrine so absolutely true, complete, and logically coherent as to have a reasonable look of *finality* about it. Hence the very language of Boerhaave, and of all his school, has become obsolete, because men have ceased to think of disease in general, or of diseases in detail, in terms of his underlying hypothesis. Take, for example, the primary divisions of his classification:—Diseases of a simple solid fibre; of a weak and lax fibre; of a stiff and elastic fibre; of weak and lax viscera; of too strong and rigid viscera; from an acid humour; from a spontaneous gluten; from an alkaline cause; all these are terms which convey absolutely no meaning, or scarcely any meaning at all, to a pathologist of the present day; and yet they are of the very essence of the doctrinal system of this great teacher, whose authority extended at one time from Vienna to the “*penitus toto orbe divisos Britannos*.”

You will not, I trust, suppose me to be making these references to Boerhaave with the view of unduly depreciating one whose character and immense erudition, added to vast stores of personal experience, give him an ample claim to all the fame he acquired, and to a permanent and honourable



place in the history of medical doctrine. My object is not to undervalue Boerhaave, but to show you wherein the modern spirit and method differ from his. Even in the middle of the 18th century, such methods and systems as that of Boerhaave are already, to use a Darwinian phrase, a *survival* from the past; the great original masters of research, Morgagni, for example, are found to repudiate, or rather to set them aside almost without effort; they refuse to be bound by an hypothesis or by a system of doctrine, be the authority for it ever so eminent. Systems, it is true, continue to spring up; Stahl and Hoffmann divide the schools in opinion almost contemporaneously with Boerhaave, and system-building goes on, pretty steadily, up to the very close, at least, of last century, when it has, however, degenerated for the most part into a kind of discredited charlatanism; the pretentious systems of Brown and Hahnemann, for instance, being distinguished chiefly by their abnegation of all genuine science, and indeed almost unconcealed contempt for it. The aim of these theorists was to establish such a general series of postulates with regard to the origin of all diseases as should dispense with all knowledge in detail of the real facts; so that the treatment might be decided upon *a priori* considerations, almost without reference to experience. Even during the present century there have been more or less similar attempts, as those of Broussais in France, Rasori and others in Italy, to proclaim absolute first principles of disease and of its treatment; but in general it may be said that the characteristic of the period which includes the great names of Laennec and Louis, Abercrombie, Richard Bright, Addison, and Stokes, Skoda and Oppolzer (to mention no more recent ones), has been a growing distaste for dogmatic assumptions, and a growing reliance upon the absolute facts of experience, collected with all the aid of new methods of investigation, and submitted to a cautious and searching, often a precise and numerical, analysis.

I need not stop at this stage to explain the brilliant results of the modern era of investigation, as inaugurated by these and other great names, nor to insist on what has been done for us



by the stethoscope, microscope, ophthalmoscope, thermometer, test-tubes, and other instruments of modern clinical research. These will be the very material, as it were, of the present course of lectures, and we need not anticipate by enlarging here upon the grand discoveries in diagnosis, and in medical practice generally, which have emerged during the last fifty years. What I have to insist on, however, is the change that has become necessary, as a result of these discoveries, in the method of conveying instruction.

I have said already that in my opinion no teacher or professor of the type of Boerhaave is ever again likely to attract the attention and occupy the mind of his generation as he did. We may rest assured that no system of medical doctrine will ever again be worth recording after the fashion of the aphorisms of this great man, illustrated in the lengthened and exhaustive "Commentaries" of his pupil Van Swieten, who tells us that he attended the lectures of his "great master, both public and private, for the space of nearly twenty years," in order to have the opportunity of reducing to order, and promulgating in their fulness, all the wise sayings of so great an authority. I fear it must be admitted that in these perhaps degenerate days so gigantic a task would be unavailing, were it even fulfilled, as regards the greatest of our professors, in a compilation as unwearied, exact, and, on the whole, as readable as that of this learned Hollander. And this, because no body of aphorisms whatever, "concerning the knowledge and cure of diseases," has any chance of enduring for twenty years without becoming in some important, and perhaps vital, points open to serious correction or revision; or perhaps antiquated altogether, and obsolete. Within the last ten years, for instance, of our present experience, the whole doctrine of fever, of tubercular disease, of infection and contagion, to take only three examples out of a multitude, has been, and is, undergoing changes of which it may justly be said that we know not what an hour may bring forth. How is this body of floating doctrine to be crystallised into aphorisms, and endowed with what may be called dogmatic authority and



stability by even the most energetic of professors and commentators?

Again, the application of the ophthalmoscope, the thermometer, the laryngoscope, the sphygmograph, and other graphic methods, to clinical research in various internal diseases, is at this moment rendering the most advanced text-books written even ten years ago comparatively valueless over a large field of medical observation. How are the aphorisms of any professor, if collected into a system such as is found in Van Swieten's "Commentaries," to escape from the influence of "tempus edax rerum" for double that period of time?

Again, the researches of Drs. Fraser and Crum Brown, of Lauder Brunton, of Rutherford, Dewar, and M'Kendrick, seem to be not only introducing new remedies, but entirely new experimental data and principles for guiding us in the use of the oldest and most familiar remedies, amounting to a probable revolution in our existing science of therapeutics. How is the "cure of diseases" to be formulated in aphorisms even for a single generation, in the face of these facts? You have only to compare the first with the last edition of Sir Thomas Watson's famous and most admirable book, and to read carefully what is written in each edition on such subjects as the treatment of pneumonia, of diarrhoea and cholera, &c., to see that even short of what may be called the most unsettling novelties of modern doctrine in therapeutics, a period of twenty or thirty years is now equivalent to a revolution, or rather a series of revolutions, in all that may be taken for established doctrine in the treatment of some of the most important diseases. And in nothing is the reputation and character of that venerable physician more justly esteemed, than in the remarkable and rare openness of mind which has enabled him to yield frankly and without any false pride of authority, to the force of evidence, and to abandon successive positions which had become untenable, without thereby impairing in the least the regard that men have all along paid to his mature and highly cultivated judgment on those subjects on which he is still an authority of the first class, whereon a lifetime of carefully cultivated ex-



perience entitles him to speak to us in language as lucid as are the ideas from which it springs.

You will observe, then, gentlemen, that professors and text-books are alike subject to one great cause of instability in the present day—the fluctuating and revolutionary state of the medical science and art. It is vain to dispute this fact, or to fight against it. The text-book must be re-written, or completely revised, edition after edition, or it must perish. The professor's lectures must be freshly brought up, altered, amended, often completely remodelled almost from year to year, or they are naught. Now what is the great and abiding lesson from this, for you and for me; or rather, how can any one teacher, in any one session, so address you as to convey to you the most wholesome and most abiding kind of education in the Practice of medicine? And the question is not at all here, how he is to establish the greatest reputation for himself; but how he is to do the greatest amount of practical good to you. The two objects may be more or less associated; but the latter is the one in which you are most directly interested at present.

I will assume, for a moment, and I think I may fairly assume, at this stage of your progress, as within the experience of all of you, that to learn a science or an art from the personal instruction of a living man, is something very different from learning the same facts out of a book. In the book you have the facts, no doubt, and the arguments too; nay, you may have them much more fully and exhaustively than they can be presented by the living voice. But in every demonstrative and experimental science and art there is much that the average man cannot learn out of a book at all; and much that, even if he should have committed the whole book to a retentive memory, he had far better learn over again, from experimental and personal teaching. If we could discover what is that subtle essence which gives the face and voice of a teacher of the right sort so much more power to impress truth of this kind than a book has, we should have mainly solved the problem of constructing a course of lectures in accordance with the wants of the present time.



Now, if you will think of it, I believe you will find that the chief advantage that a living man has, to you, over a book, is that you have, or may have, a more living *faith* in him; *i. e.*, you have means of testing his statements, and submitting his doctrines to criticism and personal inquiry. Of course you may be quite wrong; the professor may be wanting in knowledge himself—an ignoramus or a humbug, and so quite unworthy of your faith. But still, on the other hand, if he is a right-minded man, and tolerably sure of his ground, he will lay himself open to your inquiry and criticism, and if he is not sure of his ground he will tell you so, and make a clean breast of it. Now, when I turn to any of the commoner class of text-books, there is nothing I am more struck by than this; that in the effort after completeness all kinds of supposed facts, and all kinds of theories, are jostled in, somehow, *pell-mell*; with the result that the anxious inquirer or reader is often greatly puzzled in trying to remember what is of the first, and what only of secondary importance. Let us say nothing, for the moment, of positive inaccuracies and errors. The great fault of almost all books, and of many lectures, to the student is, in the wise words of Dr. Allen Thomson last autumn, that they attempt too much. They lose sight of the fact that a very little real knowledge is all that can profitably enter the human mind, and still more the average human mind, in a limited period of time. All that is over and above this is mere learning by rote; or in other words, what is commonly though inelegantly called *cram*. And out of *cram*, though you may make a bookworm or a prodigy of learning you cannot possibly evolve a physician, or even a reasonably safe practitioner of the healing art. For you may take it as quite established by experience that you, students, let us say, of the third year, *cannot*, in one or two sessions, learn the whole art and mystery of the Practice of Medicine. All that you can possibly do is to learn well a few of the better known and more clearly established facts and principles; and, what is most important of all, in mastering these thoroughly, you can



so inform your minds as to render them a fitting soil for the further teaching derived from experience, from reading, and from social and professional intercourse. In other words, in learning a few things well, you can teach yourselves, or be taught, how to learn many other things well by and bye.

Now here, I think, is the special function of the professor, as compared with the book. He has not only to direct you *what* to learn, but he has to teach you *how* to learn. And above all, he has to present himself to you in the attitude of one willing and able to learn himself—*naturæ minister et interpretes*, as Lord Bacon has it. For, in a highly progressive science and art like medicine, the first duty of the teacher is to inform you that it is progressive; and this he can do best, or perhaps only, through his own personal example. He will teach you facts, not as closing the door, but rather as opening it to new facts; he will teach you principles, but not as fixed and unalterable dogmas. To quote Lord Bacon once more, he will deal much in the *axiomata media*, or provisional generalisations from facts already known; little in *first* principles, or speculative and abstract hypotheses as to the nature and causes of disease. Thus he will endeavour to imbue your minds vividly with what is least doubtful and most important; but along with this he will not forget that the first and last of lessons to a physician, or from a physician to students of disease, is, how and when to acknowledge ignorance and suspend judgment.

A distinguished, but I believe still young, professor of physical science has lately contributed some papers to certain periodicals, the object of which seems to be to discredit religion, or at least theology (which he believes to be a superstition), on the ground that it is *immoral* to believe what cannot be definitely proved. Now, I have nothing to do here with the opinions of this gentleman on the subject just mentioned; but in the application of his thesis to medicine I am confronted with the difficulty that in almost all the cases in which immediate action must be taken in very critical circum-



stances, the action of the physician (and the same applies often to the surgeon) must be taken upon a belief which cannot be definitely proved in the manner of a deduction from first principles, which mode of proof is evidently the desideratum, or, at least, the criterion of Professor Clifford for theological truth. A man is much hurt and shattered, and is in a state of considerable collapse; you propose to amputate a limb. Will it save him? or will it even do any good? You cannot *know*; you cannot *prove* it. All you can do is to make a rapid survey of his organs and functions; judge as well as you can of his vital resistance, and act accordingly. You form a provisional belief; you act upon it, as you think, for the best, and you leave the rest to God. All this is opposed to Professor Clifford's ethical dogma. He would have us in all such cases remain in unbelief, I suppose, until the death or recovery of the patient spontaneously solves the difficulty. In like manner, here is a patient very gravely ill of typhoid fever, or of pneumonia; he is balancing between life and death; what are you to do? Perhaps nothing at all, or, at least, nothing that can be called active treatment. Here is, possibly, a course in accordance with the position that Professor Clifford would advocate. But no; to do even nothing at all that is active in a grave case of this kind you *must have a belief*, which, though founded on evidence, is not by any means proved as regards this particular case; the belief, viz., that the case will get well, or, at least, will not be the worse if so left to itself or to nature. If you did *not* so believe, it would be criminal to omit remedies. But suppose, on the other hand, that there presented itself some remedy more or less probably applicable to the symptoms; say, for instance, antimony, or stimulants, or camphor and chloroform, or the cold bath. Are you to use any of these, and which of them? Here again you must act, if you act at all, on a belief founded on evidence, but certainly not proved as regards this particular case. The man may die; you may have in the end, a misgiving; no matter; you were bound not only to believe, but to act upon your belief. No doubt the milder



and less heroic practice of these modern days in many acute diseases is largely based upon scepticism as to the disturbing kinds of remedial agents formerly so much employed; but it is also based upon a growing belief—the expression of which, however, is as old as the Hippocratic era, that “our natures are the physicians of our diseases.”

View the matter as you will, you cannot, in medical questions of life and death, avoid coming to some conclusion or other as a basis for action. The conclusion may be, and often ought to be, only provisional. The true and wise physician is he whose knowledge, derived from large experience and careful reasoning, enables him to appreciate at once, with the least amount of delay and disturbance, every important symptom and physical sign bearing on the interests of the patient; who, knowing as far as may be the state of every organ and part, within and without, and rapidly summing up in his mind all the available evidence as to the natural termination of similar cases, the probable causes, and the probable results of remedies, is able thus to arrive at a thoroughly *reasoned*, but not always *proved*, conclusion as to what ought to be done in this individual case. In other words, you arrive at a belief, and you sometimes or usually act upon it under the very conditions which, when applied to theology, Professor Clifford denounces as immoral.

Now, think of it for a moment. What is there that can give you a just confidence in action and in counsel (I do not mean blind rashness and foolhardiness, which are only too easily acquired by some) in cases like these, where the issues of life and death are, as it were, immediately before you, and your minds must grapple to a belief of some kind, were it only a provisional belief, fit to guide the mind to a course of conduct; *i.e.*, to a course of action or inaction (as the case may be), which you can justify to your own conscience, and to the inquiries of others? Nothing less, nothing else than an instinct of the mind, which I will not hesitate to call *faith*—the “evidence of things not seen”—which, in the case of



medical faith at least, ought to be founded on knowledge as far as it goes, but which reaches beyond knowledge to a probable conclusion, and acts at once upon that. The difficulty is to preserve this power of acting on the best knowledge attainable, even though imperfect, and yet to keep the mind open to future enlightenment; and this it is which I called a moment ago the faculty of *suspense of judgment*.

Now, in the case of beginners in the art, all these various phases of belief and conviction, not to say knowledge—these complex varieties of mental attitude, so to speak, must be gone through many times over, and under the direct personal guidance of one who may be presumed, from previous knowledge and experience, to have passed through them all himself; one who can realise the difficulties of younger men in what must be to them a new field of observation, and of whom they can feel absolutely sure that he will tell them what he knows and believes frankly, but at the same time will never affect, like the charlatan or the dogmatist (for very often these are only two names for one and the same person), a knowledge that is not real, a belief that is not founded on some fair and reasonable sort of evidence. This, I need not tell you, is a kind of guidance that you can never, or only rarely and imperfectly, get in the pages of a book. It can only result from the living presence of a man. And such is the perversity of the human mind, so great its tendency to crystallise opinions into dogmas, that your first impression will always be that the views, opinions, or doctrines of the man are of more importance than the man himself; whereas the true living guidance depends entirely on the opposite presumption, viz., that the man himself is more to you than any of his dogmas. And hence it reasonably, nay, irresistibly, follows that in the just and true order of events your first exercise of medical faith must be faith in your guide; a faith not blind nor unreasoning, but founded, like all true faith, on evidence, and yet accompanied, as we have said a moment ago, by *suspense of judgment*. How are you to acquire such a faith in any man in reference



to the important questions which form the material of this course of lectures? Partly, perhaps, from what you know of his social and professional position, and from his being set over you as professor. But chiefly, I think, and far more really, by your actually and personally seeing him at work in his department, and by, some of you at least, working along with him.

Here we touch, I think, the very root of the matter. Systematic lectures, which are mere repetitions of a text-book, are not, indeed, wholly useless, but they never can rise above the usefulness of a text-book, any more than water can rise above its fountain-head. But systematic lectures that are informed by the spirit of a living man are valuable to you above a text-book, just in proportion as you have reason to have a living faith in that man, and in his ability to guide you aright. The territory of disease is, in a not inconsiderable part of it, an unknown territory; wholly so to some of you, largely so to all of you, to all of us. But there is a map of it, and we have to study it by the map. We cannot explore the whole of it for ourselves, nay, not even the millionth part of it, with the materials at our command. But the man who, being an actual explorer, and known to you as such, will sit down with you and discourse in a reasonable and perfectly frank manner about this unknown country; who will tell you what he has himself seen, and what he knows only by hearsay; who will anticipate your difficulties, and inform you in some detail what you have to look for in following this or that river course, threading this or that impenetrable forest or jungle, crossing this or that mountain pass, will always have a value for you above that of the mere book or map. And if he can explore even a little bit along with you, from day to day, or can so instruct others that the facts of the lectures come to be illustrated, and the methods of exploration shown forth, under his guidance, then the advantage you will derive from his map, and his explanation of it, will be immensely and indefinitely increased.

Now, gentlemen, for more than twenty years, in Edinburgh



and in Glasgow, I have taught the Practice of Medicine systematically, by lectures and by associated practical or clinical instruction, after this manner, or at least in this spirit. Do not suppose that in saying this I am making a merely personal claim, for no one can be more conscious alike of the difficulties of the task, and of errors and imperfections in the execution. But such has been my method, and to the perfecting of it in detail, from year to year, my whole strength and energy have been carefully and deliberately applied. When the clinical professorships were founded about three years since, this question of method arose in a very decided and palpable form, as a question of mutual adjustment of rights and duties. I need not trouble you with the details, for they are written down in minutes, and illustrated by facts. My position, from first to last, has been this. Clinical teaching is a most important, nay, an indispensable part of your curriculum, but from the very nature of it, being, as its name implies, *bedside* teaching, it cannot possibly be done adequately, in a large school like this, by any one, or indeed by any two, men. Therefore, while I am glad to have a colleague in this most important kind of instruction, I mean to be, and to continue, a clinical teacher, as long as health, and strength, and energy permit. The hospital is my laboratory, the wards are my field for practical illustration and instruction. I am glad that others are there to share the work, but I by no means intend to demit my own share in it, which I reserve in the interest of my class and of my successors, as much as in my own. These claims were fully admitted at the time by the whole of my colleagues in the Medical Faculty; they were equally admitted by the aspirants to the clinical chairs, and by the promoters of them; they were embodied, as I have said, in documents which received the assent of the Senate and of the University Court, and which show that my clinical teaching is as much a part of the authorised curriculum, while I remain a physician to the Western Infirmary, as my systematic teaching.

This being said, I will go on to add that my personal desire is not rivalry, but co-operation. I look upon the Western In-



firmly (viewing it for the moment only from the point of view of a teacher of medicine) in the light of a great instrument affiliated to the University, for the purpose of manifold and many-sided practical instruction; and I am well content to occupy a place in it as one of three physicians having, as nearly as possible, equal rights and equal duties. I could even wish, in your interest, that there were more wards, more physicians, and more surgeons, engaged in clinical work; being satisfied that the more the instrument is developed, without exclusiveness or partiality, the more the University will be strengthened, and your essential interests advanced.



## II.

## CLINICAL INSTRUCTION;

## ITS REAL IMPORT AND ITS METHOD.

BEING AN INTRODUCTORY LECTURE TO A COURSE OF CLINICAL  
MEDICINE, 1877-78.

A FEW days ago I had occasion to discuss, elsewhere, the relation of lectures in general, and lectures on the Practice of Medicine in particular, to books on the one hand, and to practical or clinical instruction on the other. I now propose to take up more in detail the questions proper to this course, viz.—What is Clinical Instruction? how does it stand related to Clinical Lectures? and how ought it to be conducted so as to utilise to the utmost the practical opportunities, alike for teaching and for learning, belonging to the medical service of an hospital like the Western Infirmary? The few introductory remarks I shall make to you on these topics will not, I trust, invade too much the actual work to be performed in this course; and they will give me an opportunity of stating, once for all, the results of an experience acquired during more than twenty years of service as an hospital physician, and as a clinical teacher.

1. Clinical instruction is, as its very name implies, *bedside* instruction. The very idea of clinical instruction, properly so-called, carries with it that both instructor and instructed are to be in presence of the patient, and learning the lessons of



disease together from the absolute source of all real and final knowledge in respect to disease—the *sick man*. The lessons of a private practitioner to his apprentices, in the days when apprenticeships still existed, were true clinical instruction, and, with such a man as Abercrombie, who practised this method exclusively, they must have been clinical instruction of the best and highest kind. A well-conducted dispensary, in which the physicians not only see their patients at the hospital, but follow them up at their own homes, and along with their pupils, is also a very fruitful and admirable field for true clinical instruction, and one which only requires competent and devoted men to make it at least equal, if not superior, to any other. Strange to say, however, neither of these are counted as formal clinical instruction in your curriculum of study. Probably the difficulty of securing adequate regularity of attendance, and a sufficient body of well-trained and thoroughly competent teachers, may be the reason why every kind of medical attendance upon the sick poor has not been more or less formally utilised for this purpose. But having for several years pursued this method, in connection with the Royal Public Dispensary of Edinburgh, where I had usually classes varying from half-a-dozen to twenty pupils, and having given the hours of many a long afternoon to conferences with some of these, in almost all the “closes” between Holyrood and the West Port, on the cases of disease which were too urgent to be visited otherwise than at home, while others were seen at the Dispensary on two fixed days in the week, I am in a position to affirm that it is quite possible, and would be, I think, very desirable for you, that more should be made of this form of clinical instruction than has hitherto been done in Glasgow. Here, however, I am restrained by the consideration that I am not likely to be able to work in this direction myself; and I can only, therefore, commend to the junior physicians and surgeons of this hospital, and of the Royal Infirmary, the plan of clinical instruction to which I refer, of which the German *Poli-klinik*, or *clinique of the town*, is one of the numerous modifications. One thing, indeed, is necessary to



prevent this mode of instruction from becoming a mere sham and an abuse of the name of clinical teaching, viz.—a proper subdivision of the work; and, as arising from this, a sufficient amount of time given to it. Hurry-scurrying through thirty or forty cases in an hour, as is done in the out-practice of many hospitals, is not instruction, but the reverse; or, if instruction at all, it is simply instruction in bad habits—absolutely fatal habits—of inaccuracy and want of thought. It is painful to me to be led even to allude to this subject; for it is not alone the injury done to the sick poor, in many cases, but the still greater, because persistent and absolutely irremediable, injury done to the medical art and to the students and junior practitioners of it, by the system of hasty consultations involved in the vast and quite over-grown out-practice of many hospitals in London and elsewhere, that demands a word of stern and sad remark. What is to become of young men trained in such habits, in after life, if at the very outset of their career it is made plain to them by the bad example of their seniors, that five minutes, or three minutes, or two minutes, perchance, is all that can be spared for the investigation of a case of serious internal disease, with a view to its treatment? if, moreover, this rapid and unexact frame of mind is identified in the imagination of the junior with something that is called “practical,” which may be roughly defined as the faculty of transacting the greatest possible amount of “business”—*i. e.*, making the greatest number of blind guesses, and writing the greatest number of brainless prescriptions, in the shortest possible lapse of time? I believe, speaking as a man who knows what medical consultations are, and what amount of time and care they really require, that no more ruinous lesson could possibly be taught at the outset, than this; and, on the other hand, that nothing is more absolutely essential for true clinical instruction than an abundance of time, so that every case that is made the subject of remark at all, shall be, as nearly as possible, completely investigated according to all the lights that can be brought to bear upon it, alike from ancient experience and from modern science. And this is perhaps the one diffi-



culty in realising true clinical instruction of the best kind, as a rule, otherwise than in hospital wards. Young practitioners are too inexperienced, old practitioners are too busy, to give it in a really profitable manner, from the ever-increasing and over-abounding stores of general and miscellaneous practice. "While the grass grows, the steed starves;" while the multitude of cases is being thus over-hastily seen, the mind of the pupil, far from being enriched thereby with really valuable experience, is *sterilised*, so to speak, by acquiring the fatal habit of passing diseases under review superficially, and without anything like due investigation; so that he becomes, in the end, like the veriest empiric, a mere man of routine; with this difference, and one not always in his favour, that he has been during his pupilage artificially fed and nursed, so to speak, on books and lectures, and finally exalted, by the possession of a degree or diploma, into the conceit of himself that he is competent to know and to treat all manner of diseases—the fact being that he has not learned even the very elements of a true *diagnosis*.

2. Clinical instruction, then, is, as we have said, bedside instruction; but it is, or ought to be, such bedside instruction only as is methodically conducted, and rendered, as nearly as may be, complete. And, if you will think of it for a moment, the *method* of the instruction is to you quite as important as even the facts, or substance of the instruction. For it is but little profitable to you to see a patient lying in a bed, and to hear *me* pronounce it a case of pneumonia, or of Bright's disease; what is wanted is that *you* should be able to see why and how this conclusion is arrived at. And in the order of importance to you, the "how" is first, the "why" second; because the personal realisation of the facts, the investigation of the phenomena, to speak in scientific phrase, should precede, and not succeed, the formation of an opinion about them. Hence it is scarcely clinical instruction at all, in the proper and just meaning of the word, for a physician merely to lecture about a case, and to tell you in detail his opinion about it. What is really wanted is that he should place you, or at least some of you,



and as many as possible of you, in the position to form your own opinion about it—guiding you, of course, by his more matured opinion, but only so as to show you the way, and prevent you from making mistakes. Nay, even your mistakes are capable of being turned to account in a system of true clinical instruction; the mistake of one man is often the best kind of instruction for the many. And I would most seriously exhort you in all cases to be prepared to take this view of mistakes, not to laugh at them, or to scorn them, in each other, but to study them as the true path to knowledge; the practical exhibition of the fallacies and difficulties which will beset you all in your way through life. You will therefore greatly assist each other, and me as your instructor, if you frankly submit yourselves to questioning on all facts emerging at the bedside; for it is only by the answers of the individual man that I can discover the needs of the whole class; and only through your failures as individuals that the standard of knowledge and practical efficiency can be raised for the whole. You will very soon arrive, indeed, at this belief for yourselves, if you will only take note that we never reprove or deride any one on account of a mistake, but always use it as the means of discovering how far a difference of opinion is legitimate, and how far it is shared by others, or how far it may be removed by new observations; and in carrying out this plan at the bedside, you will also observe that I prefer to throw my own opinion into the common stock, as it were, and to submit it to the criticism of facts, like the others, rather than to impose it upon you as final under almost any circumstances.

3. You will observe that I have said little hitherto about *Clinical Lectures*, except by an allusion, perhaps, to show their inadequacy as a means of clinical instruction; and it seems, therefore, rather incongruous to have to remark, at this point, that it is *only* the clinical lectures that are, generally speaking, recognised in your curriculum; in other words, the real essence of clinical instruction, that without which it is not *clinical* at all, is passed *sub silentio*, or altogether neglected and omitted. This is certainly not as it should be, and I trust that in any



future regulations of the authorities, or discussion in the Medical Council, this view of the question of clinical instruction will receive due consideration. As matters stand at present, the clinical or practical department of your instruction is, just as much as any other, open to the charge of being overmuch dependent upon lectures; and it is far less excusably so dependent, inasmuch as it is this part of your medical instruction that might be expected to be the corrective of any excess of lectures elsewhere. But, not to prolong remarks upon a topic that is not for you but for your seniors to judge of, I will hasten to add that there are serious practical difficulties in the way of securing the regular attendance of many students in the wards, to the extent that might harmonise thoroughly with the idea of an absolutely clinical or bedside instruction, in the strictest sense of the word. My own interpretation of the formal and official requirement is simply that by "lectures" is meant a stated meeting with the whole class, checked by roll-call; whether the instruction be given in a separate lecture-room, or in the ward. While, therefore, we aim at fulfilling the regulations which require two "lectures" to be given in the week, we do not rest upon that regulation, or adopt the ordinary method of simply *lecturing about* cases, instead of actually *examining* cases of disease, as the basis of our clinical method. At one of the two "lectures," accordingly, which occur statedly as part of the weekly programme, I assemble the class in the lecture-room, as assigned to me by the Managers, viz., on Tuesdays; at the other, on Fridays, I arrange to have a regular meeting in the ward, equally subject to roll-call, and with every possible arrangement made for your physical comfort, as well as for bedside instruction, such as can from its nature be appreciated by a considerable number. But whatever be the form of the assemblage, the lecture (so-called) is simply the condensed and ordered expression, or the interpretation, of observations made, and of facts elicited in your presence in the wards; the lecture, therefore, is in all cases most profitable to those who have taken some pains otherwise to know personally the facts. I cannot refrain from adding here that I have listened to clinical lectures



both at home and abroad, which were in no respect clinical in any true sense of the word. One distinguished Professor in Paris, during one of my visits to his hospital, was giving a whole series of clinical lectures on the properties, physiological and pathological relations, and therapeutic uses of arsenic. I could only wonder if he was also getting up his materials as he went along by giving arsenic all round to all his patients. Another professor, in Germany, on one occasion when I was casually present, had been giving two whole days (and two hours each day) in succession, to a complete systematic exposition of the entire subject of hemiplegia and the allied forms of paralysis, as illustrated clinically by one case only; and the worst of it was, that this was really a clinical lecture in external appearance at least; for the unhappy patient was present throughout this remorselessly long-winded harangue, and was doomed to listen from his bed (hauled into the lecture-theatre) to a statement at full length of the nature of the disease, causes, predisposing and exciting, pathological anatomy, symptoms, diagnosis, prognosis, and treatment, without even one word, so far as I observed, of kindly sympathy or consideration for *him*, any more than if he had been an inanimate object. This was the most cold-blooded exhibition I ever saw or heard in the shape of a clinical lecture; and, notwithstanding the great reputation of the professor, and my anxiety on other grounds to follow him, I was so unfavourably impressed, that I never again ventured within that professor's lecture-room.

4. This leads me to make another remark about the proper conduct of a course of clinical instruction. Bedside teaching is not what it professes to be—viz., clinical in the highest sense, unless, besides being a discipline for you in regard to the facts of disease and the methods of observing them, it is also made an equally careful training in respect of the moral relation between physician and patient. I will confess to you at once that there is some risk of this aspect of the matter being forgotten at times, and I am by no means one of those who maintain the absolute compatibility, under all circumstances, of the interest of the patient with that of the clinically-instructed



pupil. There is a risk, as I have already said, that clinical instruction may be conducted in a cold-blooded and heartless manner, to the detriment of the patient. But on the other hand I fully believe, and indeed know from experience, that the sick poor derive, on the whole, a literally immense amount of benefit which would otherwise not accrue to them, from the thoroughly methodised, orderly, and elaborate investigation which their cases undergo as a consequence of clinical instruction. Comparing, as I am able to do every day, the diagnosis and even the treatment of disease in hospital patients, with what is the average lot of the same class of patients out of hospital; nay, even comparing the indoor hospital patient, the subject of clinical instruction, with the wealthy man or woman moving in society, who consults the most fashionable physicians, and has his or her family doctor always at hand, I am almost sure that the balance of advantage is often on the side of the hospital patient; and this, just because of the thoroughness of investigation, and the methodical care in regard to all details of treatment and nursing, which obtain in a well-regulated hospital ward. But I would not have you suppose that these advantages of our clinical method can be secured to the patients, say of the Western Infirmary, without your co-operation; without the whole scope of our clinical teaching being such as engages, both in your case and mine, the heart as well as the head. I will utter no mere vague sentimentalisms on this subject, for it is one where an honest, but not overstrained, human sympathy with suffering humanity is all that is required to guide you aright. What is necessary, however, is that you should clearly realise to yourself the position; that if I, for example, forget for one moment, or if you allow or oblige me to forget for one moment, the real interests of the patient as they appear to a kindly sympathetic physician, it is not only an injury done to the sick man, but also a violation of the law of true clinical instruction. For what I have got to teach you, and what you have got to learn, at the bedside, is nothing less than the whole art of the physician; and this includes, most assuredly, as one of



its most important elements, the art of securing the confidence and goodwill of the patient.

5. Now to apply these remarks regarding clinical instruction to our own work in detail. We require, in the first place, a group of clinical clerks, and these we shall select, to the number of at least a dozen, from yourselves; but by this I mean not necessarily from the enrolled members of this particular clinical class, but from the undergraduates who may prove, by clinical examination or otherwise, the possession of the necessary qualifications. To these gentlemen will be committed the keeping of the ward journals, in a great measure; with the proviso, however, that in most cases either my assistant and *chef-de-clinique* (as the French say), Dr. Gemmell, or the resident physician, or I, shall have revised and critically compared the record with the facts of the case, before it is finally inscribed. In this critical comparison there will necessarily arise most valuable material for bedside instruction; therefore the examination of the details of the clinical record will usually, or as much as possible, take place in presence, not indeed of the whole clinical class, but of a select number of junior students. Use these opportunities well, gentlemen, for they are invaluable. The record, in its completed form, will be, it is to be hoped, a record of facts; but even facts are often tinged, or modified by opinion; and where reasonable differences of opinion arise, we shall be careful not to extinguish these, but to preserve them in the form of the record itself; which will in all cases be authenticated by the name of the reporter, and often of those also who have concurred with, or differed from, him in his statement of particular facts. In all cases, moreover, we require the *date* of the observation, and as much as is convenient, the order in which the facts were elicited, to appear upon the face of the record. We allow no subsequent correction or revision of this (saving for plainly clerical errors), except in the form of a marginal or foot-note, similarly dated; and for this purpose we keep, purposely, a blank page open opposite every written page of our hospital report. Some of



the most instructive of our bedside conferences have often arisen upon these late verifications, or corrections, of doubtful points in the original record of a case. When, in the course of an ordinary ward visit, I personally dictate the report of a first or of any future observation, it is similarly authenticated, and equally open, as in the case of the report of a junior, to future criticism or correction; and many of you can bear me witness that I never hesitate in allowing an error, or a doubtful expression, to be fully and deliberately discussed, and the correction, if necessary, duly inscribed, as such, upon the margin. Indeed it is in these very difficulties and fallacies of observation that we frequently find the best materials for our clinical lectures. Finally, after a certain period of observation, and after a certain number of presumably exact details have been inscribed, we make upon the first blank page opposite the beginning of the case, a *summary* of the whole observations, which in many cases, but not always, includes also a definite diagnosis, or at least the materials of one. On a second blank page we inscribe a connected statement of the details of treatment; on a third, the whole series, or a carefully-constructed abstract, of temperature observations; on a fourth, urinary observations, &c., &c. Diagrams of physical diagnosis, sphygmograms, &c., are inserted as required in the journals; and thus after a while there is built up gradually a completed record of the case, up to the moment of dismissal from the hospital, or of death.

6. Such are our hospital journals, the raw material, so to speak, of our clinical lectures and instructions. It is clearly and manifestly impossible that all the members of a clinical class shall be even present, much less participate in the observation and verification of each individual fact; but our aim is so to work *together* in all things, and so to record the results of our work, that every member of the class shall feel, as it were, with the force of personal conviction, that the statements so recorded are such as he *might* possibly have verified, had he happened to be present at the time. And not unfrequently, the actual verification takes place, in the case of unusual, or



striking, or typical phenomena which from their nature can be submitted to larger numbers, before these larger numbers, or even before the entire class, on one or other of the lecture days above mentioned. But obviously, such verifications, or conjoint observations, must be of a very select kind; for with every increase in the number of observers it is absolutely necessary to diminish the area, so to speak, of the facts observed. Thus it is possible, without fatigue or risk, to demonstrate the more glaring râles over a single point of the lung surface, or a well-marked cardiac bruit, or an irregularity in the pupils, or a well-defined percussion-dulness or tumour, to a large number comparatively; but if, as is usually the case, the more critical investigation of any of these requires more than the mere statement of the fact—if the murmur has to be traced to its source, or studied as to its law of diffusion; if the râles have to be followed out with relation to their distribution, or associated with other facts, such as the alterations of the respiratory murmur in different parts of the chest, then the bare physical possibilities of personal verification by numbers become correspondingly limited. Hence in our more numerous assemblages, whether on days subject to roll-call or not, we find it often necessary to elect two or at most three representative men out of the class, to whom, in detail, the more difficult or complicated observations are committed, and their impressions, told singly and in presence of the whole class, are discussed, controverted, verified or rejected, as the basis of direct observation on which the diagnosis is to proceed, or the principles of treatment are to be brought into question. And here, also, we use the hospital record as supplementary to direct or personal observation; always with the understanding that the hospital record itself has been the result of previous observations made and controlled, as far as possible, by like methods of verification in detail.

7. Lastly, the clinical *lecture* proper, *i.e.*, apart from the ward altogether, which, as a rule, we give once a week to the whole class, is no ambitious performance, nor display of learning or of eloquence on the part of the lecturer, but simply, as



far as possible, an outgrowth from the labours of the preceding week, or month, or more, as the case may be, of duty in the wards. Facts and phenomena previously observed separately, are here discussed in correlation; cases which have terminated or passed out of view, are treated in *résumé*, and the most obvious conclusions arising out of them as to treatment, or prognosis, or pathology—such inferences, in short, as would have been out of place in the wards, are shortly indicated. And considering that we have already, in this Western Infirmary and these wards of ours during only three years, since 1874, accumulated some hundreds of cases, and almost a score of volumes of records, compiled throughout with the same anxious care for the verification of every detail, we sometimes seek back, as it were, upon our own previous clinical experience, partially remembered, it may be, by the seniors among you, or at least open to your inspection and comparison in detail, with the cases more immediately before us. Sometimes, but more rarely, we pass beyond the bounds of what may be called our conjoint experience in this hospital, and supplement it by more general statements founded on a wider area of experience.

Such, gentlemen, is our clinical method, briefly, but I hope comprehensively, stated. You will observe at once that it is widely different from that ascribed by rumour to an old friend of mine, who still lives, but who has survived all his ambitions, and will, I am sure, pardon me the use of this illustration. I happened to attend, long ago, the earlier part of the first course of clinical lectures delivered by this gentleman, and I was struck by the remarkably complete and exhaustive manner in which each whole subject was brought into view upon the basis, usually of a single case in the wards, which was simply read to us out of the journal by way of introduction, or text, so to speak. The current rumour was that the course of lectures in question had been elaborated in the course of the preceding summer, being written down every word in an exactly ordered fashion, according to all the respected author's previous experience and reading; so that the cases, as they occurred,



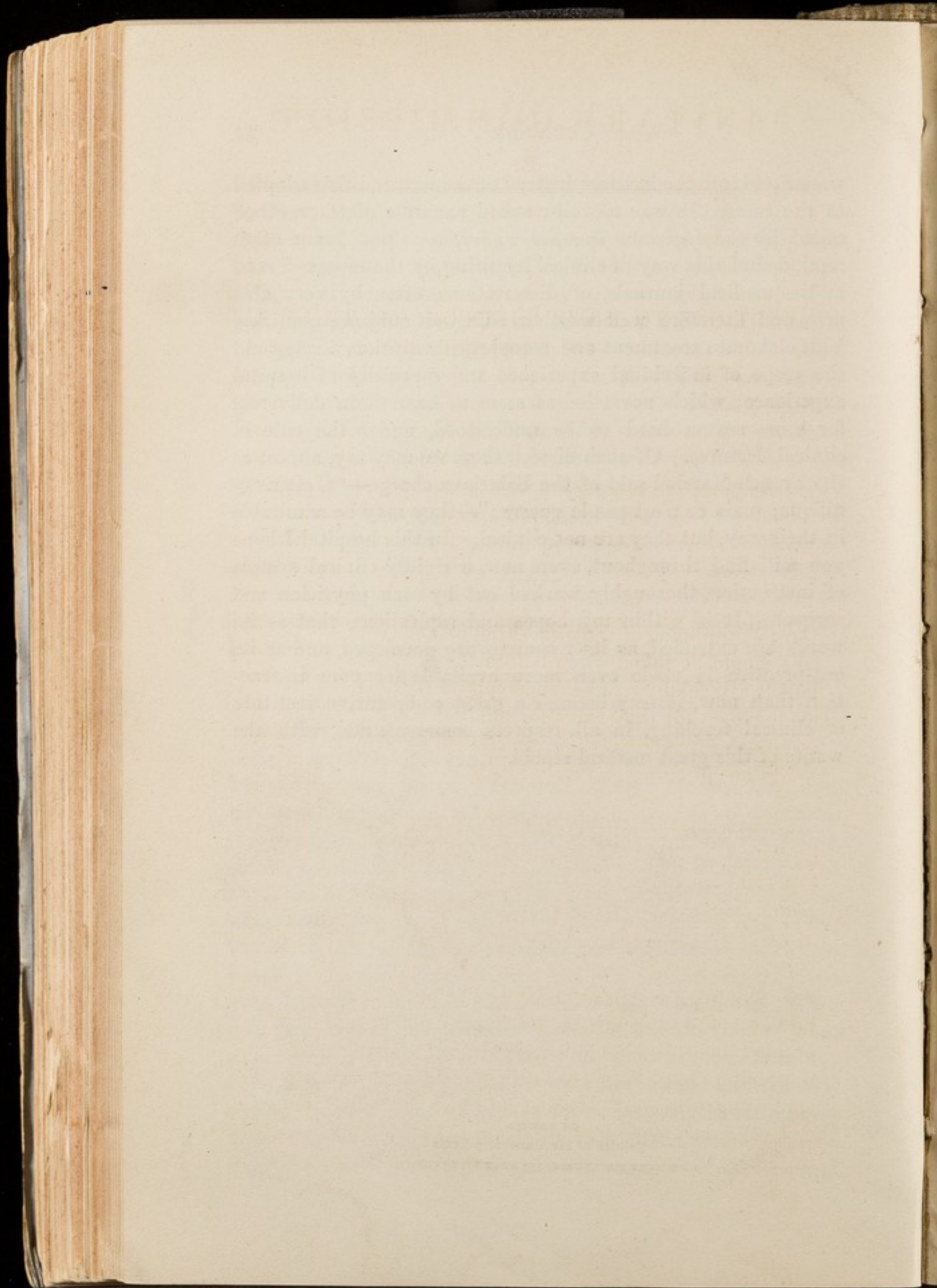
were fitted into the lectures, instead of the lecture being adapted to the cases. It was a well-marked example of the method called by the logicians *ὑστερον πρότερον*. But I am often reminded of this way of clinical lecturing by the reports I read in the medical journals, of dissertations, often by very able men, and therefore well worth reading, on subjects requiring both elaborate treatment and complex illustration, far beyond the scope of individual experience and especially of hospital experience; which nevertheless seem to have been delivered, for some reason hard to be understood, under the title of clinical lectures. Of such dissertations we may say, almost as the French Marshal said of the Balacava charge—"C'est magnifique; mais ce n'est pas la guerre;"—they may be admirable in their way, but they are not clinical. In this hospital I hope you will find throughout, even now, a rigidly clinical system of instruction, thoroughly worked out by each physician and surgeon. It is within my hopes and aspirations, that as its wards are extended, as its resources are developed, and as its out-practice is made even more available for your instruction than now, it may become a great co-operative institute of clinical teaching, in all respects commensurate with the wants of this great medical school.

GLASGOW

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# SANITARY COMMISSION.

B.

## DIRECTIONS TO ARMY SURGEONS ON THE FIELD OF BATTLE.

BY G. J. GUTHRIE,

Surgeon General to the British Forces during the Crimean War.

[Adopted by the Commission and printed for the use of U. S. A. Surgeons,

By order: FRED. LAW OLMTED, *Secretary.*]

[THIRD EDITION.]

1. Water being of the utmost importance to wounded men, care should be taken when before the enemy, not only that barrels attached to conveyance-carts are properly filled with good water, but that skins for holding water, or such other means as are commonly used in the country, for carrying it, should be procured and duly filled.

2. Bandages or rollers, applied on the field of battle, are, in general, so many things wasted, as they become dirty and stiff, and are usually cut away and destroyed, without having been really useful. [Nevertheless, in connexion with splints, in cases of fractures of the limbs, they are indispensable.]

3. Simple gun-shot wounds require nothing more, for the first two or three days, than the application of a piece of wet or oiled linen, fastened on with a strip of sticking-plaster, or, if possible, kept constantly wet and cold with water. When cold disagrees, warm water should be substituted.

4. Wounds made by swords, sabres, or other sharp-cutting instruments, are to be treated principally by position. Thus,



a cut down to the bone, across the thick part of the arm, immediately below the shoulder, is to be treated by raising the arm to or above a right angle with the body, in which position it is to be retained, however inconvenient it may be. Ligatures may be inserted, but through the skin only. If the throat be cut across in front, any great vessels should be tied, and the oozing stopped by a sponge. After a few hours, when the oozing is arrested, the sponge should be removed, and the head brought down towards the chest, and retained in that position without ligatures; if this is done too soon, the sufferer may possibly be suffocated by the infiltration of blood into the areolar tissue of the parts adjacent.

5. If the cavity of the chest is opened into by a sword or lance, it is of the utmost importance that the wound in the skin should be effectively closed, and this can only be done by sewing it up as a tailor or a lady would sew up a seam, skin only being included; a compress of list should be applied over the stitches, fastened on by sticking plaster. The patient is then to be placed on the wounded side, that the lung may fall down, if it can, upon, or apply itself to the wounded part, and adhere to it, by which happy and hoped-for accident life will in all probability be preserved. If the lung should be seen protruding in the wound, it should not be returned beyond the level of the ribs, but be covered over by the external parts.

6. It is advisable to encourage previously the discharge of blood from the cavity of the chest, if any have fallen into it; but if the bleeding from within should continue, so as to place the life of the sufferer in danger, the external wound should be closed and events awaited.

7. When it is doubtful whether the bleeding proceeds from the cavity of the chest, or from the intercostal artery, (a surgical bugbear,) an incision through the skin and the external intercostal muscle will expose the artery close to the edge



of the rib having the internal intercostal muscle behind it. The vessel thus exposed may be tied, or the end pinched by the forceps, until it ceases to bleed. Tying a string round the ribs is a destructive piece of cruelty, and the plugs, &c., formerly recommended, may be considered as surgical incongruities.

8. A gun-shot wound in the chest cannot close by adhesion and must remain open. The position of the sufferer should therefore be that which is most comfortable to him. A small hole penetrating the cavity is more dangerous than a large one, and the wound is less dangerous if the ball goes through the body. The wounds should be examined and enlarged if necessary, in order to remove all extraneous substances, even if they should be seen to stick on the surface of the lungs; the opening should be covered with soft oiled or wet lint—a bandage when agreeable. The ear of the surgeon and the stethoscope are invaluable aids, and ought always to be in use; indeed no injury of the chest can be scientifically treated without them.

9. Incised and gun-shot wounds of the abdomen are to be treated in *nearly* a similar manner; the position in both being that which is most agreeable to the patient, the parts being relaxed. In incised wounds of the abdominal parietes great care should be taken to include in the sutures all the tissues except the peritoneum.

11. In wounds of the bladder, an elastic or silver catheter is generally necessary. If it cannot be passed, an opening should be made in the perinæum for the evacuation of the urine, with as little delay as possible.

12. In gun-shot fractures of the skull, the broken pieces of bone and all extraneous substances are to be removed as soon as possible, and depressed fractures of the bone are to be raised. A deep cut made by a heavy sword through the bone into the brain, generally causes a considerable depression



of the inner table of the bone, whilst the outer may appear to be merely divided.

13. An arm is rarely to be amputated, except from the effects of a cannot-shot. The head of the bone is to be sawn off, if necessary. The elbow-joint is to be cut out, if destroyed, and the sufferer, in either case, may have a very useful arm.

14. In a case of gun-shot fracture of the upper arm, in which the bone is much splintered, incisions are to be made for the removal of all the broken pieces which it is feasible to take away. The elbow is to be supported. The forearm is to be treated in a similar manner ; the splints used should be solid.

15. The hand is never to be amputated, unless all or nearly all its parts are destroyed. Different bones of it, and of the wrist, are to be removed when irrecoverably injured, with or without the metacarpal bones and fingers or the thumb ; but a thumb and one finger should be preserved when possible.

16. The head of the thigh bone should be sawn off when broken by a musket-ball. Amputation at the hip-joint should only be done when the fracture extends some distance into the shaft, or the limb is destroyed by cannon-shot. [There is little encouragement for the performance of primary amputation or resection at the hip-joint.]

17. The knee-joint should be cut out when irrecoverably injured ; but the limb is not to be amputated until it cannot be avoided.

18. A gun-shot fracture of the middle of the thigh, attended by great splintering, is a case for amputation. In less difficult cases, the splinters should be removed by incisions, particularly when they can be made on the upper and outer side of the thigh. The limb should be placed on



a straight, firm splint. A broken thigh does not admit of much and sometimes of no extension, without an unadvisable increase of suffering. An inch or two of shortening in the thigh does not so materially interfere with progression as to make the sufferer regret having escaped amputation. [The sufferings of the patient will be greatly alleviated by judicious extension with strips of adhesive plaster, and a more useful limb will thus be secured.]

19. A leg injured below the knee should rarely be amputated in the first instance, unless from the effects of a cannon-shot. The splinters of bone are all to be immediately removed, by saw or forceps, after due incisions. The limb should be placed in iron splints, and hung on a permanent frame, as affording the greatest comfort, and probable chance of ultimate success.

20. An ankle-joint is to be cut out, unless the tendons around are too much injured, and so are the tarsal and metatarsal bones and toes. Incisions have hitherto been too little employed in the early treatment of these injuries of the foot for the removal of extraneous substances.

21. A wound of the principal artery of the thigh, in addition to a gun-shot fracture, renders immediate amputation necessary. In *no other part* of the body is amputation to be done in the first instance for such injury. Ligatures are to be placed on the wounded artery, one above, the other below the wound, and events awaited.

22. The occurrence of mortification in any of these cases will be known by the change of color in the skin. It will rarely occur in the upper extremity, but will frequently do so in the lower. When about to take place, the color of the skin of the foot changes, from the natural flesh color to a tallowy or mottled white. Amputation should be performed immediately above the fractured part. The mortification is yet local.



23. When this discoloration has not been observed, and the part shrinks, or gangrene has set in with more marked appearances, but yet seems to have *stopped* at the ankle, delay is, perhaps, admissible ; but if it should again spread, or its cessation be doubtful, amputation should take place forthwith, although under less favorable circumstances. The mortification is becoming, or has become, constitutional.

24. Bleeding, to the loss of life, is not a common occurrence in gun-shot wounds, although many do bleed considerably ; seldom, however, requiring the application of a tourniquet as a matter of necessity, although frequently as one of precaution.

25. When the great artery of the thigh is wounded, (not torn across,) the bone being *uninjured*, the sufferer will probably bleed to death, unless aid be afforded, by making compression above, and on the bleeding part. A long, but not broad stone, tied sharply on with a handkerchief, will often suffice until assistance can be obtained, when both ends of the divided or wounded artery are to be secured by ligatures.

26. The upper end of the great artery of the thigh bleeds scarlet blood, the lower end dark venous-colored blood ; and this is not departed from in a case of accidental injury, unless there have been previous disease in the limb. A knowledge of this fact or circumstance, which continues for several days, will prevent a mistake at the moment of injury, and at a subsequent period, if secondary hæmorrhage should occur. In the *upper* extremity both ends of the principal artery bleed scarlet blood, from the free collateral circulation, and from the anastomoses in the hand.

27. From this cause, mortification rarely takes place after a wound of the principal artery of the arm, or even of the armpit. It *frequently* follows a wound of the principal artery



in the upper, middle, or even lower parts of the thigh, rendering amputation necessary.

28. It is a great question, when the bone is *uninjured*, where, and at what part, the amputation should be performed. Mortification of the foot and leg, from such a wound, is disposed to stop a little below the knee, if it should not destroy the sufferer; and the operation, if done in the first instance, as soon as the tallowy or mottled appearance of the foot is observed, should be done at that part; the wound of the artery, and the operation for securing the vessel above and below the wound, being left unheeded. By this proceeding, when successful, the knee-joint is saved, whilst an amputation above the middle of the thigh is always very doubtful in its result.

29. When mortification has taken place from any cause, and has been arrested below the knee, and the dead parts show some sign of separation, it is usual to amputate above the knee. By not doing it, but by gradually separating and removing the dead parts, under the use of disinfecting medicaments and fresh air, a good stump may be ultimately made, the knee-joint and life being preserved, which latter is frequently lost after amputation under such circumstances.

30. Hospital gangrene, when it unfortunately occurs, should be considered to be contagious and infectious, and is to be treated locally by destructive remedies, such as nitric acid, and the bivouacking or encamping of the remainder of the wounded, if it can be effected, or their removal to the open air.

31. Poultices have been very often applied in gun-shot wounds, from laziness, or to cover neglect, and should be used as seldom as possible.

32. Chloroform [or ether] may be administered in all cases of amputation of the upper extremity and below the knee, and in all minor operations; which cases may also



be deferred, without disadvantage, until the more serious operations are performed.

33. Amputation of the upper and middle parts of the thigh are to be done as soon as possible after the receipt of the injury. The administration of chloroform [or ether] in them, when there is much prostration, is doubtful, and must be attended to, and observed with great care; the question whether it should or should not be administered in such cases being undecided.

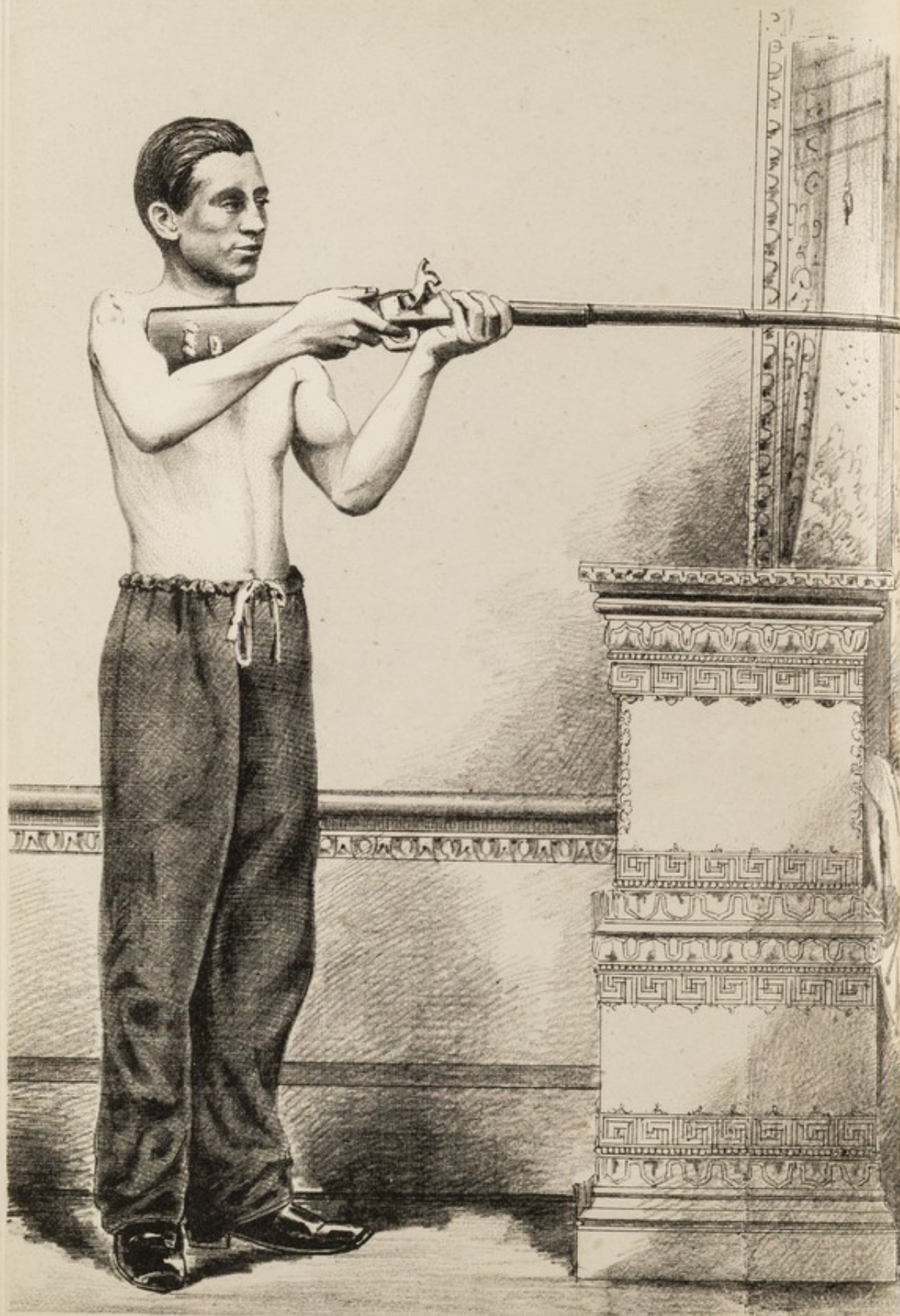
34. If the young surgeon should not feel quite equal to the ready performance of the various operations recommended, many of them requiring great anatomical knowledge and manual dexterity, (and it is not to be expected that he should,) he should avail himself of every opportunity which may offer of perfecting his knowledge.

[It is to be hoped that the medical officers of the army will aim to equal the surgery of the civil hospitals of the country, and that they will not only correct any errors into which their predecessors may have fallen, but excel them by the additions their opportunities will permit them to make, in the improvement of the great art and science of surgery.]









*John Falconer Litho. Dublin.*

SURGEON-MAJOR PORTER'S CASE OF EXCISION OF SHOULDER.



16  
EXCISION

OF THE

HEAD OF THE RIGHT HUMERUS FOR CARIES,

THE RESULT OF AN INJURY.

BY

SURGEON-MAJOR J. H. PORTER,

ASSISTANT PROFESSOR OF MILITARY SURGERY, ARMY MEDICAL SCHOOL, NETLEY,  
ETC., ETC.

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Reprinted from the Dublin Journal of Medical Science—February, 1875.

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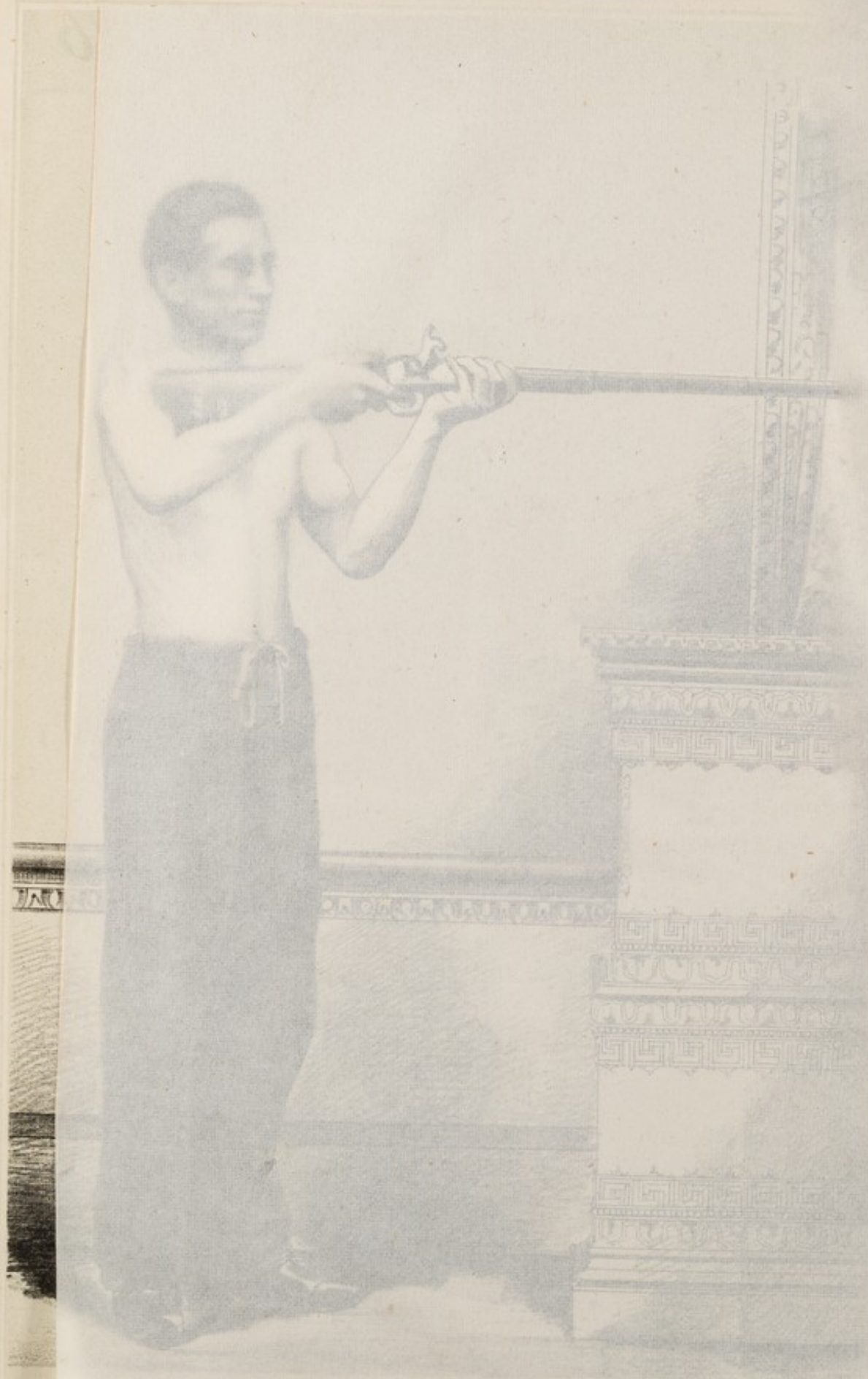
DUBLIN:

PRINTED FOR THE AUTHOR,

BY JOHN FALCONER, 53, UPPER SACKVILLE-STREET.

1875.





John

JOHN FOSTER'S CASE OF EXCISION OF SHOULDER.



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# EXPLANATION

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EXCISION  
OF THE  
HEAD OF THE RIGHT HUMERUS FOR CARIES,  
THE RESULT OF AN INJURY.

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PRIVATE H. M., first battalion, 20th Regiment, aged twenty-one years, three years service, nine months of which he passed in Bermuda, early in 1871 received a blow from a broom-handle on the right shoulder, which caused him severe pain, and from which he frequently suffered afterwards. In July, 1873, while employed on the public works at Bermuda, he experienced a severe fall on the same shoulder, which was soon followed by inflammation and suppuration. An abscess formed in, or in the immediate neighbourhood of, the joint, which was opened in the month of November, on board ship, while the patient was *en route* to England.

On arrival at Netley, December 1st, he was in a pale, emaciated condition, with countenance expressive of pain and anxiety, temperature 102° Fahr., pulse 105, and was suffering from profuse nocturnal perspirations. The right shoulder was flattened, and presented the appearance of a dislocation of the head of the humerus forward. There was a sinus at the inner edge of the biceps, from which flowed a copious discharge of healthy pus. A probe could be passed through the sinus to the acromion process, but no bone could be felt. It was evident, however, that the head of the humerus was displaced and diseased. All interference with the arm caused intense pain in the shoulder. His health being indifferent, and there being congestion of the upper portion of the right lung,



#### 4    *Excision of the Head of the Right Humerus for Caries.*

operative measures were not adopted till the 1st of January, 1874, when I performed excision of the head of the humerus by a vertical incision of about five inches in length, extending from a point midway between the acromion and coracoid processes, down the arm, parallel to the fibres of the deltoid muscle. The capsule of the joint and long head of the biceps were found to be extensively diseased, and the head of the bone in an advanced state of caries. Two inches of bone were removed by Butcher's saw. There was but little hæmorrhage. The wound was dressed from the bottom with lint saturated with a weak solution of carbolic acid; a conical pad was placed in the axilla to prevent the end of the bone pressing inwards; and the forearm was carried across the body supported by a sling. As soon as the inflammation consequent on the operation had subsided, passive motion was commenced by gently moving the elbow backwards and forwards for two or three minutes daily.

The process of recovery was very slow. Numerous abscesses formed at the seat of operation, and in June he suffered from a severe attack of phlegmonous erysipelas, during which a deep incision was made in the back of the arm. Through this opening the discharge of pus was encouraged, the front wound being allowed to close, and after this he rapidly improved. When he was able to walk about unsupported he used a long-handled sweeping-brush, and daily for about five minutes swept the floor. This motion is, perhaps, about the best that can be adopted to assist in the formation of a new shoulder-joint.

The illustration, copied from a photograph kindly taken by Surgeon G. E. Dobson, A.M.D., nine months after the operation, may assist in showing what the patient can do with the new joint. With the exception of abduction, he can move it about in every direction. He can use a fork or spoon to assist in passing food to his mouth, can brush his hair, place his hand at the back or top of his head or on the opposite shoulder, and can carry the forearm across the back. He can also "present" a rifle from the right shoulder, as shown in the illustration. During the course of treatment, the galvanic current was applied over the deltoid muscle, and with much advantage.

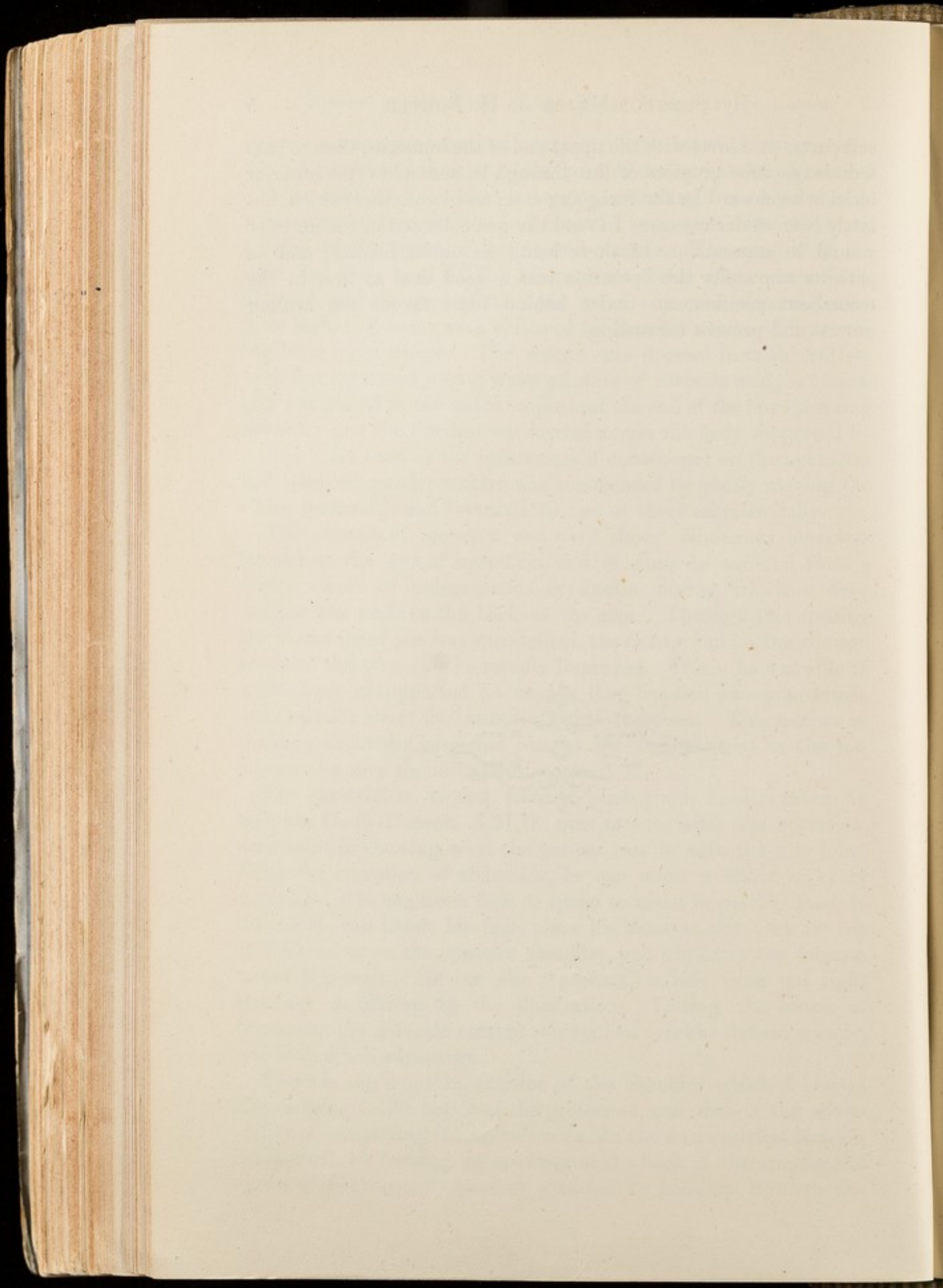
There is one point in excision of the shoulder which I should like to bring to the notice of the profession, and that is the advisability of completing the operation (when the front vertical incision is selected), by forming an aperture at the back of the arm for the egress of discharge, by passing a scalpel or bistoury through the



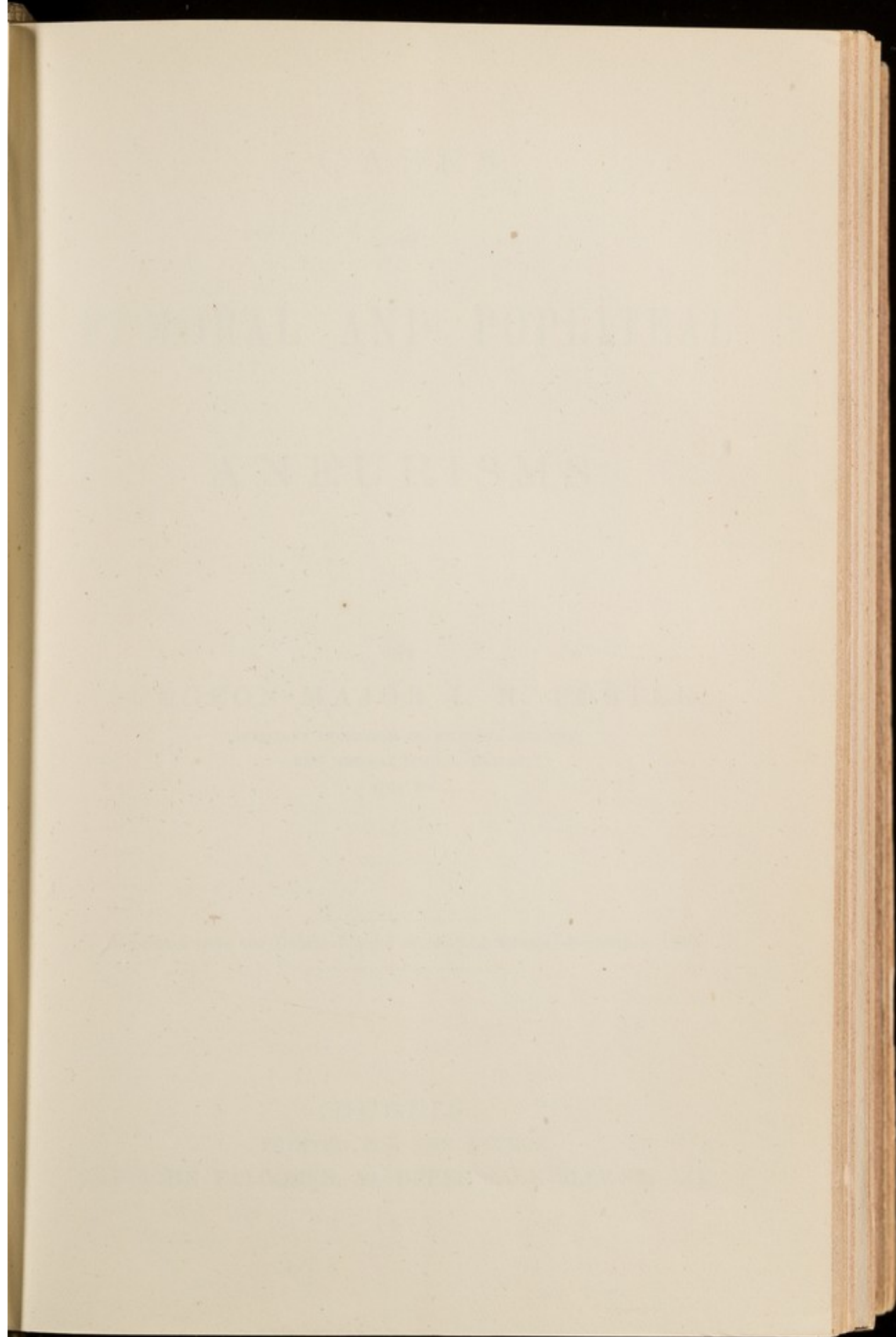
soft parts, on a level with the upper end of the humerus, then to pass a drainage tube or piece of lint through it, and allow the anterior incision to close. In the foregoing case, and in another which has lately been under my care, I found the pus collected in the anterior wound in consequence of there being no outlet behind; and as patients who suffer this operation rest a good deal at first in the recumbent position, an outlet behind must favour the healing process and prevent burrowing.



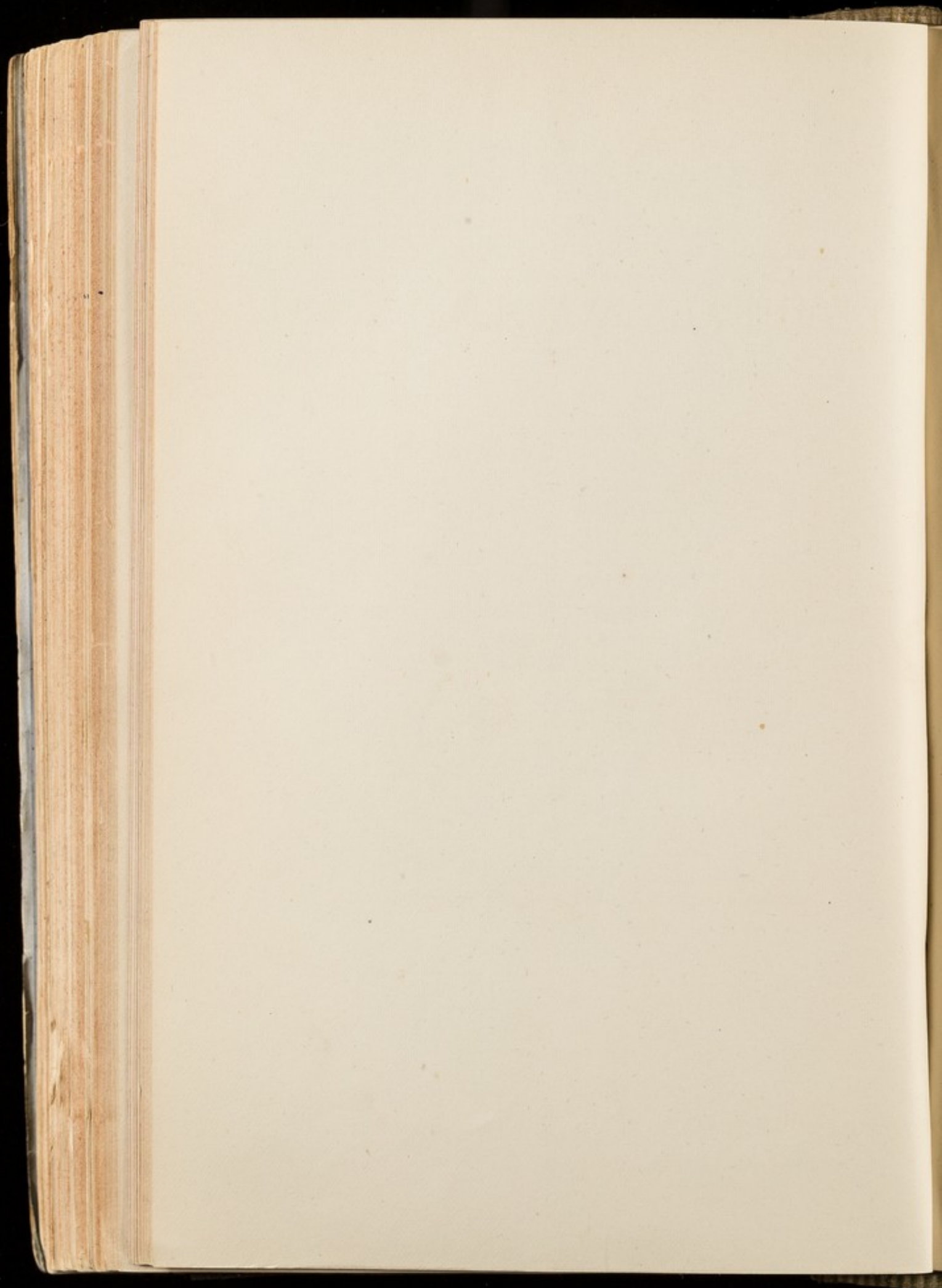














C A S E S  
OF  
FEMORAL AND POPLITEAL  
ANEURISMS.

BY  
SURGEON-MAJOR J. H. PORTER,

ASSISTANT PROFESSOR OF MILITARY SURGERY,  
ARMY MEDICAL SCHOOL, NETLEY,  
ETC., ETC.

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1875.







CASES  
OF  
FEMORAL AND POPLITEAL  
ANEURISMS.

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CASE I.—*Double Popliteal Aneurism associated with Femoral Aneurism of the Right Side ; Ligature of the Right External Iliac Artery ; Left Popliteal Aneurism Cured by Compression.*

G. F. H., aged twenty-eight years, of healthy appearance, has suffered twice from primary venereal sores, once accompanied by a bubo in the left groin, which suppurated. Has never had rheumatism or secondary syphilis. At one time he smoked tobacco very freely. Family history not satisfactory, both parents being very delicate.

He gives the following history of himself:—Early in November, 1874, for the first time, noticed a swelling behind the left knee, accompanied by pains during the night, which disappeared towards morning. About the end of November noticed a similar swelling behind the right knee, but cannot fix upon any particular dates. On one occasion he felt considerable pain in these swellings when kneeling on a high stool in church, which position pressed the thighs down upon the calves of the legs. Did not pay any particular attention to his condition until the 5th February, 1875, having taken his usual amount of walking exercise (which was considerable) up to that date without inconvenience, when both swellings became very painful, and being on board a steamer coming



from Canada he consulted the surgeon of the vessel, who at once pronounced them to be popliteal aneurisms. While on board the steamer flexion of both limbs was carried out with a hope of consolidating the tumours, but he was unable to bear it for any length of time.

On the 20th February, having rejoined his regiment at Aldershot, pressure was commenced on both femorals, by means of weights and artery compressors, which treatment was kept up till the 24th, when he came under my observation at Netley Hospital suffering from two large popliteal aneurisms, one in each leg.

Pressure was now established on both femoral arteries by means of Carte's and Signoroni's instruments, and continued till the 4th of March with but slight intermission; by this time the tumour in the left leg was somewhat consolidated. Read's compressor, third series, was now applied over the left femoral, alternating with Carte's lower down the thigh, and on the 6th of March pulsation had quite ceased in the tumour.

At this date there was no difference in the condition of the right popliteal aneurism, though compression had been kept up very steadily on the femoral vessel since admission into Netley Hospital on the 24th of February. On the 13th of March it was observed that there was dilatation of the right femoral artery for about two inches below Poupart's ligament, which complicated matters very seriously, there being as yet no attempt at consolidation in the popliteal aneurism. Digital pressure was therefore established against the brim of the pelvis, immediately above Poupart's ligament, and pressure by Signoroni's and Carte's instruments on the thigh; this was kept up without any benefit till the 2nd of April, when flexion of the thigh on the body and the subcutaneous injection of Langenbeck's solution of ergotine in immediate neighbourhood of popliteal aneurism were commenced. By flexing the thigh on the body as far as possible pulsation was completely stopped both in the femoral dilatation and in the popliteal aneurism. This treatment was carried out till the 26th of April without any benefit, when 20-grain doses of iodide of potassium were administered three times a day; but no benefit having been derived from this course, it was decided, in consultation with Professor Longmore and Sir James Paget, to ligature the right external iliac artery, which operation (with the valuable assistance of the above gentlemen) I performed on the 10th of May.

The operation consisted in making an incision through the



abdominal walls of five inches in length, extending from one inch above anterior superior spinous process of ilium to one inch above the centre of Poupart's ligament. The usual precautions were carefully observed; the vessel, reached with but little difficulty, was found healthy, and tied by a strong silk ligature, both ends of which were left out of the wound.

The wound was closed at the upper end with silver wire sutures, the lower end being left open, and the whole dressed with lint saturated with carbolic oil.

The limb was wrapped in cotton wool, everted, semi-flexed, and placed on a soft pillow. Recovery gradually ensued without any unpleasant symptoms, with the exception of obstinate constipation and flatulency.

The ligature came away on the thirty-fifth day, and the patient was out driving on the sixtieth day. He left Netley for Canada on the 10th of August, or three months after the operation.

Professor Parkes, F.R.S., was good enough to examine this patient's circulatory system a few days before the operation. The following is an extract from his report:—

“Heart in natural position; impulse extremely feeble. At apex first sound very short and feeble, second sound well heard. No murmur. Midway between sternum and nipple a very slight but quite undoubted diastolic murmur, not carried to apex, though it can be heard a little down the sternum. At the third left and second right cartilage it is hardly heard and often undetectable.

“Both radials rather tortuous; slightly locomotive.

“Brachials not apparently changed.

“Nothing decided about abdominal aorta; a good deal of pulsation.

“Right femoral dilated. Popliteal aneurism.”

This case may be considered of some interest in giving encouragement to surgeons in ligaturing large arteries, notwithstanding undoubted co-existent disease of the general arterial system.

#### CASE II.—*Right Popliteal Aneurism.*

Private T. C., 67th Regiment, age thirty-three years, and sixteen years service, was admitted to the Royal Victoria Hospital, Netley, on the 30th April, 1875, for aneurism of the right popliteal artery.

The following is a brief history of the case:—

While serving in Burmah, in November last, he first became troubled with sharp lancinating intermittent pains, shooting from



the inside of the right thigh down to the foot, and which gradually increased in intensity.

On or about the 1st or 2nd of December, he became conscious of a swelling in the popliteal space, which he could not account for in any way, as he felt nothing rupture suddenly in that region, nor had he previously passed through any violent exertion. The swelling or tumour soon increased in size, and the pains in the limb became more severe. On the 4th of December, according to his statement, he reported himself to his surgeon, and was received into hospital, where he remained until the 16th, during which period the treatment adopted was unsuccessful, and he was then invalided to England.

On his way home he was admitted into the hospital of the 45th Regiment, at Rangoon, and remained there from the 20th December to the 19th of January, during which period digital compression of the femoral artery was tried, besides flexion of the limb, producing, he states, a very sensible diminution in the size of the tumour, which became reduced from the size of a hen's egg to that of a walnut. On his way home from Bombay the "*flexion*" method was again adopted for nine days without any good result.

The patient, on admission to Netley, was in very good general health, had a good family history, with the exception that he stated that a brother of his was seized with illness suddenly while at dinner, became insensible, fell off his chair, and expired in the space of two hours. There was no history of syphilis or rheumatism. The day after his admission the circumference of the joint over the tumour exceeded that of the sound side by half an inch, and the tumour itself on being felt appeared to be about the size of a hen's egg.

On the 2nd of May the patient was placed in position in bed; the groin shaved and sprinkled with French chalk, the limb slightly flexed and everted, and Read's tourniquet, third series, applied, so as to compress the femoral artery against the brim of the pelvis, and when the skin became painful, alternated by Carte's tourniquet placed over the artery in the middle of the thigh. The pressure was so adjusted that a very slight pulsation was permitted in the tumour, and kept up from 10 a.m. until 7 p.m., under the superintendence of various medical candidates, and then left off for the night. He was also placed on half diet without stimulants or other extras.

On the 3rd of May, at 7 a.m., the tourniquets were again applied, substituting Signoroni's for Carte's, but on account of the pain



produced by the former, the latter had to be re-applied, and pressure was kept up to 7 p.m. After the removal of the tourniquets he experienced a pricking sensation on the inside of the joint, but did not suffer any other inconvenience. The instruments were re-applied the next day (4th May) under the same conditions, and at 6.45 p.m., while changing the tourniquets, pulsation was strong and distinct in the tumour; but on removing them at 7 p.m. *pulsation had quite ceased*. While the tourniquets were applied considerable pain was produced by pressure; and the pricking sensation previously complained of in the inside of the knee-joint continued after their removal. The next morning at 7 the swelling was found to be much smaller, quite hard and devoid of pulsation, and on measuring the limb it was found that the circumference had increased half an inch, probably from the pressure used. The temperature in the limb diminished somewhat, and it was in consequence wrapped in cotton wool and kept in position.

On the 5th of May the instruments were re-applied for occasional pressure for four hours, and then removed, but pain was still complained of over the knee-joint, and down the course of the posterior tibial artery as far as the foot.

8th May.—He was able to get up and sit by the fire, but was not allowed to walk about for three weeks afterwards.

The comparatively rapid cure in this case was, no doubt, assisted by the patient's strict attention in carrying out the instructions for his treatment, though, of course, it was mainly due to the well-regulated pressure kept up by the instruments employed in the case. The pressure was continued over three days, and altogether for thirty-three hours, as shown by the following analysis. The pressure on the 5th of May was only supplementary, and exerted no influence on the case:—

Date	Pressure Applied	Pressure Removed	Instruments used	Hours per Day
1875	A.M.	P.M.		
May 2	10 0	7 0	Read's and Carte's alternately	9
„ 3	7 0	7 0	Read's, Carte's, and Signoroni's	12
„ 4	7 0	7 0	Do., do., do.	12
			Total,	33



CASE III.—*Left Popliteal Aneurism.*

A. M., 32nd Regiment, aged thirty-two, service ten years, a tall, well-developed man, of temperate habits, has had primary syphilis, but no secondary symptoms. There is no history of rheumatism.

The present disease is traceable to an injury he received at King-williamstown in January, 1875. While walking along a bad road at night he tripped in a rut, and was sensible that something had given way at the back of the thigh, but as he found nothing wrong nor suffered pain, he thought lightly of the matter.

Early in the following March he began to feel pains in the left knee and calf of leg, which obliged him to seek relief, and when in the act of rubbing in some liniment for these pains, he became cognisant of the fact that there was a pulsating tumour behind the knee-joint. He reported the circumstance, and was admitted to hospital, where he states he was kept at rest, given low diet, and ordered large doses of the iodide of potassium. Treatment by flexion was commenced, and continued (during the day-time) for eight days; but as this did not succeed, digital compression was resorted to, and kept up for twenty days, with no better result than an apparently slight diminution in the size of the tumour, which is stated to have been about as large as a hen's egg.

He was then invalided to England, and arrived at Netley on the 22nd June, 1875. The following was his condition on admission:—Patient extremely nervous and excitable, heart's action rapid, and every artery in the body pulsating strongly.

In the left popliteal space a pulsating tumour, about the size of a hen's egg, was found. Upon placing the hand over it, a strong, heaving, and expansile pulsation was communicated to it, and upon auscultation a bruit was heard. Firm pressure on the femoral artery completely arrested the pulsation.

The patient was ordered to observe perfect rest for a few days, given low diet, and grs. xv. of iodide of potassium three times daily.

On the morning of the 26th of June treatment by compression was commenced.

The groin being shaved and well dusted over with French chalk, Read's compressor, third series, was applied over the femoral artery, below Poupart's ligament, and at the lower part of Scarpa's triangle Carte's tourniquet was adjusted. These instruments were used alternately, and the patient instructed how to change them whenever one or other of them began to cause pain from pressure,



and in such a manner as not to completely arrest the flow of blood in the vessel—the object being to cause coagulation in the sac. The instruments were removed at 7 p.m., having been on for seven hours and three quarters. A dose of Battley's sedative was given at bed-time, and the man was allowed a good night's rest.

On the 27th, pressure was continued in the same manner from 7 a.m. until 7 p.m., the patient being easy and cheerful the whole time.

June 28th.—The tumour feels harder and the pulsations less forcible; slight pains in the knee and tumour during the night. Pressure re-applied and continued as before. Towards evening the limb became slightly œdematous; but this disappeared when the pressure was removed.

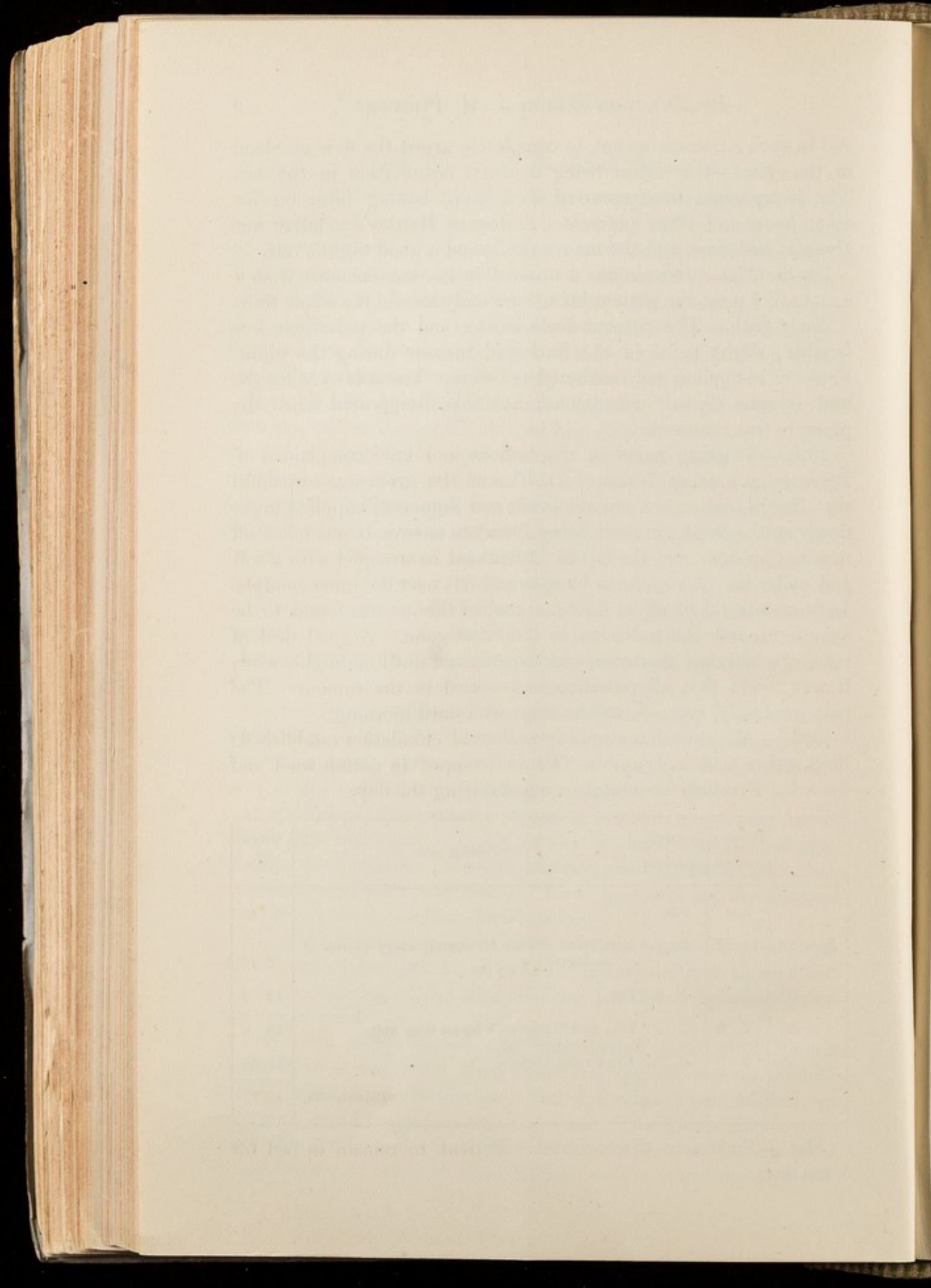
29th.—Shooting pains in the tumour and knee complained of. Pressure put on at 7 a.m. At 10 a.m. the groin was so painful that Read's instrument was removed, and Signoroni's applied lower down on the thigh; but not being found to answer, it was taken off in about an hour, and the former instrument re-arranged with a soft pad under it. A vessel can be seen and felt over the inner condyle. Instruments taken off at 6.30 p.m., when the sac was found to be very hard, and the pulsation in it almost gone. A good deal of pain, of a burning character, was experienced until midnight, when it was found that all pulsation had ceased in the tumour. The pain gradually wore off, and he slept well until morning.

30th.—All pulsation stopped; collateral circulation established; limb rather cold and numb. To be wrapped in cotton wool and flannel. Pressure moderately applied during the day.

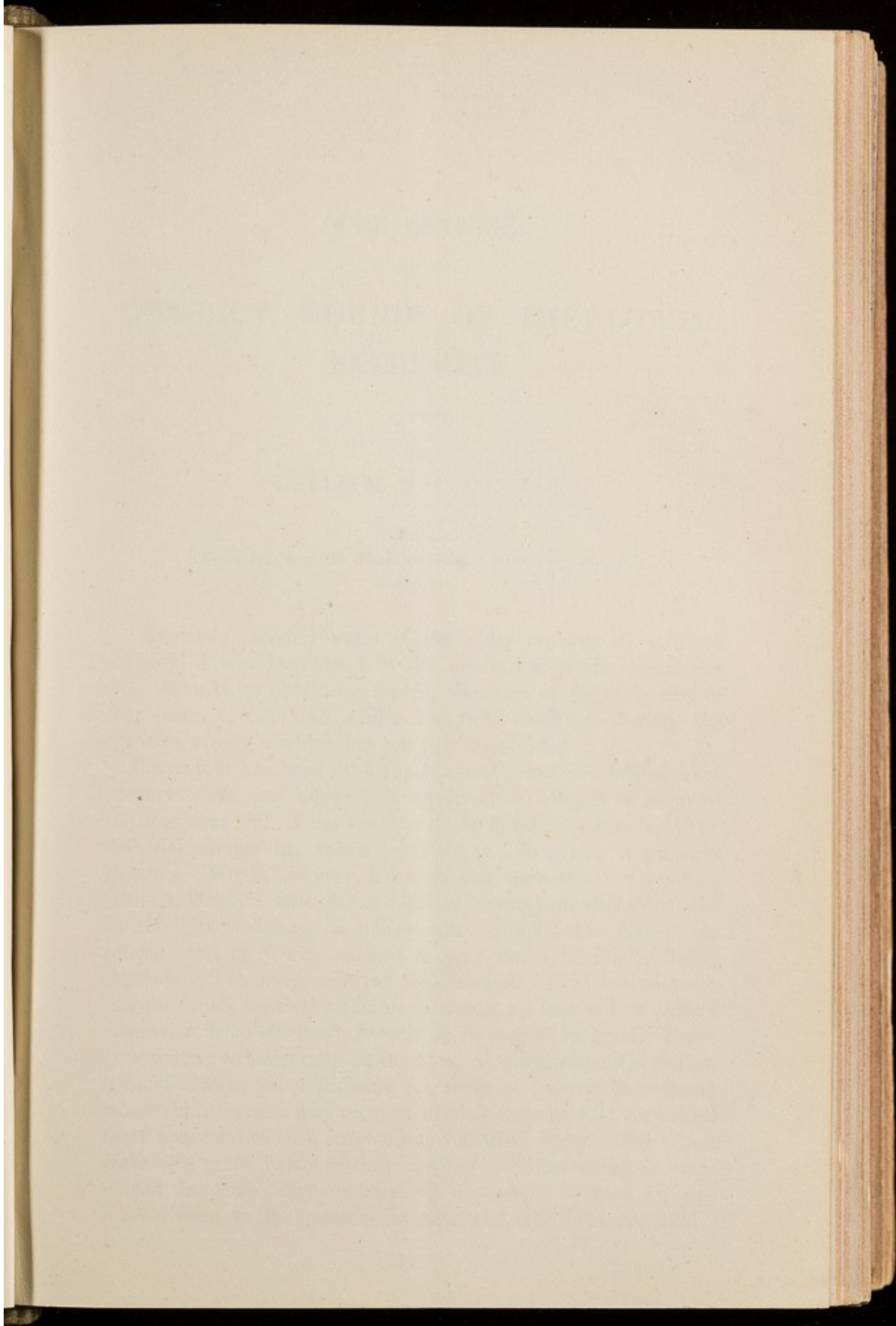
Date	Pressure Applied	Pressure Removed	Instruments used	Hours per Day
	A.M.	P.M.		H. M.
June 26	11 15	7 0	Read's and Carte's alternately every quarter of an hour - - - - -	7 45
„ 27	7 0	7 0	Do. - - - - -	12 0
„ 28	7 0	7 0	Do., and Signoroni's for an hour only -	12 0
„ 29	7 0	6 30	Read's and Carte's - - - - -	11 30
			Total hours,	43 15

31st.—Treatment discontinued. Patient to remain in bed for some days.

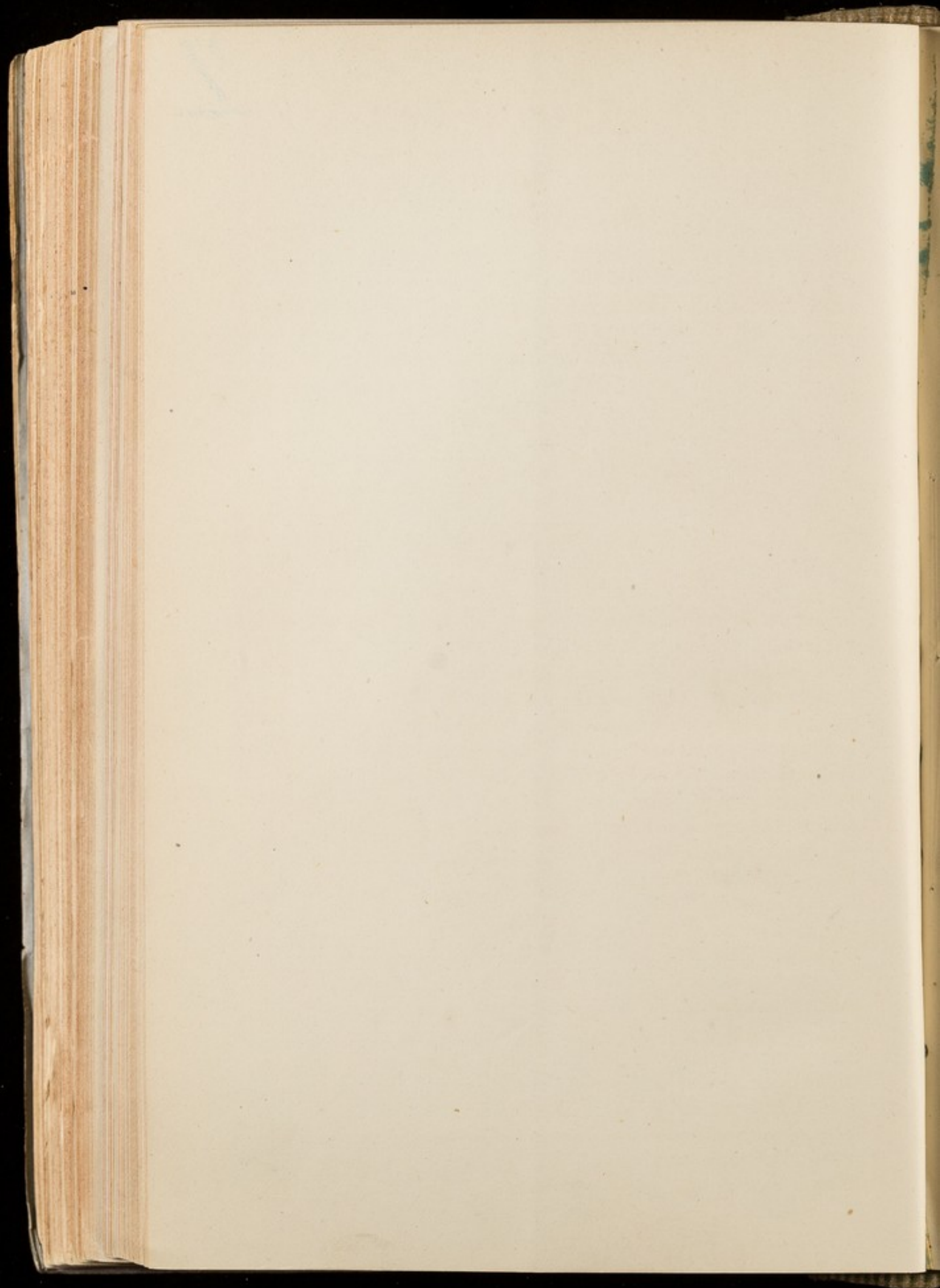














17

SOME REMARKS  
ON  
GUNSHOT WOUNDS OF THE LOWER  
EXTREMITY.

BY  
WILLIAM MAC CORMAC.

(Reprinted from 'St. Thomas's Hospital Reports,' Vol. II.)

READING recently some of the older writers on military surgery, I was impressed by the similarity of the conditions they describe as obtaining during the wars of the early part of this century, to those which I myself observed during the gigantic struggle which has but just terminated.

History, it has been said, repeats itself, and certainly in more respects than one might this repetition be alleged to occur in military surgery. Since the time of the great Napoleon but little material change has taken place in the character of gunshot injuries. Much, however, has altered in the method of treating them, and much, though not sufficient improvement, has ensued in the circumstances in which the wounded are afterwards placed, and on which success so very much, if not entirely, depends. The exigencies of the situation will always more or less prevent a medical relief organization, no matter how perfect otherwise, from efficiently exercising its powers for good. However willing to assist may be the national volunteer aid societies, it must always prove difficult for them to discover beforehand where their services may most be needed, in order that they shall there concentrate both surgeons and medical stores. The actual scene of a great battle in these days of rapid marching is often placed in some very unexpected quarter. It may be unknown even to the general in command, and is never likely,



under any pretext whatever, to be communicated to a comparative outsider.

One cannot doubt, after the experience of the Franco-German war, that the benevolent assistance of volunteer aid societies will be freely accepted in any future campaign. Those deficiencies which have been discovered in their working will in the interval be made good, and should another war break out the Red Cross will be ready with fresh zeal and a more perfect organization.

In the writings of the old Peninsular surgeons we find many a graphic account of the difficulties which may beset an army surgeon. A civilian who has not experienced them fails to realise it. The admissions to a general hospital in some large town generally give the surgeon of the week enough to do, surrounded though he be by a staff of assistants, skilled nurses, handsome wards, and a perfect commissariat.

"But suppose," says Guthrie, "that instead of thirty patients he had three hundred suddenly thrown upon him, without the means of procuring further assistance, without bedding, and partly without food, he could not do even half the necessary operations, and, obliged to give a partial attention to all, few could receive all that they absolutely required."

It was in circumstances to which Guthrie's sketch almost exactly applies that I found myself last year present at the memorable battle of Sedan, but with this important difference, that more than thrice the number of wounded men fell to my charge. The Anglo-American ambulance, of which I was Surgeon-in-chief, had been sent from Paris with orders to join MacMahon's army. We got as far as Sedan, which we reached the day before the French army in full retreat arrived there, and, unable to proceed any further, we perforce awaited in that town the tide of events.

To show how little a great battle was expected near Sedan, there were but one surgeon and two young assistant-surgeons in the place, engaged in the performance of the routine work of the military hospital. Yet hardly were we installed in the large empty barrack which was assigned to us than the fighting commenced, and in some four and twenty hours nearly one thousand wounded men were poured in upon us. The constant din of cannon, mitrailleuses, and musketry outside, and the aspect of



the passages and beds crowded with wounded men arriving every moment, often dripping with fresh blood, produced an impression such as no descriptive power which I possess can adequately convey. As our position was as nearly as may be about the centre of the battle-field, we received many wounded men very soon after they fell, and large numbers also came to us on foot. The distress caused to ourselves by reason of such a ghastly crowd of human sufferers was mitigated by the necessity for great bodily and mental exertion. But, work as we might, we felt there was much during that first dreadful day and night which had to be left undone.

Of all the circumstances which conduce, not only to the comfort of the wounded at the time, but to their subsequent safety, none is of greater importance than the mode and the length of transport. Carriage by hand on stretchers surpasses any other mode of conveyance. No ambulance waggon, however cunningly contrived, will answer the purpose half so well. Of course, if the distance be very far, carriage by hand ceases to be practicable, and this forms an additional reason, if any be needed, for selecting the nearest available places to the scene of action in order, in the first instance, to receive and treat the wounded. A complete "evacuation" system after the German example must be added as the complement of this plan. By its means I have no doubt much human life and suffering was spared, even though it inflicted in some cases individual hardship. The neighbourhood of every great battle-field was speedily cleared by this plan of all but those whom it was impossible to move. I am sure that the practice of erecting rude wooden huts, built of any rough boards that may be at hand, or even making a lean-to against a garden wall, is a good one. The Germans employ their engineer corps in such tasks after a battle, and they very soon create these impromptu hospitals, in which there is shelter, but at the same time plenty of fresh air and no overcrowding. To collect great masses of wounded men into huge buildings, such as barracks or hospitals, is but to sign a death warrant for the large majority of them. A field hospital should contain from ten to twenty beds, with fresh air on all sides of it, plenty of pure water, and the most minute attention must be paid to the removal of everything which may pollute the *entourage* of the patients. One of the great reasons for transporting the wounded to a distance



is now removed. Neither they nor any of those in attendance upon them are any longer liable, thanks to the Geneva Convention, to capture and its many attendant hardships.

No one has spoken more strongly than Larrey of the advantages of the speedy evacuation of the wounded from the neighbourhood of the battle-field. He describes the fatal accidents which surely supervene if they be not removed, and mentions numerous striking examples of recovery after removal under circumstances which some surgeons were pleased to style an act of barbarism.

In no class of wounds is rough and distant transport more harmful than in gunshot fractures of the lower extremity, and of the femur in particular. As Stromeyer says, "The avoidance of this is, indeed, of essential importance, in order to diminish amputations, and to increase the number of those cured by conservative means." The wounded treated by him in Floing<sup>1</sup> had received their injuries while fighting in the village itself and in its immediate neighbourhood. This was the extreme left of the German lines. At the other end of the lines the Balan division of our ambulance received the wounded, as they were shot down, at the door of the Mairie in which the ambulance was installed. The troops approached very closely at these two points, encountering each other almost hand to hand. In the centre opposite the town the battle was conducted by the artillery stationed on the opposing heights.

It was thus that Stromeyer was able to realise at Floing, during his sixth and last campaign, what he so earnestly wished for after his first. "Above all things," he says, "it appears to me to be requisite that cases of wound complicated with gunshot fracture of the thigh should have no long transport to endure, but should be brought on a stretcher to the nearest house, and the treatment carried out on the ground itself, even at the risk of allowing the wounded to be taken into captivity."<sup>2</sup> In Floing this advantage was accidental, but such chances, he urges, should always be taken advantage of. Doubtless the frequently protracted transport the wounded suffered in former wars was a chief reason why some of the

<sup>1</sup> Floing is a village one mile north of Sedan, where there was hot fighting. Stromeyer's ambulance was placed there.

<sup>2</sup> 'Handbuch der Chirurgie,' vol. i, 1850.



older writers on military surgery have pronounced so emphatically on the utter hopelessness of the conservative treatment of gunshot fractures of the femur. I am much indebted to Mr. Carr Jackson for an opportunity of reading some interesting lectures delivered many years ago by Sir Rutherford Alcock, surgeon to the expeditionary force in Spain. In these lectures he remarks, "From the numerous cases I have seen myself, added to all on the records of military surgery, under no ordinary circumstances can I consider it justifiable to reserve a gunshot comminuted fracture of the femur for treatment with a view to save it. Out of thirteen cases which, from unavoidable circumstances, were thus reserved, but one survived without secondary amputation, and he at the end of two years was bedridden with a useless limb. Larrey and Guthrie advocate similar views. The latter gives a painful account of his experience of the treatment of gunshot fracture of the femur in the following words:—"Upon a review of the many cases I have seen I do not believe that more than one sixth recovered with a useful limb, two thirds died with and without amputation, and the sixth remaining possessed limbs, not only nearly useless, but the cause of much uneasiness to them for the remainder of their lives." After the battle of Toulouse an attempt was made to save forty-three of the best cases of thigh fracture, which had been carried off the field of battle but a very short distance, and were well accommodated in hospital, where they received great care and surgical attention. Guthrie mentions that thirteen of these died. On twelve, secondary amputation was performed with seven deaths, while eighteen retained their limbs. Three months after the battle only five of these could be considered well. In two the result was doubtful, while in eleven, if recovery eventually takes place, which he says is uncertain, it will be with distorted and unserviceable limbs. In the five successful cases the fracture was in the lower third, and in thirteen others the injury was not above the middle third. From all his experience Guthrie advises the more frequent amputation of the thigh, saying it is better to amputate even in doubtful cases, and he excepts those only in which the lower part of the femur is injured without implicating the knee-joint.

<sup>1</sup> 'A Treatise on Gunshot Wounds,' 2nd edit., 1820.



Larrey says, <sup>1</sup> "Mon expérience m'a appris que toutes les plaies avec fracture de la cuisse sont très fâcheuses, et exigent toutes en général l'amputation." While Professor Longmore, the latest as well as the first authority on military surgery, when speaking of these injuries in the Crimea, <sup>2</sup> remarks that the hopes of avoiding amputation by conservative treatment were not realised. "Of 174 cases of compound fracture amongst the men, but fourteen recovered without amputation." And in another place he remarks, "Excepting in special cases, in fractures above the knee from rifle balls amputation is held by most military surgeons to be a necessary measure." Of the vast number of persons thus injured during the American war, the results were definitively ascertained in 822 cases in which amputation was performed, and in 1117 treated conservatively. The mortality amongst the former was 65 per cent., in the latter 63 per cent. But another important conclusion may be drawn from the statistics given in the 'Surgeon-Generals' Circular,' No. 6, 1865, namely that the comparative danger of amputation and conservation of the limb vary inversely according to the position in the limb in which the fracture is situated, or nearly so.

Excluding fractures involving the hip- and knee-joints, the table gives of—

					Mortality after amputation in determined cases.	Mortality after conservative treat- ment in determined cases.
Gunshot fractures of the upper third of the femur					75.00	71.81
"	"	middle	"	"	54.83	55.46
"	"	lower	"	"	46.09	57.79

In the Anglo-American ambulance we treated in all forty-seven cases of gunshot fracture of the femur. Twenty-one of these cases were submitted to amputation, sixteen terminated fatally. A frightful mortality, but it must be remembered that the circumstances under which these operations were performed could not well have been worse. Besides, in three instances a fatal issue followed the almost uniformly mortal operation of disarticulation at the hip-joint. In eleven cases amputation was performed in the upper and middle third with five deaths, while eight amputations in the lower third, terminated

<sup>1</sup> 'Mémoires de Chirurgie Militaire,' vol. ii, Larrey, 1812.

<sup>2</sup> 'Holmes's System of Surgery,' 2nd edit., vol. ii.



in death. Supposing we exclude the disarticulations at the hip, we have a rate of mortality of 72.22 per cent. Twenty-six cases were treated without amputation, many of them being in so hopeless a condition that no operation could be performed at all. Of these one half perished, almost all pyæmic. But even this comparison affords a decided advantage in favour of conservative treatment, so far as immediate safety to life is concerned. We must not, however, lose sight of the protracted convalescence, the exfoliation of bone, delayed union, and in some instances the deformed and useless limbs that finally result.

The experience of Stromeyer at Floing, where he was able to trace the results of sixty-eight cases of gunshot fracture of the lower extremity up till the 10th November, a period of more than nine weeks, is as remarkable as it is encouraging. There the patients were placed in most admirable hygienic conditions, which with the fact that all had received their wounds close to the place of treatment, must have largely contributed to the unusually successful results. Thirty-five of these cases were gunshot fractures of the femur, of which twenty-three were "evacuated" with the prospect of complete cure, four were in a doubtful state at the time of the report, while only eight died.

This experience has hitherto been a very exceptional one. Stromeyer himself admits it to be so. But it is on that account none the less noteworthy, and must tend, I conceive, to modify our views as to the almost indispensable necessity of thigh amputation for gunshot fracture. Most of the cases<sup>1</sup> of recovery that I have seen took place after fracture in the upper third, and it is in this part of the limb that amputation presents so large a death rate. Lower down, amputation seems relatively or often indeed absolutely less dangerous than conservation of the limb.

The treatment of gunshot fracture of the femur, owing to the comminution of the fragments, is always difficult. No disturbance of the limb by frequent readjustment or by digital examinations of the wound is admissible.

The first examination should be the only one, and must

<sup>1</sup> Three of my patients recovered satisfactorily after fracture in the upper third, excellent union taking place in one of the cases without the slightest deformity, while in a fourth case union was delayed. I have not learnt the ultimate fate of all the patients.



determine whether an attempt shall be made to preserve the extremity. After that, the less handling or interference of any kind the better.

Stromeyer urges that our first care should be to endeavour to save the life of the patient with fracture of the thigh, and afterwards, if possible, to rectify the deformity. "The attempt," he says, "to look after both at the same time often costs life, and does not guarantee the absence of deformity. It is for me a matter of surprise when I hear an experienced surgeon affirm that for the preservation of the length and form of the limb the surgeon is responsible. In the hands of such persons a patient with gunshot fracture of the femur is generally lost."

If this be taken as a protest, and a tolerably energetic one, against meddlesome surgery in gunshot fracture of the femur, too much importance cannot well be attached to it, backed as it is by such a record of the successful application of principles to practice as no military surgeon has been able to show before. There can be little doubt that violent continuous extension of a bullet-smashed femur, combined with frequent handling and readjustment, must prove injurious in the extreme. Stromeyer has almost completely abandoned forcible extension and counter-extension, and prefers simply to lay the limb on the side, in the position advocated by Pott. In my own practice I employed long splints sometimes, sometimes sandbags, with a small weight merely to steady the limb attached to the foot. In two instances that I know of, subsequent deformity was successfully relieved by refracturing the bone. This was performed once by Dr. Wilms, in Berlin, six weeks after the injury, and once by Dr. Duplessy, in Sedan, in one of my own cases, about two months after the date of the wound.

When amputation is considered necessary in these cases, let it be done at once, during the first twenty-four hours. Larrey, Guthrie, and Stromeyer have all insisted on this, and cited proof upon proof of what they formulate. I may quote one example:—Stromeyer, after the battle of Kirchheiligen, in 1866, performed, within twelve hours, nine amputations of the thigh. But one only proved fatal. Were any further illustration needed of the excessive mortality after delayed amputations, my own unfortunate experience would furnish it, when with hardly an exception, although from causes beyond my control, the am-



putations were secondary. A very interesting question is raised by Stromeyer in respect of amputations, namely, that one need not amputate clear of the diseased or injured soft tissues in ordinary cases, but may divide the bone, unless split up and inflamed, just at the seat of fracture. The track of a ball or a sinus may safely be left in the flap, and the high division of the bone, which so largely increases the risk, is thus obviated. For, as Dieffenbach pithily expresses it, *Zollweise stiegt die Gefahr*.

The rule laid down by Guthrie, that for uncomplicated gunshot fracture of the leg amputation is not indicated, Stromeyer would extend to all gunshot fractures of the diaphyses as well.

In our ambulance we received altogether fifty-seven cases of fracture of the leg, usually of both bones, followed by twenty-three deaths. Twenty-five were treated conservatively, with eight deaths, or 32 per cent., while thirty-two required amputation. Of these last thirteen died, or 40·6 per cent.

Of the operation cases, sixteen consisted of primary amputations of the leg, with but five deaths, while sixteen were secondary amputations, with eight deaths, another example of the greater proportionate mortality after secondary operations. Amongst the fatal cases in which no operation was performed was an officer, the upper part of whose leg had been shattered by a shell. He would not submit to have anything done, and he died next day from shock. In a second, both legs had been badly fractured, one ankle-joint opened, and a severe flesh-wound inflicted on the thigh. Others had likewise received additional injuries. On the whole, therefore, the conclusion appears to be distinctly in favour of non-interference when possible.

At Floing the results were as remarkable as those obtained after fractured femur. Of thirty-three cases, twenty involving both the bones, twenty-four healed well, four remained doubtful, and five died. Of eleven amputations of the leg, but two, both secondary, proved fatal.

It now only remains to consider injuries of the three chief joints of the lower extremity. I need not specially advert to formal resections of the shafts of the bones immediately after injury. When this appears necessary, amputation, a much less dangerous measure, should be practised instead.

Gunshot injuries involving the hip-joint are of extreme gravity. Primary coxo-femoral amputation is hardly feasible,



secondary amputations are less uniformly fatal, while *reamputations* at this joint have proved least unsuccessful. The consideration of hip-joint injuries and their treatment, in the Surgeon-General's Circular, No. 2, 1869, is most interesting and exhaustive, but I can do little more than refer to it here.

The uniform experience of American surgeons would seem to be, that to abandon a patient whose hip-joint is implicated by a gunshot fracture to the resources of nature is to send him inevitably to death, that amputation, more especially primary, is but little better, and that it is to resection that we must look, as affording the best, and often the only chance, not merely of the preservation of the limb, but of life itself.

When the joint is not involved by a fracture near to it, expectant treatment furnishes the most favorable results, not because the expectant plan proves so successful, but because amputation high up is so fatal. It is interesting to find that, after a review in this Circular of all the modes of performing resection of the hip, the one recommended for adoption is that originally proposed by Charles White in 1769, when he first formally suggested the operation. The simple straight incision in the axis of the shaft, a little behind the prominence of the trochanter, was the plan adopted in forty out of the total number of eighty-five authenticated cases on record, and was the mode employed in six of the successful cases.

In three instances, under my own care, of secondary amputation at the hip-joint, two rapidly died, while one survived six days. Prior to the war in America excision of the hip for gunshot injury had been practised twelve times, once only successfully. During that war, in sixty-three instances the upper end of the femur was excised. In fifty-eight cases death shortly followed. In one of the surviving cases no result is recorded; in another the limb, though preserved, was useless. In three only of the total number is a perfectly successful issue tabulated. Stromeyer witnessed one case of resection of this joint at Versailles, which proved rapidly fatal, but he gives an account of a second which terminated otherwise, and of which some particulars may here prove interesting. The operator was Dr. Hupeden, of Hanover.

An infantry soldier named John was wounded at Spicheren, and two months later came under the care of Dr. Hupeden in a hospital of the Reserve. The operation



was commenced with a view merely to remove a loose piece of bone. This proved to belong to the edge of the acetabulum. On exploring the wound further, the head of the bone was found to be in a carious condition and partially absorbed, while the acetabulum was also enlarged and carious. The head and trochanters were then sawn off. Ninety days after the operation the patient was able to leave his bed, and in May, 1871, his health was completely re-established, the wound was thoroughly healed, and a considerable amount of movement existed in the new joint.

As for the knee-joint, although it has been excised with advantage after gunshot injury in civil hospitals, this is, in my opinion, an operation wholly inadmissible in time of war. The absolutely needful after-care on which success depends is unattainable. When the conditions obtaining in war time assimilate themselves to the perfect means of treatment and hygiene we enjoy in civil hospitals, then, and then only, will resection of the knee-joint become a justifiable operation. To excise knee-joints as was somewhat extensively done during the late war, and afterwards to leave the patients to take care of themselves, often without even a splint applied to the limb, is but to court disaster, to use no stronger phrase.

I was once only tempted to excise the knee-joint myself. A bullet had passed transversely through the articulation, after carrying away the outer border of the patella. The parts removed are interesting, since they demonstrate that a bullet may sometimes pass through this articulation, under certain conditions, as has indeed been alleged by Professor Simon, without injuring either the femur or the tibia.

The French surgeons in the Crimea frequently performed amputation through the knee-joint, but with unfavorable results. Nevertheless, I think that in injuries of this articulation Carden's or Baudens' operation leaving untouched, if possible, the condyloid end of the femur, is the proper procedure to adopt, unless indeed the bone be too extensively injured.

During the American war there were eighteen cases recorded of partial or complete excision of the ankle-joint. On analysing the list it appears that eight only were complete resections, and of these six proved fatal, all of them being secondary operations.

Langenbeck and Neudörfer advocate immobilisation of the injured joint and subsequent subperiosteal resection. Remarkable success, including the preservation of joint movement, is said to have attended their practice. But, as Professor



Lucke observes, this cannot *per se* furnish an argument for the performance of the operation, because the power of motion in the ankle-joint is not necessary for progression, and he cites eight cases, seven of them successful, after simple expectant treatment.<sup>1</sup>

At Versailles Stromeyer saw two fatal cases of resection of the ankle-joint, in one of which he says the operation seemed to him unnecessary, and the other was pyæmic at the time. His own cases healed by simple means and the cautious extraction of loose fragments.

Under my own care were seven cases. Three of these subjects died after secondary amputation. The other four did well. In one of the latter I had decided to resect the joint, but fortunately for the patient delayed the execution of my plan until it became no longer needful to interfere.

I scarcely think with our present experience we can admit that Professor Langenbeck is justified in placing resection of the shoulder and ankle-joints in the same category, and advising that the one should be as frequently and readily performed as the other.

The indications for the necessity of amputation, apart from injury to the great vessels and nerves which is comparatively rare, chiefly rest on the amount of damage done to the bone by the projectile. Few injuries of the soft parts are so extensive as to entail the loss of the limb.

The importance, therefore, of a thorough examination of the wound at the earliest possible period is of the utmost moment. Elsewhere, I have insisted upon this, and I should like to quote an interesting paragraph from Alcock's lectures to the same effect.

"In the examination of wounds," he writes, "never trust to any future moment for making it more carefully and maturely. The first is the best and often the only one. The future comfort and safety of the patient often depend on the officer who first dresses him satisfying himself completely as to the nature of the wound. When possible *the finger is the best probe to be used*. It is less likely to do mischief, and is much more certain to convey correct information."

Sedillot affirms, as the results of his observations at Hagenau

<sup>1</sup> 'Kriegs Chirurgische Fragen und Bemerkungen,' Bern, 1871.



on nearly 2000 wounded accruing from the battle of Reichshoffen, that in any case of gunshot fracture of a limb admitting of doubt amputation should not be performed; and he states, further,<sup>1</sup> "La conservation de la cuisse fracturée par une balle donne, d'une manière générale, plus de succès que l'amputation quelle que soit l'époque ou cette dernière est pratiquée."

The considerations detailed in this paper appear to me to afford grounds for concluding against the universal application of amputation in regard of gunshot fractures of the shaft of the femur. Sound, though it may be delayed, union will often follow conservative treatment. I think for general guidance we may for the present declare that, in fractures of the lower half of the femur, the rule should be when in doubt to amputate, while in those of the upper half of the bone the converse should apply, namely, when in doubt to try to preserve the limb. A very large margin must in all cases be allowed for the extremely variable conditions under which wounds in war are received, and have to be treated. The antecedent hardships of the campaign, and above all the hygienic surroundings of the *locale* itself, ought never to be lost sight of.

The interest taken in everything pertaining to military surgery has always been engrossing. Its pursuit affords the greatest opportunities for investigation, pathological as well as surgical, if only we shall be able to avail ourselves of them. Perhaps in no other school can a surgeon better develop his presence of mind, readiness of resource, skill or tact, than in those great and necessarily unforeseen emergencies which may in war at any time beset him. Unfortunately, too, we cannot hope that wars have ceased. At no period have great wars more unexpectedly arisen than now, and never possibly before was there after the conclusion of a great war less sanguine expectation of prolonged peace.

<sup>1</sup> 'Fractures des Membres par Armes à Feu,' Strasbourg, 1871.



## DESCRIPTION OF PLATES

### *Illustrating Mr. Mac Cormac's remarks on Gunshot Injuries of the Lower Extremity.*

#### PLATE I.

Fig. 1. Right tibia of a Prussian infantry soldier smashed by a shell. There was a very small wound in the soft parts. The fibula was intact, and the fracture of the tibia had apparently not been recognised, as he had been sent by train a journey of several days without any appliance on the limb. Amputation of the thigh had to be performed one month after the injury, but death soon occurred from pyæmia.

„ 2. Lower extremity of right femur with a Chassepôt bullet impacted in the internal condyle. The subject was a young Bavarian soldier. Amputation, performed sixteen days after the wound, proved successful.

„ 3. Left femur of a Prussian infantry soldier, æt. 19. The bullet first carried away the external border of the patella, and caused a stellate fracture of that bone. It then lodged deeply in the extremity of the femur. The subject of this injury was sent from the neighbourhood of Orleans to Epernay, being three days on the road. Only a small round wound was observed on the outer side of the patella. The deeper lesions were soon made out. Amputation, ten days subsequent to the injury, was followed by death from pyæmia. The nature of the wound had evidently not been discovered by those who first examined the man.

#### PLATE II.

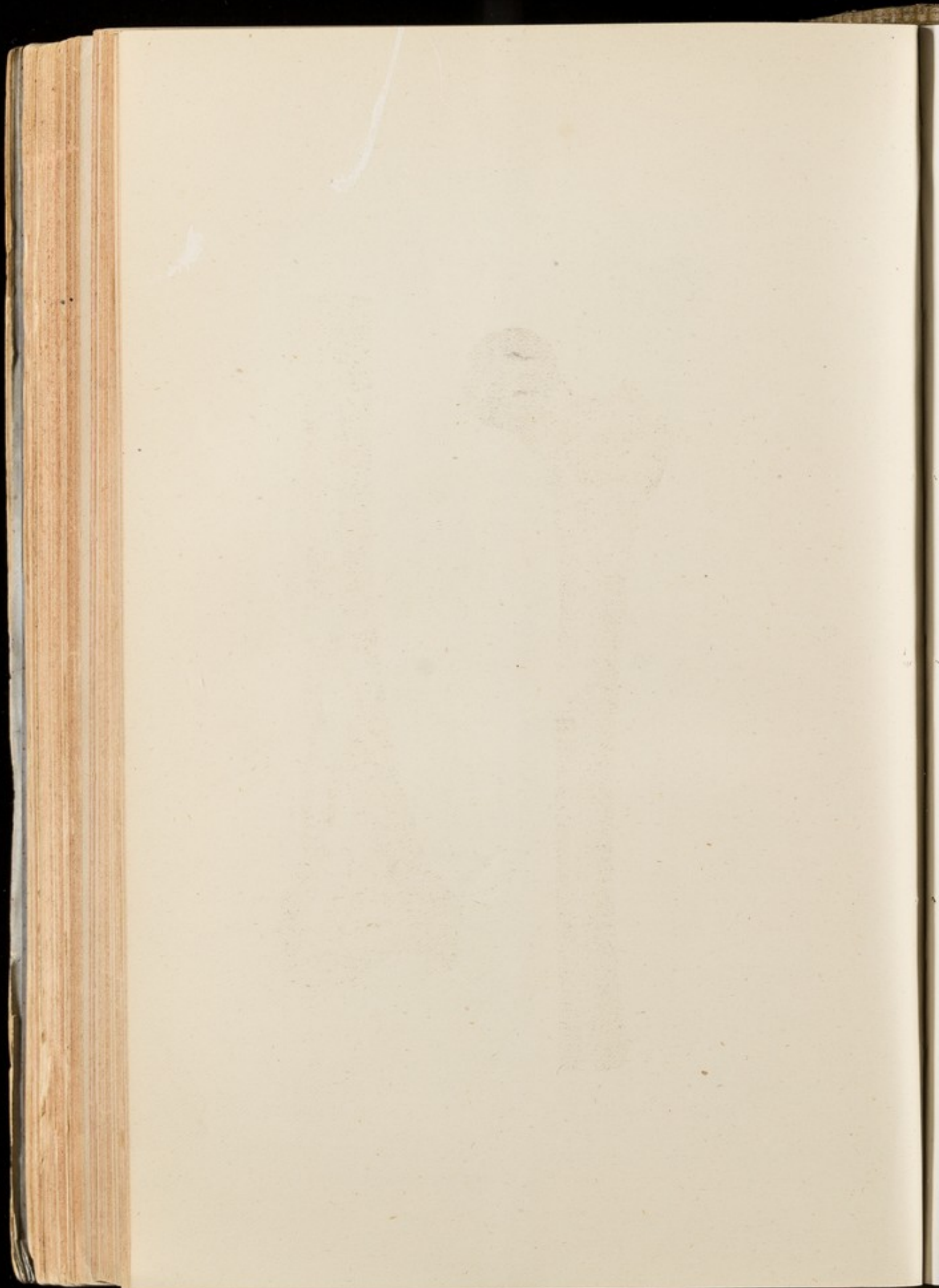
„ 4. The right femur belonging to a French marine. He was shot through the trochanters from behind forwards. The ball entered just external to the tuber ischii, and was afterwards cut out at the apex of Scarpa's triangle, where it was found lying just in front of the vessels. This man was wounded at Balan on September 1st, and the next day he walked into the hospital without assistance. The extent of injury was not at first indicated by any external symptoms. But on the sixth day sudden shortening to the extent of two and a half inches appeared. Extensive suppuration, sloughing bed-sores, and pyæmia, carried him off on October 10th. There was at no time an opportunity for operative interference. It is very remarkable that any one could walk after the receipt of so serious an injury.

„ 5. Right femur from a French artillery man. The bone is extensively split by a bullet, which has lodged. At the end of September he was brought to Balan from the German Ambulance at Lamoncelle, where he had been treated for a simple flesh wound. He was then pyæmic, and died forty-eight hours after admission.

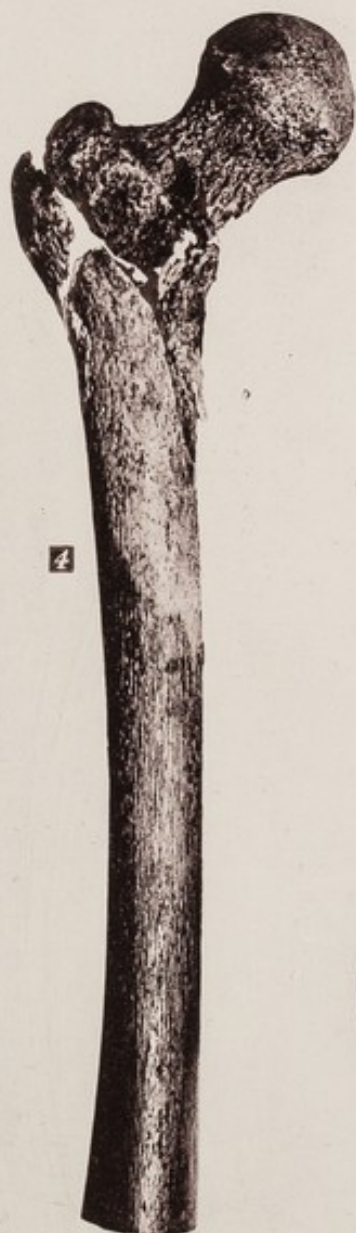




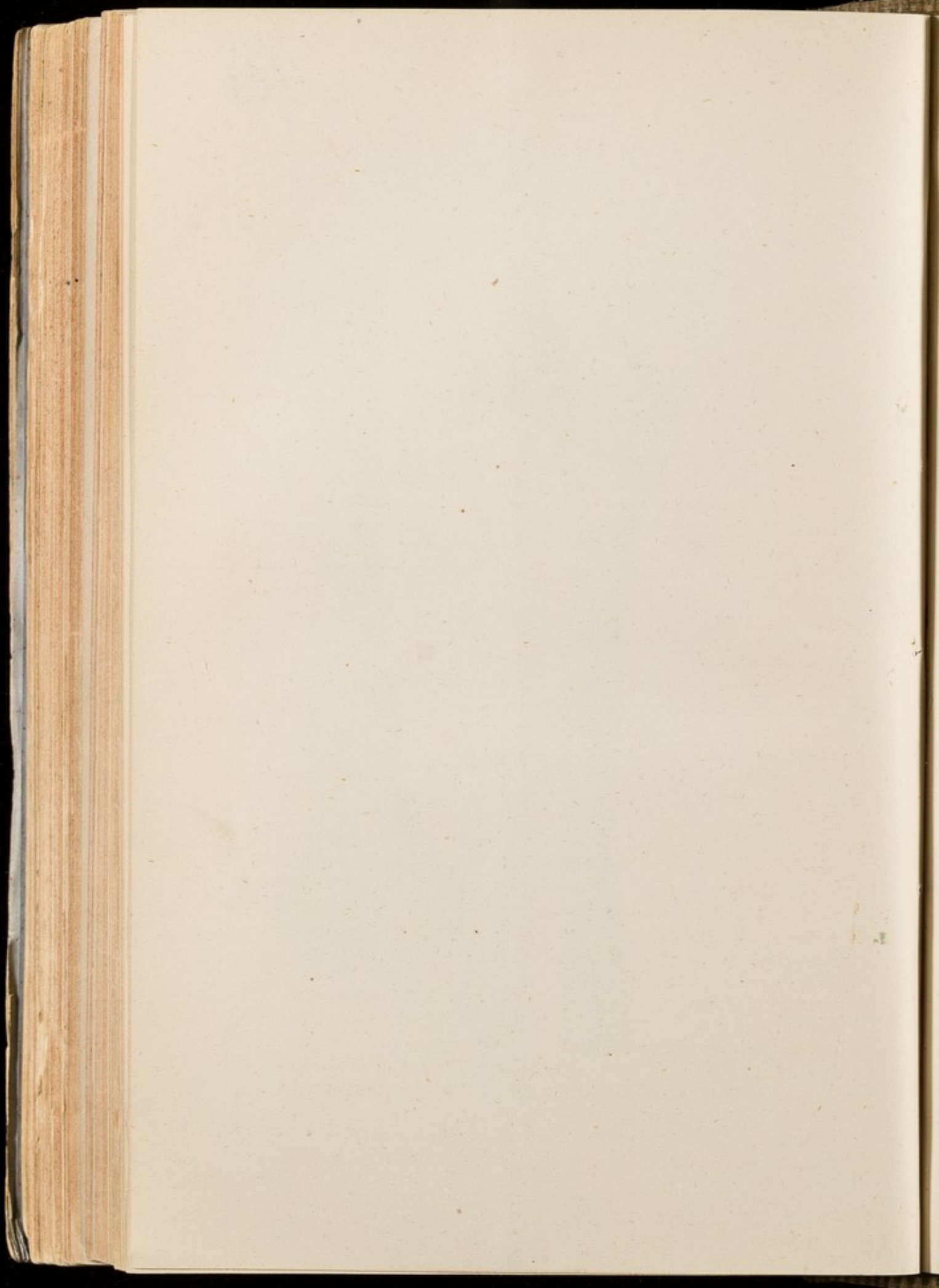














17 1/2

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## OBSERVATIONS on the ANATOMY of TÆNIA MEDIOCANELLATA.

By FRANCIS H. WELCH, F.R.C.S., Surgeon, Army Medical Department, and Assistant to the Professor of Pathology, Army Medical School, Netley. (With Plates I & II.)

AT first sight it may appear somewhat a work of supererogation to enter upon the anatomical details of any of the tapeworm species, so much having been done, especially by German observers, all of whom appear to have taken as the type of the genus, and as its common representative, the *Tænia solium*. Consequently the space allotted to the *Tænia mediocanellata* in the text-books has been very meagre in amount, the points only in which it appeared to diverge from the assumed common form being entered on. None but the sparsest illustrations of its anatomy are in existence, and, as far as I am aware, no complete exposition of its structure from an English source is to be found. But although the *T. solium*, as far as man is concerned as a habitat, may be the tapeworm more frequently observed in certain localities, yet, on the point of dispersion over the earth's area the *T. mediocanellata* (as far as present knowledge extends) seems unquestionably in the ascendancy, and, if so, rightly must be considered as the more common form infecting man, and also regarded as the type of the genus. Indeed, even in these islands, where the *T. solium* is supposed to predominate, it is difficult to come across an example of it, while on the other hand the *T. mediocanellata* may be obtained with comparative facility. Owing to the difficulty of procuring the head for identification, there can be little doubt that segments of the *T. mediocanellata* have often done duty in the eye of the observer as exemplifying the presence of its congener, the solitary worm; and the more the subject is inquired into the more dubious becomes the ordinary received opinion of the *T. solium* being the common tapeworm even of the British Isles. That the *T. mediocanellata* is extremely common in Malta and the Mediterranean generally, both among natives and the English garrison, I can personally



vouch for, and in a minor degree also among the same classes in parts of British North America; also the post-mortem records of the Royal Victoria Hospital, Netley, illustrate examples of this parasite in invalids from India, Cape, Mauritius, Ceylon, Malta, and Gibraltar, generally solitary, occasionally more than one in the same host, and in individuals where its presence was not observed during life, while on the other hand I can find no notification of the occurrence of the *T. solium* among our wide-spread garrisons, and the same feature of comparative prevalence is shown in the preparations of the Netley Museum; and if to this we add the statement of Professor Aitken that it also "is the common tapeworm of the Continent," it is clear that, acting up to our present knowledge, we must reverse the prevalent opinion and regard the *T. mediocanellata* as the common form and as the type of the genus.

Owing to the parasite receiving so many illustrating examples, there is no lack of material in army life to work upon, and the result of an inquiry into its anatomy I have embodied in the present paper; some of the details are corroborative of previously made observations, others are opposed to them, while on certain points inquiry has been further extended.

The general aspect of the linearly arranged colony of flat white zooids embraced under the term "tapeworm," progressing in size from above downwards, is too well known to need description, and hence we may pass over major naked-eye characters common to the genus to enter at once on those details to be noted in the species under consideration.

Should we have an opportunity of examining specimens taken entire from the small intestines of the dead host we find that the actual length between individual colonies varies considerably, and chiefly in proportion to the state of contraction or otherwise of the component segments, ranging in fact from five to ten feet; and it is to be observed as regards this range of total length that should there be vitality still existent, and the contractility of the tissues excited by immersion in alcohol, the extreme measurement may by this means be curtailed so as closely to approximate, or even reach, the minimum length of five feet. The firmness of the segments resulting from this immersion in alcohol before muscular action has passed into the quiescence of death is of great assistance in making sections for microscopical examinations. It must also be noted that this contraction, which is mainly longitudinal in the colony, may modify somewhat



the breadth and thickness of the individual segments as compared to their length, while leaving, however, the relative measurement of our component zooid to the other intact.

Taking as an example a colony 60 inches in length after alcoholic immersion, the following rough details were noted. —Head square shaped, tapering somewhat towards the neck, length  $\frac{5}{100}$  in., breadth  $\frac{6}{100}$  in., thickness  $\frac{5}{100}$  in. Neck (merely the narrowest portion of the colony from which the head expands upwards and the segments downwards) oval in outline,  $\frac{3.4}{100}$  in. broad by  $\frac{3}{100}$  in. thick. In the first inch from the neck were about 100 segments, averaging  $\frac{1}{100}$  in. in length and  $\frac{5}{100}$  in. in breadth. In the second inch 60 segments. In the four succeeding inches 126 segments, the lowermost  $\frac{1.5}{100}$  in. broad,  $\frac{4}{100}$  in. long, and  $\frac{3}{100}$  in. thick. From 7th to 10th inch, 121 segments. From 11th to 14th, 70. From 15th to 18th, 64. From 19th to 22nd, 48. From 23rd to 26th, 40. From 27th to 30th, 33; the lowermost segment being  $\frac{3.0}{100}$  in. broad,  $\frac{7}{100}$  in. long, and  $\frac{6}{100}$  in. thick. From 31st to 34th, 27. From 35th to 38th, 27. From 39th to 42nd, 21. From 43rd to 46th, 20. From 47th to 50th, 15; at 48 inches from head, the segments being equal in length and breadth,  $\frac{2.5}{100}$  in. by  $\frac{7}{100}$  in. in thickness. From 51st to 54th, 13. From 55th to 58th, 11. From 59th to 60th, 4; the last zooid being  $\frac{1.7}{100}$  in. broad,  $\frac{5.5}{100}$  in. long, and  $\frac{5}{100}$  in. thick. In all 800 segments. Hence, from the neck to the 662nd segment, there is a gradual increase of the components of the colony in all dimensions, especially in breadth and thickness, and in a lesser ratio as regards the length; from the latter point the thickness of the segments continues somewhat to augment, while the length greatly advances accompanied by a corresponding decrease in breadth, until, at the 765th segment, length and breadth are equal; from the 765th to the terminal segment the thickness and breadth in especial gradually give way to advancing length; so that, viewing the colony either in front or laterally, there is a rapid tapering from the head to the neck, succeeded towards the centre by a progressive expansion which merges into a gradual decrease in body thickness towards the zooids ready to separate as completed lives from the parent stem. Looking at the components of the colony, towards the head half growth is expended in broadening the individual segments, towards the lower half lengthening out preponderates. At the 282nd segment the genital pit was apparent to the eye, and here an increase of breadth of segments rapidly ensued, from  $\frac{2.1}{100}$ th to  $\frac{2.6}{100}$ th of an inch. The genital pore was inva-



riably lateral, and it was the rule to find it on the same side in contiguous segments, greatest number in such sequence 7; while the exceptional was the alternating character, apparently so conspicuous a feature in the *T. solium*, but rarely found in this species beyond two succeeding segments. In one instance only in this colony was the genital pore double, one on each side, yet malformations are far from uncommon, and with modifications of the normal textures subsequently to be detailed. With reference to the position of the genital pit in the lateral edge relative to the length of the proglottis, it occupied the centre from its first appearance to the naked eye to the 765th segment; and from this part of the colony, where the length and breadth of the individual components were equal, the orifice gradually became placed more and more below the central line, until ultimately it was seated in the lower third of the segment. This gradual transposition, however, was due to changes going on in the upper half of the zooid, having for their end the separation of the function-completed segment from the parent stem, and in no wise dependent on alterations of the generative system, so that it may be stated, that the position of the genital pit in the lateral edge in this species up to maturity of the segment is decidedly central; the changes connected with the setting free of the lowermost proglottides will be subsequently described. Other naked-eye features of the lower half of the colony were,—protrusion and tumefaction of the circumference of the genital orifice and unevenness and opacities of the flat surfaces of the segments from internal changes in the female generative system. Minor modifications of the foregoing rough details were observed in individual colonies, but the above fairly illustrate the general anatomical characters of the tapeworm as a whole.

Turning our attention to the constituents of the individual four-sided flat segment, zooid, or proglottis, we may primarily divide them into (a) body framework, embracing skin and parenchyma with its muscular and inorganic elements, and (b) contained viscera, male and female generative systems, and water-vascular canals; first entering into a description of these individually, and subsequently detailing the modifications they undergo in the progressive development from the head end of the colony downwards.

The *skin* (fig. 4) is composed of an epidermis and a corium; the former consists of a delicate imbricated epithelium layer  $\frac{1}{3000}$  in. in thickness, the latter of a firm structureless elastic chitinous layer  $\frac{1}{2000}$  in. thick, having on its exterior the epidermis, and on its interior a thin stratum of closely aggre-



gated granules which form an interposing medium between it and the circular muscular coat. The skin is uniformly continuous from one segment to another; thinned out it forms a preputial fold around the penis. No calcareous granules are present in it.

*Parenchyma.*—Under this name I embrace the structures lying between the skin and the visceral space. The main component of this parenchyma is a soft, semi-transparent, granular, elastic, albuminoid material, very much cleared up by acetic acid or liquor potassæ, studded with so-called “calcareous corpuscles,” and traversed by muscular and fibrous tissue bands. It is interposed as an uniform continuous mass between the skin and the visceral space (fig. 1, *a*; fig. 3, *a*; fig. 16, *a*) averaging  $\frac{1}{50}$  in. in thickness, somewhat less in amount at the junction of the segments, and somewhat in excess at the centre, also tapering off towards the edges. Next to the granular stratum of the corium is a circular coat of muscular fibres  $\frac{1}{400}$  in. thick (fig. 4, *d*); this coat for the first  $\frac{1}{4000}$  in. from without inwards is free from all intercepting muscular bands, but beyond this is penetrated by fibres both longitudinal and transverse. The transverse fibres (fig. 4, *f*) radiate from near the inner surface of the corium to the boundary of the visceral space (fig. 1, *b*), the longitudinal ones are collected together in numbers averaging six, and form bands  $\frac{1}{4000}$  in. in thickness (fig. 5, *a*), which traverse the segment from above downwards, and are amassed together near the skin, where they form an all but continuous layer. Permeating also the parenchyma are delicate fibrous threads; these mainly run from one lateral edge of the segment to the other in a direction wanting in muscular layers. Seated in excavations in the soft parenchyma are the granular inorganic concretions, “calcareous corpuscles.” These within the range of the circular muscular coat are comparatively few in number and small, but immediately beyond it they are larger, and are very thickly set in the body substance, decreasing in amount in the centre, but increasing again towards the visceral boundary. Lying between the transverse muscular fibres they are arranged somewhat in linear series from the skin towards the visceral boundary, and the same feature pertains to the longitudinal bands. On each side of the sheath of the penis the granules are in excess, but where the one segment joins the other they are in diminished numbers. Three kinds can be observed—(1) Spherical or ovoidal nodules, average  $\frac{1}{1200}$  in. in diameter, light brown in colour, composed of concentric laminæ arranged around a darker nucleus occasionally, gradually disappearing after a lengthened



immersion in weak acids (1 to 10), but rapidly in stronger solutions with effervescence (fig. 6, *a*); these are greatly in the majority. (2) Ovoidal masses somewhat larger, uniform in structure, sometimes colourless, sometimes pale brown (fig. 6, *b*); some of these, like the former, disappear under acids with effervescence, others resist all acids, but are soluble in liquor potassæ, corresponding in this respect to small fat-globules and granules universally present in the parenchyma, and also within the visceral boundary in the visceral substance. (3) Angular or somewhat triangular or prismatic crystals, often aggregated in masses from six to ten (fig. 6, *c*), disappearing under acids without effervescence; these are in the minority, but apparently are more numerous in some segments than others. Hence the corpuscles may be ranged in two classes—earthy salts and organic, the former composed of carbonate of lime (majority) or phosphates (minority), the latter of fat. Considering the invariable presence of the earthy nodules and crystals in all stages of segment development and their arrangement, it is difficult to resist the inference that their use to the parasite is that of giving a firmness and stability to the body structures similar to the spicules, and like earthy accretions in some of the lower organisms; and their arrangement as isolated particles instead of continuous strands, while producing the requisite firmness, yet allows of freedom of movement of the body constituents, a feature necessary to the well-being of the parasite, as evinced by the great amount and direction of the muscular layers so conspicuous in the anatomy of this portion of the zooid.

Enclosed within the body framework of the segment are the contained viscera and water-vascular system. These are situated in a distinctly defined central compartment, separated from the soft parenchyma of the body by a thick uniform boundary wall of fibrous tissue, and occupying about  $\frac{1}{3}$  of the entire proglottis and  $\frac{1}{50}$  in. in thickness. As seen in a transverse section the outline of this visceral space corresponds to the body-contour, an elongated ovoid (fig. 1, *b*), and, as exemplified in a vertical section, its diameter is uniform from above downwards, except where the segments join (fig. 3, *b*). It is supported by the transverse muscular bands, by some of the more internal longitudinal muscular bands, by delicate fibrous threads, and by strong radiating fibrous strands which connect the edges with the lateral edges of the segment. Within each lateral edge is situated the longitudinal water-vascular canal (fig. 1, *c*; fig. 2, *c*); traversing it at the lower part of each segment is the transverse or connecting water-



vascular canal (fig. 2, *e*; fig. 3, *d*), immediately below which it is constricted and divided from that of the next segment by a fibrous diaphragm (fig. 3, *e*), and where the lateral edge meets the sheath of the penis there the radiating strand connecting it with the side of the segment is much thicker than elsewhere, and many of the more central fibres are lost upon the external surface of the sheath, in fact greatly assisting it in its formation. From the inside of the boundary fibrous processes pass across from side to side of the visceral space, giving a slinging support to the components of the generative systems, uterus, ovarian glands and tubes, vas deferens and testicular bodies, encircling these as in a capsule and separating them from the soft intervening substance. This substance, which fills up the space which would otherwise be left between the curved outlines of the visceral subdivisions and the internal surface of the boundary, is of a granular albuminoid character, thickly studded with small fat-granules and globules only (fig. 2, *b*; fig. 13, *b*). Laminated calcareous nodules are sparsely seated in the fibrous boundary and its main prolongations inwards, but their number is very small, and hence in this respect there is a marked contrast to the thickly set body structure environing it.

*Male Generative System.*—The genital orifice at the side of the segment is ovoid in shape, much more in transverse diameter than vertically; its edge is thick and tumid, and from the orifice a pit extends inwards to the depth of  $\frac{1}{70}$  in., expanding vertically until the height and transverse measurements are equal. At the centre of its inner wall, on a slight oval prominence, are the external orifices of the penis and vagina, the former above the level of the latter, but in close contiguity to it (fig. 2, *g, h*; fig. 10). This pit is produced by an inflexion of the skin and subjacent muscular layers, and not uncommonly there is a slight depression of the external surface of the flat sides of the segment corresponding to the floor of the pit internally and caused by the tumid lips of the aperture. The skin from the genital pit is observed to form a sort of prepuce and to pass in by the side of the penis for a short distance, constituting a groove, and then to lose itself on the external surface of the organ (fig. 7, *c*); the circular muscular fibres of the body substance also curve in, and, thickened by transverse fibres and fibrous tissue, compose a sheath to the penis externally. The penis (fig. 1, *e*; fig. 2, *g*; fig. 7) in its retracted condition is a musculo-membranous elongated double cylinder,  $\frac{1}{45}$  in. long by  $\frac{1}{30}$  in. diameter, tapering towards the tip, but expanding at its other extremity into a globular bulb,  $\frac{1}{200}$  in. thick (fig. 7, *e, f*).



From the genital pit it passes directly inwards towards the centre of the segment at right angles to the edge. The circumference of the organ is formed by a uniform band of circular and longitudinal muscular fibres  $\frac{1}{1000}$  in. in thickness (fig. 7, *d*). Tracing it from the bulb it is continuous along the long diameter, forming the outer cylinder, to the tip; here it is seen to be reflected inwards like the inflected end of the finger of a glove and to form a second cylinder (fig. 7, *g*),  $\frac{1}{1000}$  in. in diameter which passes backwards within the outer one, forming a bulbous dilatation (fig. 7, *h*) near the centre of the outer bulb, and is continued still further backwards by a convoluted tube similar in structure to itself. This convoluted tube (fig. 7, *i*) lying within the outer bulb, and in length somewhat exceeding the entire penis, perforates posteriorly the outer bulb at its centre, and is continuous with the vas deferens or spermatic tube lying within the visceral space (fig. 7, *l*; fig. 1, *g*). Between the two muscular cylinders of the penis, and filling up the otherwise vacuum, are longitudinal muscular bands (fig. 7, *k*). The internal cylinder is perforated down its centre by a narrow canal, which, constituting the aperture of the penis at its free end, passes along its long diameter and is somewhat dilated at the smaller bulb, hence is contained along the contorted tube and at length merges into the lumen of the spermatic duct; this canal from the tip of the penis to the bulb is lined by ciliated epithelium.<sup>1</sup> From the external surface of the outer bulb posteriorly very strong muscular bands diverge, and passing in for some distance towards the centre of the segment are lost upon the inner surface of the boundary of the visceral space. Hence, then, it will be seen that there are muscular bands of the sheath, derived from the circular and transverse layers of the body structure, which would draw the bulb of the penis towards the genital orifice and at the same time lessen in depth, and possibly obliterate, the genital pit; there are those at the bulb posteriorly, as above mentioned, which would act in the opposite direction. It would also appear from the anatomical details that the entire penis could be bodily projected to the limits of the inflected preputial fold,  $\frac{1}{500}$  in., but that further protrusion would be accomplished by the evolution of the inner cylinder, and to this end the convoluted tube within the bulb and the longitudinal muscular fibres of the outer cylinder are admirably adapted; while the muscular bands lying in the body of the penis between the cylinders and stretched by the protruded

<sup>1</sup> Dr. J. D. Macdonald, R.N., F.R.S., informs me that he has observed the same ciliated character on a protruded penis.



organ would no less effectually retract it and assist at its inversion after copulation.

The continuation of the perforating tube of the outer bulb of the penis is for a short distance of the same thick muscular-walled structure as the convoluted tube within the bulb, and  $\frac{1}{1300}$  in. in diameter, but soon this tissue thickness lessens and merges into the delicate wall of the spermatic duct. This duct or vas deferens, average diameter  $\frac{1}{640}$  in., is of great length; it is seen to form a continuous close-set coiling from one side of the visceral space to the other (fig. 1, *g*) extending from the bulb of the penis to the centre of the segment, and even occasionally prolonged beyond the centre to the opposite end of the visceral space. In a longitudinal section (fig. 2, *l*) these coils are seen to be contained within a special fibrous compartment of the visceral space, passing directly inwards from the bulb and measuring  $\frac{1}{125}$  in. in depth. The wall of the vas deferens is made up of very fine involuntary muscular fibre cells, forming delicate wavy longitudinal linear markings in its substance (fig. 7, *l*), and when coloured by carmine beautifully illustrating contractile tubal tissue. Between the bulb of the penis and the longitudinal water-vascular canal the coiling of the tube varies greatly in amount, but the tube and the accompanying vagina in their course towards the centre of the segment always pass together on one or other side of the water-vascular canal, never on opposite sides, and this feature of relation of the genital passages to the water-vascular system would appear to distinguish the flat surfaces of each segment into dorsal and ventral (fig. 1, *l*, *m*). The seminal duct in its meanderings gives off branches and ultimately terminates in similar divisions which form a covering to the seminal glands, or in other words, the gland structure is contained within a cæcal dilatation of the duct (fig. 8). Occasionally also the duct is varicose as from circumscribed internal distension.

The seminal glands or testicular bodies average twenty-four; they are globular, oval, pear-shaped, or crescentic in outline, and from  $\frac{1}{1000}$  to  $\frac{1}{450}$  in. in diameter. Occasionally one may be seen close to the bulb of the penis, often one or more between the bulb and the water-vascular canal, but the general site is between the canal and the centre of the segment, though occasionally passing beyond this to the other extreme of the visceral space (fig. 1, *i'*), and their presence under these circumstances lends a clue to the comprehension of those monstrosities with a genital pit on each lateral edge. They lie within the sheath of the seminal duct, and conse-



quently all are much upon the same plane. Occasionally they come into close contact with the distended ovarian glands and from the compression they then undergo they become crescentic in outline, forming a cap, as it were, to the female structure; there is, however, no commingling of tissue, each has its own capsule besides the fibrous sheath. The gland substance within the tubal covering is divided into component masses (fig. 8, c) made up of closely aggregated nuclear particles,  $\frac{1}{15000}$  in. in size, resembling somewhat human lymphatic gland elements, and on isolation these nuclear particles are apparently seen to have a filamentous appendage about  $\frac{1}{2000}$  in. long, tailed spermatozoa (fig. 9, b). I say *apparently*, for this reason, that when the gland is ruptured up to set free the particles, the encapsulating duct is equally torn and its delicate fibre-cells are separated and commingled with the gland elements, so that when observing these minute structures it is far from easy to say whether the extremely fine threads belong to the muscular fibre-cell or are filamentous processes from the sperm particle; I infer, however, the latter. It seems apparent also that the component masses of the gland are cell forms distended out with the fecundating principle.

Hence from these details we can trace an uninterrupted continuity between the sperm-producing mass and the intromittent organ, nor can any communication be observed between the male and female systems; present in each segment they are distinct.

*Female Generative System.*—The exact relation of the external orifice of the vagina to the penis varies with the retraction or otherwise of the male organ. Should the penis be completely withdrawn the oval-shaped vaginal orifice lies just within the fold of the prepuce underneath the tip of the organ; should partial protrusion be present, its direction is into the genital pit at right angles to the cuticle (fig. 2, h; fig. 7, m); should the evolution of the male organ be complete, then the female aperture would be situated at its base. The vagina, although opening below the penis (fig. 10, b), yet in its course inwards soon becomes parallel to it, but on a lower level; it crosses the longitudinal water-vascular canal with the male tube, pursuing a slightly wavy line through the middle of the visceral space, and crossed and recrossed by the coils of the spermatic canal; when nearing the centre of the segment it approaches the fibrous boundary and likewise curves downwards, and ultimately making a sudden bend on itself it joins the uterine cavity near to the junction of the middle with the lower third of the segment



(fig. 1, *f*; fig. 2, *i*). The merging of its walls into the uterine walls does not ensue on that side of the cavity directed towards the edge of the segment in which the genital pit is situated, and consequently in the most convenient spot to the prior course of the vagina, but on the side of the uterus corresponding to one of the flat surfaces of the segment, and hence at right angles to its prior course (fig. 3, *f*), and apparently (at least in those instances in which I have been able to pursue its entire route from commencement to termination) on the same side as the genital tubes in relation to their crossing the water canal, furnishing an additional indication of dorsal and ventral surfaces of the zooid, and approximating in character the *Bothriocephalus latus*, the central orifices in direct line from the uterus in the latter parasite being transferred in the *T. mediocanellata* to the side, while the junction of the vagina with the uterus is the same in both. The vagina from its external aperture for the distance of  $\frac{1}{8 \cdot 25}$  in. is of the diameter of  $\frac{1}{1000}$  in., has thick walls of circular and longitudinal muscular fibre, and a narrow canal lined with ciliæ (fig. 7, *m*), corresponding in the two latter details to the inner cylinder of the penis, and staining like it in depth of colour and hue on the addition of carmine or magenta. Beyond this, these thick walls merge into a thin delicate tube closely studded with very numerous black granules, which render the canal a very conspicuous and easily discerned feature in microscopic sections (fig. 12, *a*). Corresponding in site to the centre of the penis, the vagina is dilated ovals and fusiformly to  $\frac{1}{300}$  in. transversely; this expansion (fig. 11) dwindles into the  $\frac{1}{5000}$  in. diameter of the canal generally, which is continued until the side of the uterus is reached, where there is a second somewhat pear-shaped dilatation of  $\frac{1}{350}$  in. diameter (fig. 12), from which the again contracted tube emerges to coalesce after a sudden bend with the uterine canal on a slightly prominent part of its wall. Around the muscular portion of the vagina there is a sheath formed by the inflexion of some of the fibres from the inner surface of the skin. The dark granular particles seated in the wall of the canal vary somewhat as to extent of distribution; they avoid the muscular portion, but generally commence in the succeeding dilatation, occasionally, however, but partially studding it as in figure 11; in the central course of the tube they are always present, generally also in the bulb near uterus, rarely in the short contracted channel emerging from it; they are similar to the black particles generally present in the suckers of the head of the colony.



The uterus (fig. 1, *h*; fig. 2, *k*) is a fibrous canal<sup>1</sup> occupying the centre of the segment from above downwards for two thirds of the distance, not approximating so closely the lower boundary of the segment as the upper, and slightly bulbous at each end, especially the lower where it is joined by the vagina. Up to the adult period of the segment it is zig-zag from above downwards, as seen in a longitudinal section, though, as seen in a vertical section (fig. 3, *g*), it does not deviate towards the front or back boundary of the visceral space; in a mature segment it is straight in either view. In shape it is oval, flattened from side to side,  $\frac{1}{280}$  in. transversely by  $\frac{1}{70}$  in. from before backwards (fig. 1, *h*); it is composed of fibrous tissue with an epithelial lining. Slightly from the upper, but markedly from the lower extremity, the ovarian channels radiate from it, but on each side they join it more or less horizontally. These ovarian channels (fig. 2, *m*), or smaller offshoots from the central canal, have essentially the same structure as the uterus; their length and direction varies with the position of the glands to the central canal. From the sides of the uterus the ducts are symmetrical, in number on each side amounting to about twenty-two; not uncommonly they are bifurcated and occasionally branched to three or four degrees. Equally with the prolongation of the uterine structure into the narrow communicating channels, so in reference to the limiting membrane of the ovarian glands, there is an irregular bulbous expansion retaining the gland structure or vitelline masses which lie in excavations in the granular albuminoid substance within the visceral space.

The shape of the ovarian glands varies with position, in number they amount to about forty-four in each lateral half of the segment, and in size from  $\frac{1}{30}$  in. by  $\frac{1}{50}$  to  $\frac{1}{20}$  by  $\frac{1}{100}$ . Those placed between the upper and lower end of the uterus and the boundary between one segment and another are ex-

<sup>1</sup> According to the Sydenham translation of Kuchenmeister's 'Manual,' 2nd edition, the name designating this parasite was given it by Kuchenmeister consequent on the asserted character of the median uterus as "a continuous tube around which the sides of the worm enfold themselves. This tube, which appears to be continuous, and which I regard as a canal, induced me to call the species *T. mediocanellata*" (p. 138). In this brief description one would be led to infer that the uterus is continuous throughout the parasite, not special to each segment. If we compare the canal of this worm (fig. 2, *k*) with the sketch of the *T. solium* (Cobbold's 'Entozoa,' p. 213; Aitken's 'Prin. and Practice of Medicine,' 6th edition, p. 162), taken from Rokitsansky, we shall note that the divergent characters of the two are very slight. Even on many other points there is a close approximation in anatomy between the two species, the main distinction being centred in the head.



tremely irregular in shape, more laterally they are somewhat pear-shaped, but flattened where they abut upon this boundary, while those whose discharging tubes are horizontal are narrow elongated and lobulated (fig. 2); in fact their outline from an original sphere or oval is ultimately determined by compression from within or from contiguous external structures. Their contents are closely aggregated vitelline masses or germ-cells (fig. 13, e), these necessarily varying in size and aspect with the degree of maturity of the zooid will be hereafter detailed.

As compared with the seminal glands the ovarian glands are differentiated from them by the nature of the encapsulating membrane, largeness of size, largeness and divergence in structure of the component elements. In both systems, however, the analogy is complete of the special element-producing masses being contained within cœcal dilatations of the conveying tubes.

*Water-Vascular System.*—Traversing the segment on each side, parallel to the lateral edges at the distance of  $\frac{1}{15}$  in. within the visceral boundary, is a canal average  $\frac{1}{50}$  in. in diameter (fig. 1, c). The lumen of the canal throughout the segment is far from equal and the course is marked by slight undulations. At the lower end of each segment each longitudinal canal swells out into a pear-shaped dilatation  $\frac{1}{30}$  in. by  $\frac{1}{75}$ , globular end towards the side of the segment and narrow end continuous with the transverse water-vascular canal (fig. 2, d, e). This transverse or connecting branch, traversing the centre of the visceral space at the lower boundary of the segment, is oval in outline, straight in its course, but tapers slightly towards the centre; its lumen measures  $\frac{1}{75}$  in. by  $\frac{1}{300}$ . Immediately below it is the fibrous diaphragm separating one segment from the other. The wall of the canals is thin, composed of delicate longitudinal and circularly arranged fibrous tissue (fig. 13, a), and there is no appearance of any intercepting medium to the most free passage of fluids in any direction. The longitudinal canals are not uncommonly pushed on one side by the passing genital ducts, while the inner wall is flattened and often globularly projected inwards by the distended ovarian glands which abut on it. Those of one segment are continuous with those of the preceding and succeeding ones, varying only from them in gradation of diameter; the transverse branch is special to each zooid. The globular end of the dilatation at the junction of the canals comes into close contact with the inflected body structures at the union of the segments, but apparently there is no communication between it and the external sur-



face; this is limited to the longitudinal canals at the free end of the lowermost zooid of the colony.

Having now described the anatomical structures present in an adult segment, it becomes necessary to detail the linking of the zooids together, the head, and the modifications of each zooid in the process of development of the colony.

*Bond of connection between the zooids.*—The lower end of each segment is slightly expanded, while the upper end of the succeeding one is contracted and invaginated in the one above by an oblique infolding of the body wall from below upwards and continuous around the segment. This infolding implicates the skin, circular and transverse muscular fibres; some of the longitudinal muscular bands terminate in the pit left by the infolded structures, others curve around it, while the more internal pass from one segment to another. From the invaginated portion a thin fibrous band passes transversely through the body structure mapped out by the paucity of calcareous nodules on each side of it, and with a similar one within the visceral space forms a diaphragm separating one segment from the other, penetrated only by the longitudinal water-vascular canals, some of the longitudinal muscular bands, and the visceral boundary. Hence the only components which can be regarded as special to each segment are, male and female generative systems, transverse water-vascular canal; all other structures are continuous and common to the entire series.

*Head of the Colony.*—As before mentioned, this is somewhat square-shaped and larger than the neck, towards which it tapers. It partakes of the character of all other segments in being wider than it is thick, but in a much less ratio. On its free end there is a cross furrow, with an inflexion of the skin at the centre into a pit, and on the elevations between the furrows and the free edge of the head are the four suckers seated. Immediately below the suckers are regular transverse folds of the cuticle—the earliest differentiation of the one segment from the other, and commonly, though not necessary or constant, a large quantity of dark granular pigment is collected in the tissues between the suckers. The sucker may be defined to be a globular inflexion of the cuticle with muscular adjuncts for a special function—that of anchoring the colony. A section through it (fig. 15) reveals as follows:—The epidermis and corium of the general cuticle are continuous through it, forming the inner lining of the hollow globe (fig. 15, *d*), only that the corium is slightly thickened, firmer and more elastic, and its deeper layer



strongly pigmented (*e*), the latter feature rendering the sucker a very conspicuous object in the naked-eye anatomy of the parasite. Next to the deep corium layer are two special series of muscular fibres, one radiating, the other circular; the former pass from the corium to a globular fibrous layer (fig. 15, *f*) which follows the contour of the sucker at a distance from it of  $\frac{1}{200}$  in., forming a *point d'appui* for the radiating proper layer on one side, and for the insertion of muscular bands external to it on the other; the circular fibres completely encircle the sucker in concentric lines within the fibrous envelope. The diameter of the interior of the sucker averages  $\frac{1}{40}$  in., of its circular orifice  $\frac{1}{60}$  in., that of its fibrous capsule  $\frac{1}{30}$  in. Occasionally dark pigment is also collected on the exterior of the capsule, mapping it out conspicuously from the surrounding textures, and on its exterior also (external as compared to the sucker, but actually internal as compared to the head generally) the longitudinal muscular bands common to the whole colony spread out fan-shaped, and are inserted into it (fig. 15, *h*). Hence these external bands retain the fibrous capsule in a fixed position for the special muscles to act from, the radiating bands expand the area of the hollow globe and so induce the function, the circular bands contract it, and so put a stop to the sucking action, ending in freeing the colony from the anchoring ground—the mucous lining of the small intestine; the sucker being fixed, the fibrous capsule would equally form a point for the longitudinal muscles of the colony to act from, and to move the entire series of zooids. The direction of the axis of each sucker is towards the corresponding angle of a square. Traversing the centre of the head from the neck is a horizontal fibrous layer which divides the suckers into pairs, into what may be termed a dorsal and ventral pair, the latter corresponding to the flat surface of the zooid indicated as ventral by the position of the genital ducts to the water-vascular system and the junction of vagina with uterus. This fibrous diaphragm is the termination within the head segment of the visceral boundary-wall common to the colony; when nearing the neck the walls approximate somewhat from the absence of viscera to distend them (fig. 16, *b*); in the head they are in contact, and terminate on the inner surface of the skin. Between the pairs of suckers, just beneath the skin, and corresponding in direction to the fibrous stratum (fig. 14, *f* to *g*), is the central water-vascular canal of the head, the transverse or connecting branch of the cephalic segment. Its diameter is much larger comparatively; it curves down at each end between the lateral suckers, and becomes con-



tinuous with the longitudinal canals of the colony. From it a small branch appears to encircle each sucker, which afterwards passes down to merge into the main longitudinal canal of its side, so that a section through the head immediately below the suckers reveals the cut lumen of three tubes towards each lateral edge, while one through the neck somewhat lower reveals only one (fig. 16, *c*), the smaller branches having very rapidly inosculated with the main trunk.

*Progressive development of the Zooids.*—The so-called neck of the tapeworm is that part of the colony from which the production of new segments starts and their subsequent development. A transverse section of it (fig. 16) shows that the body structure with the inorganic granules irregularly arranged, the fibrous boundary of the visceral space with the contained granular albuminoid material, and the water-vascular canals, are all present in it as in the mature segment, the viscera only wanting. Immediately below it fine external transverse furrowings of the skin, closely approximated, foreshadow the segmental differentiation which is more clearly indicated internally by the delicate but decided transverse fibrous diaphragm. A longitudinal section through these early segments shows the transverse water-vascular canals as small and closely approximated channels, giving at first sight the idea of this portion of the colony being more freely supplied than elsewhere, yet not exceeding in fact the number of the component segments. These transverse branches diverge more and more from each other as the segments lengthened from the head downwards, and, as well as the longitudinal canals, increase in calibre; hence we may liken this system of vessels to a ladder, the sides corresponding to the main channels, the rounds to the transverse branches, and the larger terminal ends of the sides to the open lumen of the main channels in the lowermost segment, while we must connect the smaller terminal ends of the ladder together at the top by a thickish transverse branch to coincide with the canal between the pairs of suckers. At the 160th segment from the head the visceral space is more clearly defined by the darkness of the surrounding body structure from the amassing in it of the calcareous granules, and in the lower portion of it in the midline of the segment is a collection of delicate granular material freely imbibing colouring matter—first indication of the uterus. At the 200th segment the inflection of the body structures at the junction of the zooids is well pronounced, as also the fibrous diaphragm; the lower extremity of the uterus is in the form of a globular granular mass close to the lower boundary of the segment, and curving



upwards and outwards from it towards a lateral edge, but not reaching it, are linearly arranged granules similar to the uterine globule, the early stage of the vaginal canal; a collection of granules is also present near a longitudinal water-vascular canal at the site of the bulb of future penis. At the 235th segment the lower end of the uterus is clearly defined, and a broad undulating band of granules pass from it in the central line to the upper end of the segment; the outline of the genital pit is distinguishable, and the cuticle of the edge of segment corresponding to the future genital aperture is tumid; there is an irregularly undulating granular accumulation between the longitudinal water-vascular canal and the centre of the segment in the line of the site of seminal glands. From this point to the 270th segment a rapid advance in development takes place; the uterus becomes clearly defined as an undulating canal, terminating at each end in a bulbous dilatation, and containing within it spherical epithelium-like masses; the vagina, sharply outlined with dark granules in its walls, is traceable from the uterus to near the genital pit; above the level of the vagina, from the longitudinal water-vascular canal inwards, is a line of somewhat spherically amassed granules, seminal glands, and in a similar position as regards the canal, but rather close to it and arranged from above downwards in the segment, are similar masses, ovarian glands; the body of the penis is foreshadowed; the expansion at the junction of the vascular canals is well defined; the calcareous nodules are approaching linearly arranged from the circumference of the body substance to the visceral boundary. At the 282nd segment, the genital orifice being apparent to the eye, the seminal and ovarian glands are clearly defined and recognizable as such, the latter at least 100 in number on each side of the uterus and containing epithelium-like spherical cells can be turned out from the excavations in the visceral substance in which they lie; in the lower half of the segment the ovarian tubes are distinguishable, in the upper half there is still a distinct separation between the glands and the uterine channel; between the lower uterine bulb and the segmental boundary are ovarian glands, and these produce an elevation in site of the vaginal communication with the uterus to the junction of the lower with the upper two thirds of segment; from the genital pit fibres pass in forming the sheath, and within it the cylindrically arranged granules outline the penis. At the 300th segment the penis is fully formed, the seminal tube connects the testicular bodies, many of the ovarian glands have coalesced and all are connected with the uterine



channel; between the upper bulbous end of uterus and the upper boundary of segment are also ovarian glands. At the 590th segment the zooid may be declared adult with full developed male and female generative systems, the latter from the uterus inclusive to its coecal offshoots as ovarian glands filled with immature vitelline masses; the length of such a segment would be  $\frac{1}{3}$  of its breadth, the anatomical details would coincide with the description already given of the several components of the segment under the respective headings. At the 690th segment, rather broader than long, fully developed ova are present in all the female passages except the vagina; the animal is mature. From this point the male generative system atrophies, and it is a difficulty to find a seminal gland, the segments markedly elongate and the uterus straightens, the lowermost prepare for separation from the parent stem.

The dropping off of the over-ripe segment, so far as the eye can trace it, consists of a gradual thinning and lengthening out of the upper half reaching its acme at the portion invaginated in the lower half of the preceding segment, until the line of junction is reduced to a mere thin film of tissue ready to give way on the slightest external force; the lower half of the segment from the genital orifice downwards undergoes but little, if any, change. More minute examination reveals that the line of rupture takes place through the fibrous diaphragm dividing the segments, a point where the calcareous granules in the body substance are in a minority, and the point where separation takes place when force is applied to the zooids in continuity and in a mature district of the colony. The transverse water-vascular canal is encroached on, and all but obliterated by the distended ovarian glands abutting on it, the ovarian follicles in the upper half coalesce by disintegration and rupture of the intervening substance so that the ripe ova lie free in the ragged space; soon the corium is the only retaining link, and ultimately this gives way, allowing the segment, with its upper half free to discharge ova and its lower half comparatively intact, to be carried out of the host with the faecal excreta.

From these details it will be apparent that the developmental process mainly concerns the generative systems, the body structures deviating but little except in bulk in any part of the colony; also that the formation of the body structure and the separation of it into successive zooids precedes the development of the viscera. It will also be observed that the first appearance of the visceral components was in



the form of amassed granules, showing their functional activity by the comparative rapid imbibition of colouring matter; and that the lower half of the segment anticipated the upper half.

The female system preceded the male in all corresponding parts, the uterus and vagina, then the ovaries, subsequently the connection of the former with the latter through the ovarian tubes; equally the bulb of the penis was first apparent in the male system, then the seminal glands, ultimately the connecting channel—the seminal duct or vas deferens. Judging from the condition of the ova fecundation must have taken place at the 590th segment, and after this the female passages become a mere receptacle for the maturing germs which evidently ripen irregularly, as evinced by the commingling of advanced and progressing ova in the same gland, and equally as well in the passages as in the site of their production.

Concerning the ova we may say that the vitelline particles in the earliest stage are spherical, oval, or irregularly compressed masses of protoplasm with a strongly defined nucleus, and average  $\frac{1}{1000}$  in. in size (fig. 17, *a*). Large fat-globules stud the protoplasm, and division of the nucleus ensues until the segmentation fills the thick double-outlined wall (*b* to *e*). Separation of the components takes place into two parts, a sharply defined, firm, yet elastic, spherical body, the former nucleus, the future egg; an irregular soft surrounding granular mass (fig. 17, *f*). The spherical body gradually becomes more and more pronounced and increases in firmness, a double outlined wall is seen with radiating lines upon it and enclosing a globular body, the embryo; while the soft surrounding protoplasmic material assumes an irregular outline and wastes (*g*, *h*). The ovum darkens, the shell becomes rigid and the radiating lines more defined, the encircling soft mass disappears and the egg is matured (*i*). As such the average size is  $\frac{1}{600}$  in., but varying from  $\frac{1}{500}$  to  $\frac{1}{600}$ ; shape spherical, oval, or flattened on one side from compression, or half-moon form; colour dark brown; the shell is rigid but friable, with radiating lines made up of minute pits on its inside; within the shell is a membrane which loosely retains the embryo. This outer protection is remarkably indestructible; alkalies have no effect on it except rendering its characters more clear, apparently from producing complete transparency of the surrounding albuminoid material; dilute acids (1 to 10) are innocuous; temporary immersion in strong acids leaves the shell still intact, nitric acid colouring it yellow, sulphuric acid brown; twenty-



four hours' steeping in hydrochloric or sulphuric acid produces no further result, while the same period of nitric acid completely destroys every particle of the segment except the egg; some of these, however, would seem to disappear under its influence, while others effectually resist it; fire alone completes their destruction. Hence I infer that the shell is composed of a chitinous material akin to the horn-like coverings of certain insects. The embryo is spherical, with an oval offshoot occasionally to be seen from it suggestive of a head; irregular folds can be discerned on its soft exterior, and six spicules arranged in a circle in pairs; these spicules are pointed at one end and thickened and globular at the other.

*Malformations.*—Divergencies from the normal characters are not uncommon in these parasite colonies, the predominating forms being,—a genital pit on each side of the segment, a triangular shape of one segment from deficient development of one lateral half interposed between the usual square-shaped normal outline of segments above and below it. In one colony, in addition to the above monstrosities, were segments with a double genital pit on the one side, and for about two inches of the colony there was no external infolding of the body structures to define the limits of each segment, nor was there any internal boundary, but the genital orifices were amassed on either side in patches of from two to five, and in total amount greatly in excess of what ought to have been present over this length of the parasite.

In all these instances, whenever the genital pit was in existence, full developed internal structures corresponded to it. In those segments where the two genital orifices were on the same or opposite sides of the zooids, there was one uterine cavity, two vaginae, and two male systems. In the triangular segment the components were normal in number, but the uterine canal was obliquely placed, the ovarian offshoots towards the base of the triangle, the lateral edge in which the genital pit was seated, were as usual, those on the opposite side were undeveloped. In the portion of colony above mentioned with so extraordinary an amount and position of genital pits, there the uterine canal extended throughout the malformed part with frequent vaginae and spermatie tubes, full developed ova in the channels and glands. These malformations exhibited either excessive or arrested development. The uterine canal was in accord with the body structures, exhibiting no segmental division where the differentiation was not complete as regards the inflected skin



and fibrous diaphragm, bearing out in these divergencies the normal development of the segments from the head downwards on the point of the body structures preceding the production and development of the viscera, and evidently also defining them.

*General remarks.*—The main function of the zooid is that of reproduction, all else being but subservient to it. The points of contact between the zooid and the trematode are so marked as to link the one with the other in the animal series, to cause the cestoid colony to be regarded as a compound fluke-worm. I have said nothing in the preceding pages on the existence of a nervous system, for the reason that clear anatomical details were not forthcoming to warrant the statement of its presence; yet, on the other hand, there was faint evidence of the existence of a ganglion in the head in the form of a circular nucleated cell mass in the centre beneath the suckers. But whether the presence of nerve-centres can or cannot be demonstrated there can be no question, from subjective evidence, of structures set apart for the co-ordination of certain movements and performance of certain functions; for example, a centre must be present towards the head for combining the sucker action, and also one in each segment for regulating the movements necessary in copulation, also connecting fibres must pass from one segment to another for mutual action to this end, for by analogy we must regard the zooids, although hermaphrodite, as not self-impregnating, and hence consensual action is required.

The genital pit of one segment could be brought into contact with that of another a short distance removed by the curving and bending up of the colony to one side, and by this action a transposition of their respective orifices would result, the penis of the upper segment would correspond to the vagina of the lower, and *vice versâ*, and mutual impregnation would ensue.

It is also noteworthy that the diameter of the vagina generally is  $\frac{1}{2000}$  in., while the smallest size of the mature egg is  $\frac{1}{600}$  in., or a relation of the latter to the former of rather more than 3 to 1; the egg is unyielding, and the delicate structure of the tube neither suggests elasticity nor contractility; in all the numerous sections I have made I have never found an egg within the canal, while the uterus is distended with them close to the point of communication; and hence I infer that the function of the vagina does not include the discharge of the ova, but is limited to the reception of the male organ, for which the muscularity near the external orifice succeeded by the dilatation is well adapted, and transference of the seminal



particles. On the separation of the segment from the parent stem the uterus and ovarian passages are opened up, and a free outlet for the eggs in the upper half of the segment is thus provided, highly suggestive of the rupture of a mature spore case,<sup>1</sup> while those in the lower half would also escape through the rugged aperture from the muscular contraction of the freed segment soon after extrusion from the host, or be set at large by the subsequent disintegration.

The absence of an intestinal canal, and the restriction of the function of the suckers to anchoring merely, necessarily involves the absorption of nutriment by the body generally, doubtless obtained from the ingesta of the host. What, however, is the function of the water-vascular system in this parasite colony? Is it at all excretory? and if for the purpose of conveying a fluid within for respiratory purposes, then, considering the conditions under which the colony is placed in the intestine of the host, and the patulous character of the lowest and largest channels, would not the taken-in fluid from the intestinal canal officiate also for nutritive purposes? Certainly the inference is, that in this instance these tubal ramifications would act in both capacities.

What may be the especial office of this parasite colony in the scheme of the universe is a difficult problem to solve. The neglect of strict sanitary precautions in our food and drink supply is unquestionably their gain, and the loathsomeness of harbouring such creatures greatly induces to respect for preventive measures, and assists in their enforcement. There is no reason to doubt that we have the means within our own hands to rid our bodies of all chance of becoming the hosts of these zooids, and they certainly stand to us in the light of avengers of neglected laws. But whatever may be the solution, there can be no question of the remarkable adaptability of each zooid in its anatomical details to the conditions under which it is placed, and for the reproduction of its kind. Assuming that each ovarian gland produces 200 ova, each zooid would develop 8800; and on the basis that the colony consisted merely of 800 segments (that which we can count in a colony, but which is very much under the mark; for, as far as we can judge, reproduction of

<sup>1</sup> The *Bothriocephalus latus* (Cobbold's 'Entozoa,' p. 298) appears also to discharge the eggs "by the bursting of the over-distended uterus of the mature joint." It also is very subject to malformation, and has "a well-defined internal membrane separating the central visceral mass from the surrounding external parenchyma of the body;" points corroborating others in the natural connection between the two parasites.



segments from the neck may go on to an infinite extent) we obtain over 7,000,000 germs from one parent stem, each one capable of originating a similar colony under favorable conditions.

*Addendum.*—Since the above was written, in a recent post-mortem at Netley an example of *four T. mediocanellata* in the same subject was met with. For the last four and a half years the man had not been out of England, for the last one year and eleven months he had been continually in bed, with a fractured spine, and within a few days of death (when he passed a number of segments) he was not known to be infested by the parasite. The largest of the parasite colonies measured 69 inches, and was composed of about 880 segments; there were marked differences between the colonies in total length, in size of segments at corresponding points in the colonies, in the degree of regularity of the genital pit, in the more or less distinctness of the so-called neck, and in the general aspect and clearness or opacity of the zooids; the breadth of the broadest segment in one colony measured  $\frac{6}{10}$ ths in., as compared with  $\frac{4}{10}$ ths and  $\frac{3}{10}$ ths to  $\frac{5}{10}$ ths in the corresponding segments of the others; the combined features showing a marked range between individual colonies, and indicating how unreliable these points are for the differentiation of one species from the other of the same genus.



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## EXPLANATION OF PLATES I & II,

Illustrating Mr. Francis H. Welch's Observations on the Anatomy of *Tænia mediocanellata*.

### PLATE I.

FIG. 1  $\times 10$  diameters. Transverse section of an adult segment carried through the genital pit.

*a*, body structure; *b*, visceral space; *c*, longitudinal water-vascular canals; *d*, genital pit; *e*, penis slightly protruded; *f*, vagina; *g*, seminal duct; *h*, uterus; *i*, seminal glands; *k*, ovarian glands. From the position of the genital ducts to the water-vascular system (*l*) a dorsal and (*m*) ventral surface of the segment can be formed.

FIG. 2  $\times 10$  diameters. Longitudinal section of one half of an adult segment. (For natural reading of figs. 2 and 2 turn the plate sideways with fig. 2 to left hand.)

*a*, body structure; *b*, visceral substance; *c*, longitudinal water-vascular canal; *d*, bulbous expansion of the canal at its junction with the transverse branch, *e*; *f*, genital pit; *g*, penis; *h*, vagina; *i*, junction of vagina with uterus; *k*, uterus; *l*, fibrous sheath enclosing seminal duct and glands; *m*, ovarian ducts; *n*, ovarian glands.

FIG. 3  $\times 10$  diameters. Vertical section of an adult segment and portions of the contiguous ones, carried through the centre of the zooid.

*a*, body structure; *b*, visceral space; *c*, inflexion of the body structure at the junction of segments, there the calcareous particles are in a minority; *d*, lumen of the transverse water-vascular canal; *e*, fibrous diaphragm beneath it; *f*, junction of vagina with uterus towards a flat surface of the zooid, that surface ventral; *g*, projections of the uterine canal encroached on by the knife in section; *h*, ovarian glands.

FIG. 4  $\times 140$  diameters. Transverse section of the skin and body structure.

*a*, epidermis; *b*, corium; *c*, granular layer; *d*, circular muscular bands; *e*, portion of the circular coat not encroached on by the transverse bands (*f*), which have between them calcareous particles.

FIG. 5  $\times 140$  diameters. Longitudinal section of the body structure.

*a*, bands of longitudinal muscular fibre; *b*, parenchyma with calcareous particles.

FIG. 6  $\times 500$  diameters. Inorganic accretions, "calcareous corpuscles."

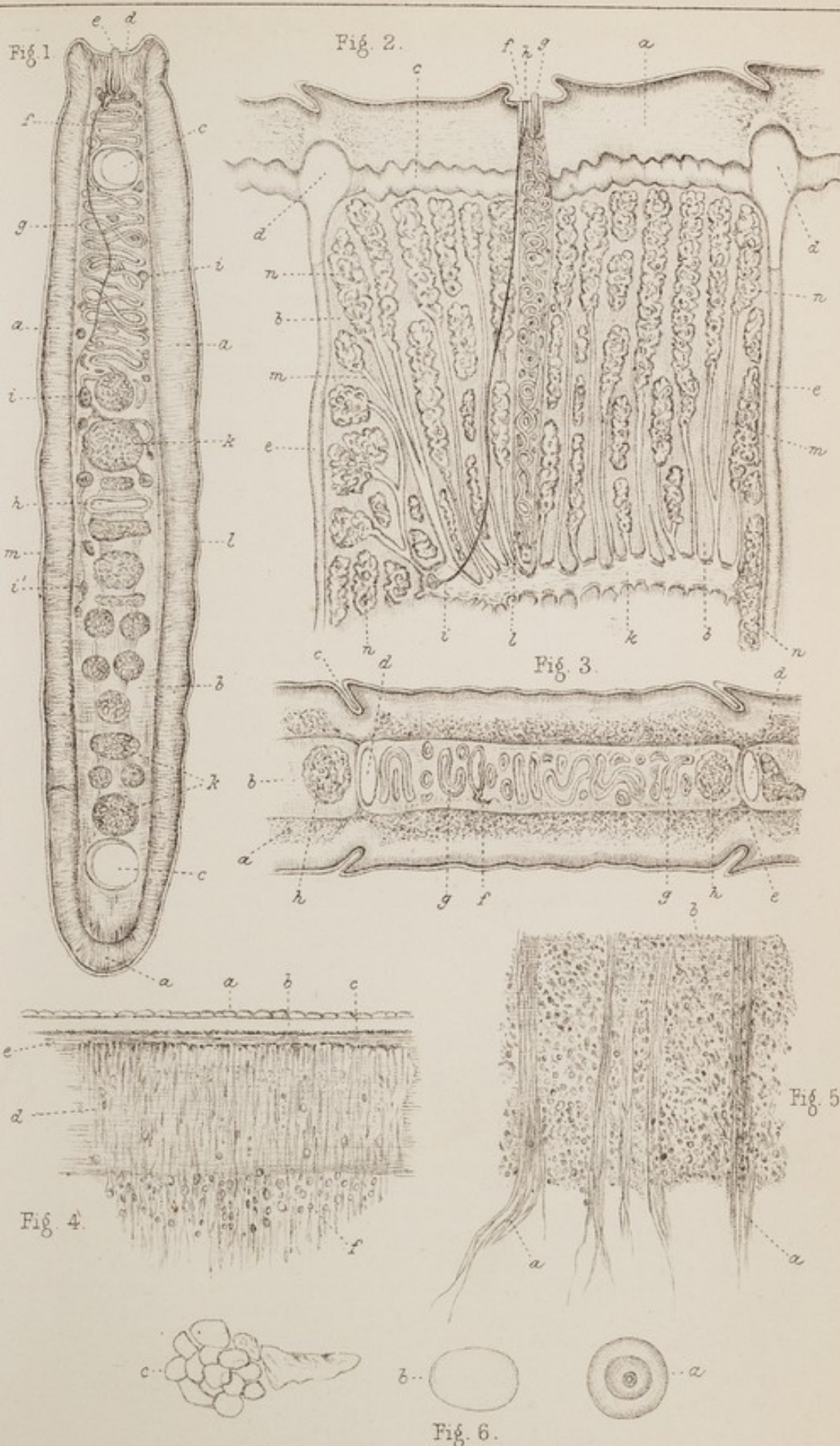
*a*, concentric laminated nodules of carbonate of lime; *b*, homogeneous nodules, some lime carbonate, some fat; *c*, irregular crystals in masses, phosphatic.

### PLATE II.

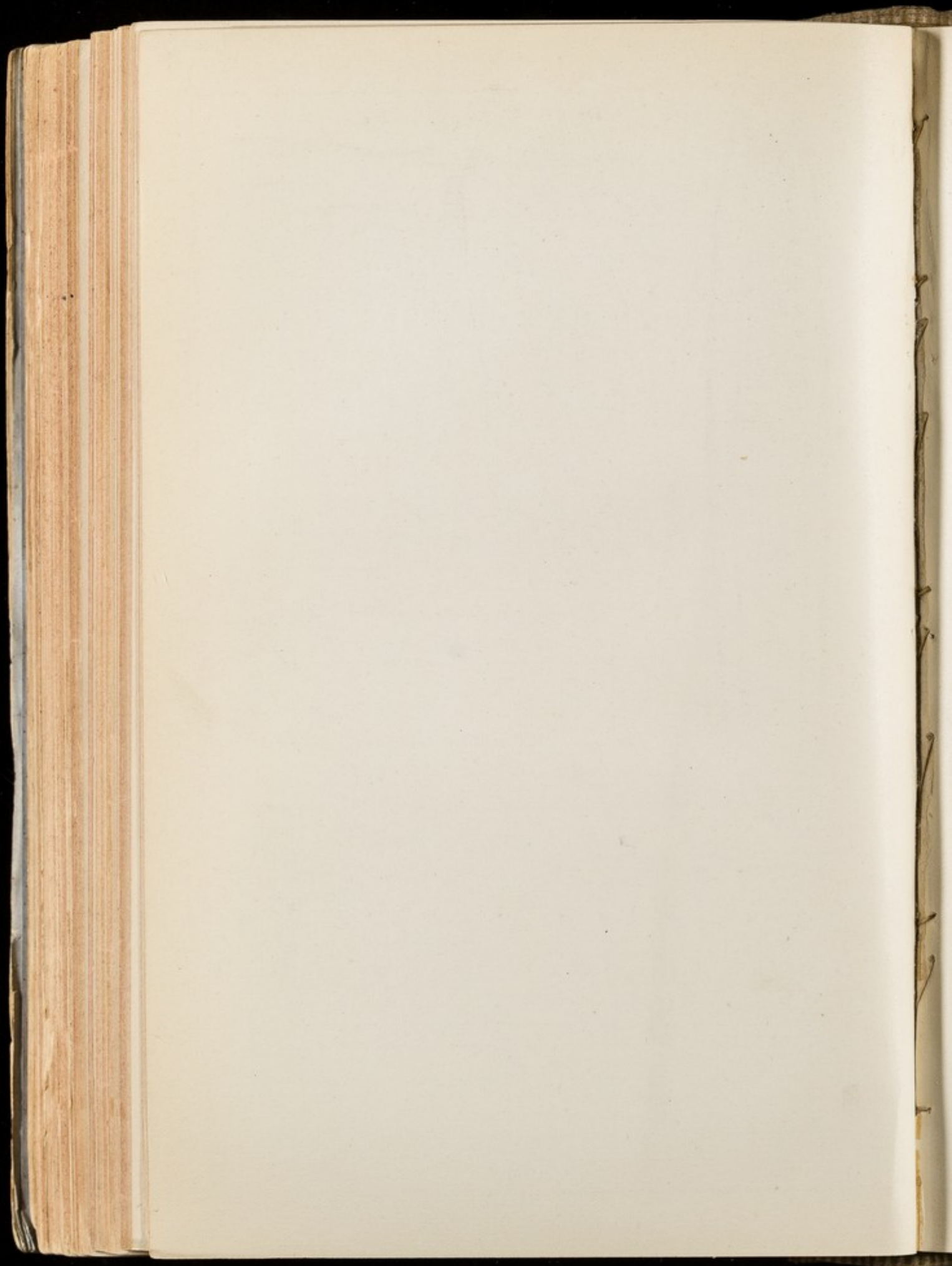
FIG. 7  $\times 140$  diameters. Longitudinal section of penis, the tip and bulb are shown, the intermediate part left out, as requiring too much space for delineation.

*a*, skin of genital pit and muscular layers of body; *b*, inflexion of fibres which assist in forming a sheath; *c*, depth of preputial inflexion; *d*, external cylinder inflected at the tip (*e*), and forming the bulb (*f*); *g*, internal cylinder, lined by ciliated epithelium; the canal is purposely dilated in the sketch, to render the ciliæ apparent; *h*, internal bulb; *i*, convoluted tube; *k*, longitudinal muscular bands between the cylinders; *l*, seminal duct; *m*, vaginal aperture; *n*, muscular part of vagina lined by ciliæ. Similar remarks apply to this canal as to that of the penis.

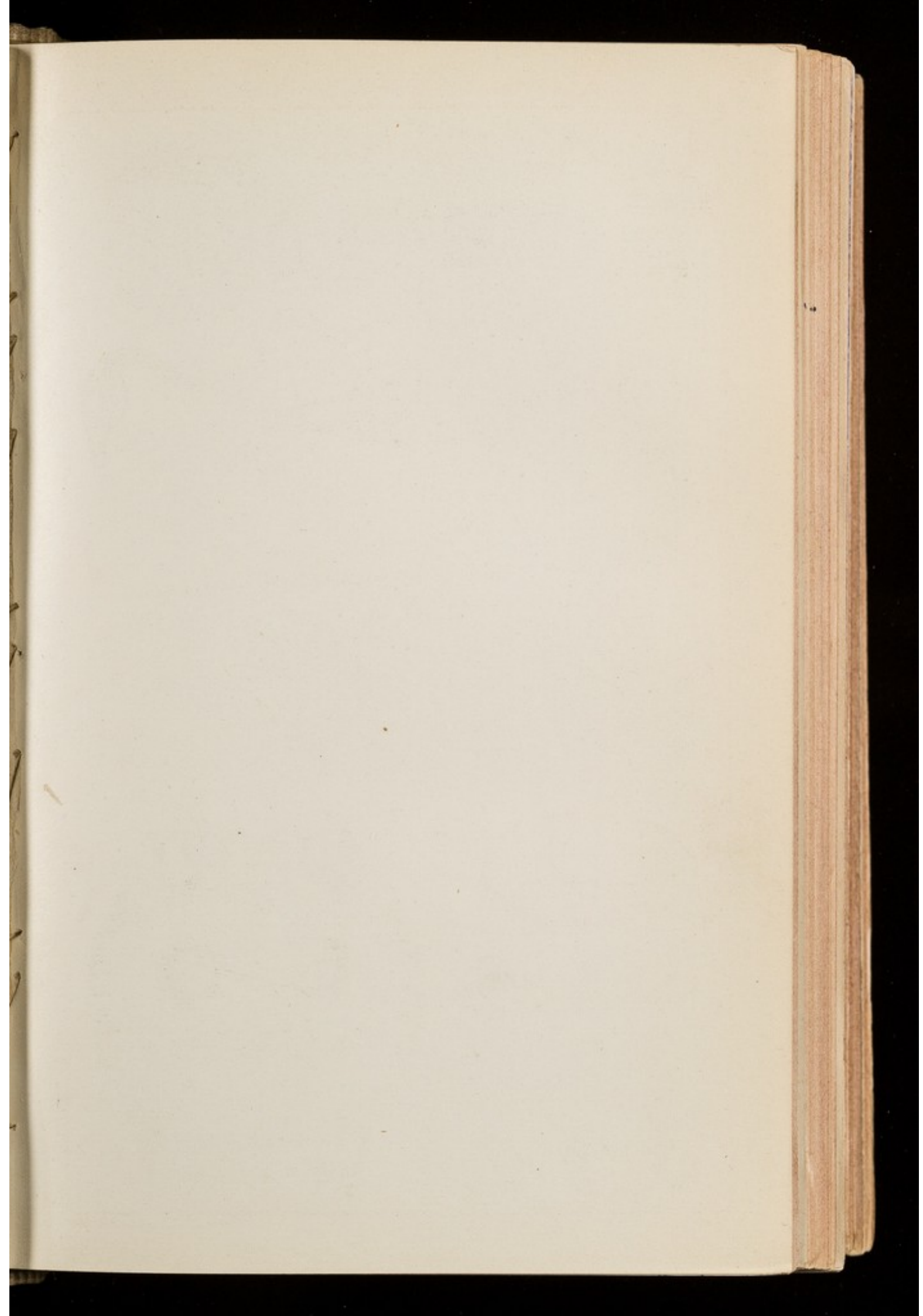




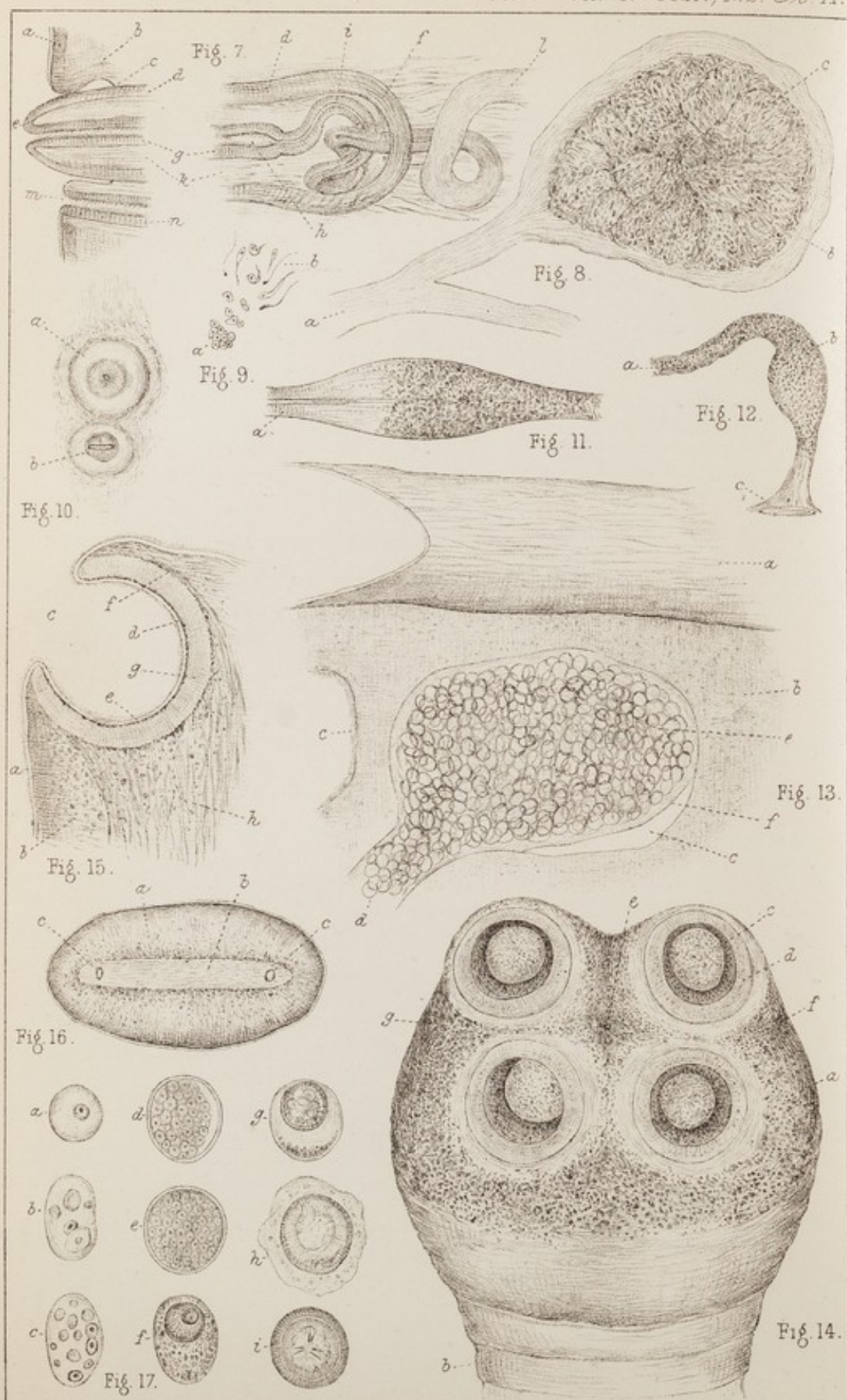














# EXPLANATION OF PLATES I & II—continued.

- FIG. 8  $\times$  225 diameters. Section of a seminal gland, testicular body.  
*a*, seminal duct with a branch passing off to a contiguous gland; *b*, capsule of the gland formed by the expanded duct; *c*, gland substance divided into irregularly shaped masses.
- FIG. 9  $\times$  500 diameters. Components of the gland substance.  
*a*, spermatozoa amassed together; *b*, free, and showing the filamentary appendage.
- FIG. 10  $\times$  140 diameters. Vertical section of the generative passages just at the genital pit, to show the relation of one to the other.  
*a*, penis; *b*, vagina with the central canal oval.
- FIG. 11  $\times$  140 diameters. Longitudinal section of the vaginal bulb near the external orifice.  
*a*, muscular portion merging into the thin walls of the canal generally. The dilatation is seen to be partially studded with pigmental granules.
- FIG. 12  $\times$  140 diameters. Vagina near its termination in uterus.  
*a*, aspect of the canal generally; *b*, bulbous expansion near uterus; *c*, merging of the vaginal wall into that of the uterus.
- FIG. 13  $\times$  225 diameters. Longitudinal section of a part of an immature segment, adjacent to the transverse canal, and embracing an ovarian gland which is small and has undergone no compression, either from within or without.  
*a*, transverse water-vascular canal; *b*, visceral substance of a granular albuminoid nature; *c*, excavation in it, in which the ovarian gland lies; *d*, ovarian duct; *e*, gland substance made up of amassed nucleated protoplasmic particles; *f*, fibrous tissue wall of gland.
- FIG. 14  $\times$  20 diameters. Anterior extremity of the tapeworm colony, the head and four suckers; to bring all the suckers into view, the head (*a*) has been bent upon the neck (*b*); *c*, cuticular lining of the sucker deeply pigmented; *d*, fibrous envelope enclosing the special muscles; *e*, depression in the centre of the head, corresponding superficially to the position of nerve-ganglion (?); from *f* to *g* is the course of the main water-vascular canal of the head, and also the line of junction of the fibrous layer between the dorsal and ventral pairs of suckers.
- FIG. 15  $\times$  30 diameters. Vertical section through a sucker.  
*a*, cuticular surface of the body generally; *b*, internal body-structure; *c*, circular orifice of the sucker; *d*, cuticular lining from the external cuticle; *e*, deep layer of corium strongly pigmented; *f*, fibrous envelope; *g*, special muscles, radiating and circular; *h*, longitudinal muscles of the colony inserted into the convexity of the fibrous envelope.
- FIG. 16  $\times$  20 diameters. Transverse section through the neck of the colony.  
*a*, body-structure with inorganic nodules and muscular layers similar to the adult zooid; *b*, visceral space containing granular albuminoid material in which the viscera are developed; *c*, longitudinal water-vascular canals.
- FIG. 17  $\times$  225 diameters. Ova in different stages of development.  
*a*, earliest—a soft protoplasmic mass with nucleus and nucleolus; *b*, divided nucleus and fat-globules in the protoplasm; *c*, further advanced; *d*, a spherical double-walled flexible body, with nucleus greatly segmented; *e*, segmentation complete; *f*, separation of the components into future egg and granular surroundings; *g*, egg with radiating lines on the shell and enclosed embryo, granular particles collected into a mass; *h*, egg-shell lightly coloured, but completely formed, external protoplasmic mass is irregular and soft, disintegrating; *i*, egg freed from surrounding mass and mature, shell dark brown, with radiating small depressions, inner membrane loosely retaining the soft embryo armed with the six spikelets in pairs.

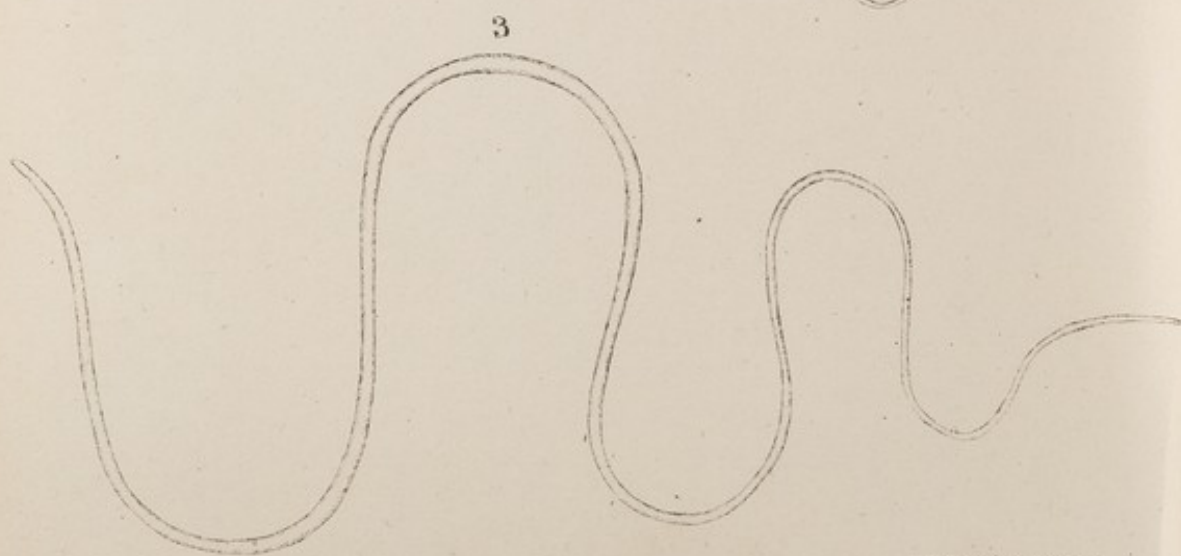




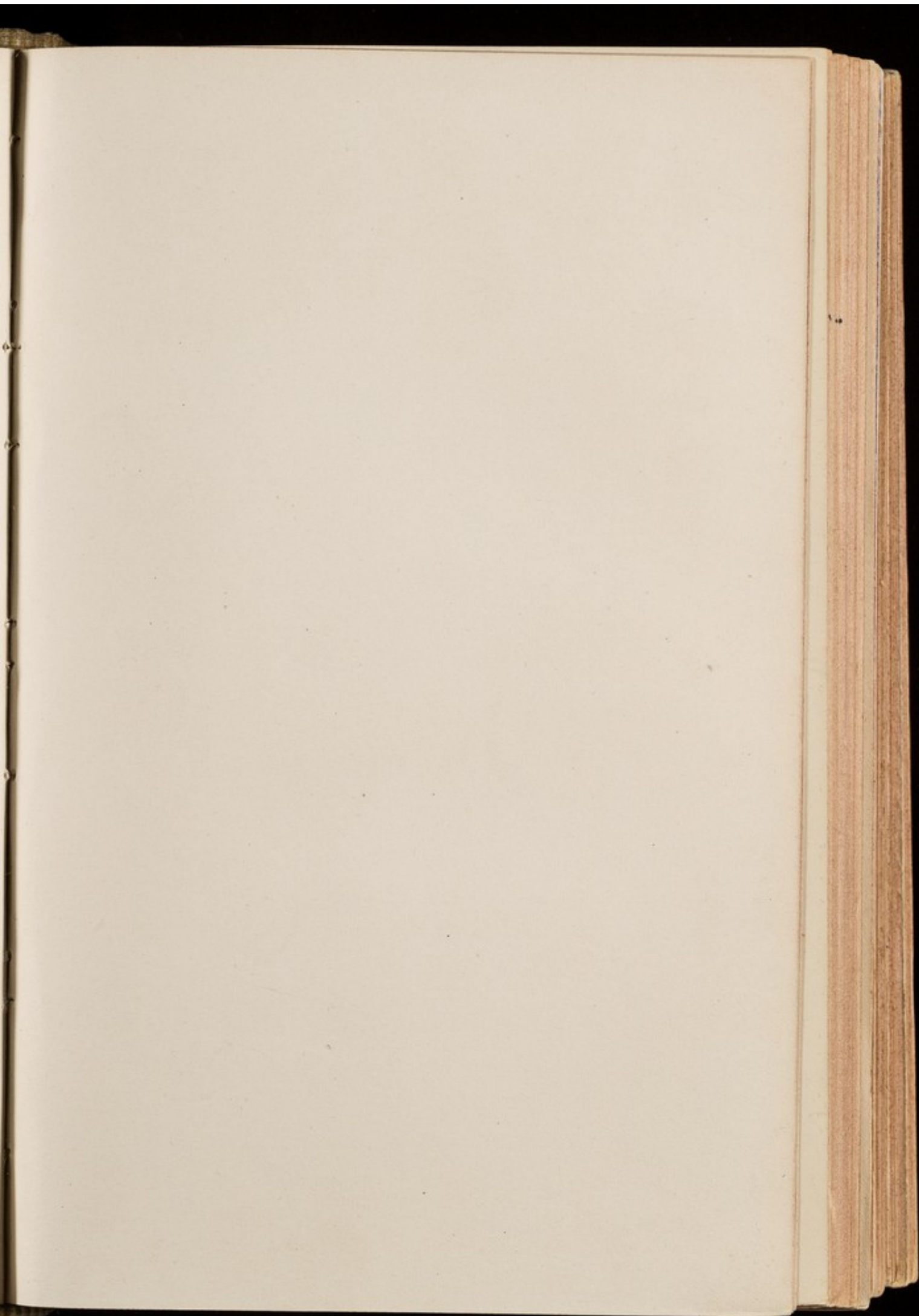


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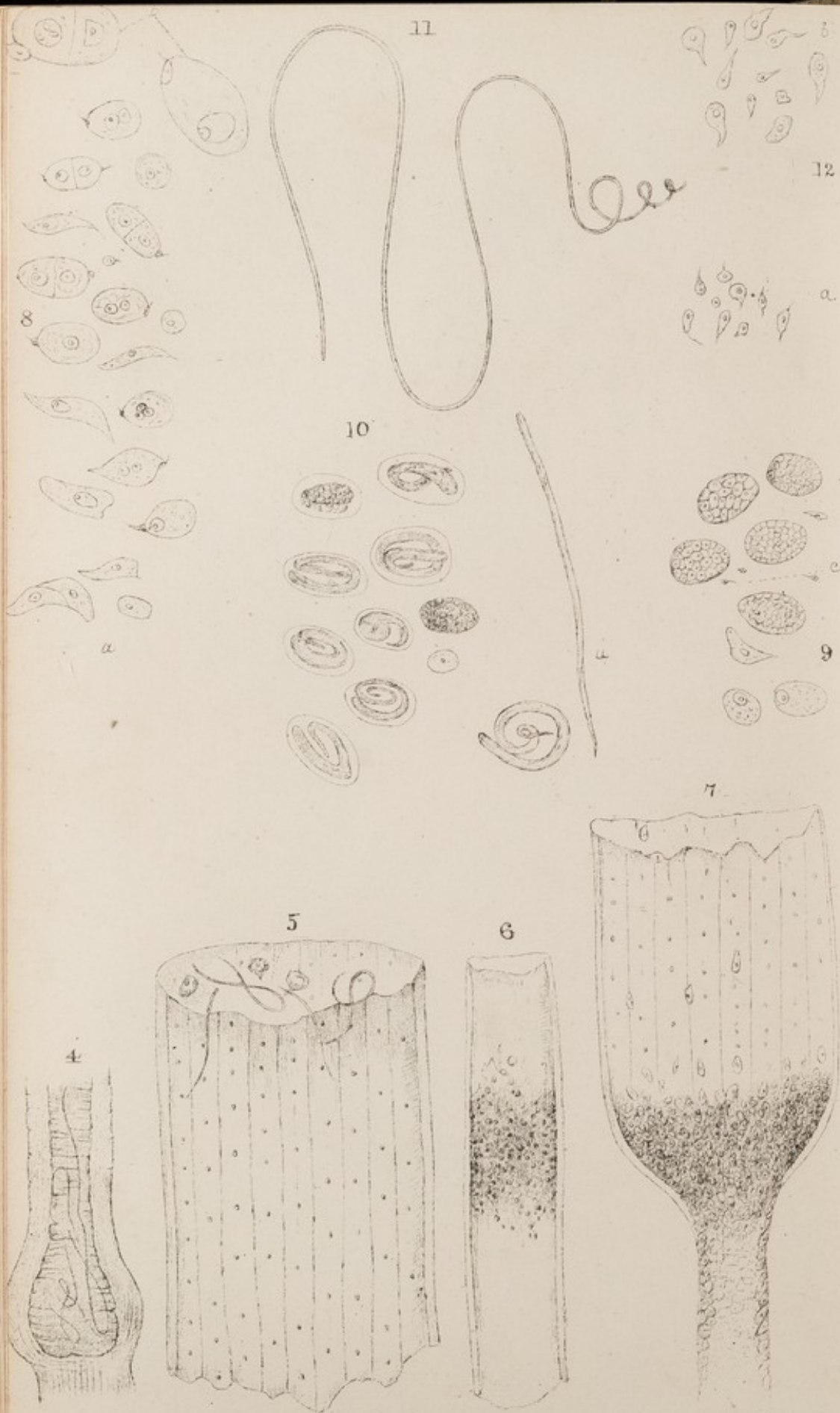




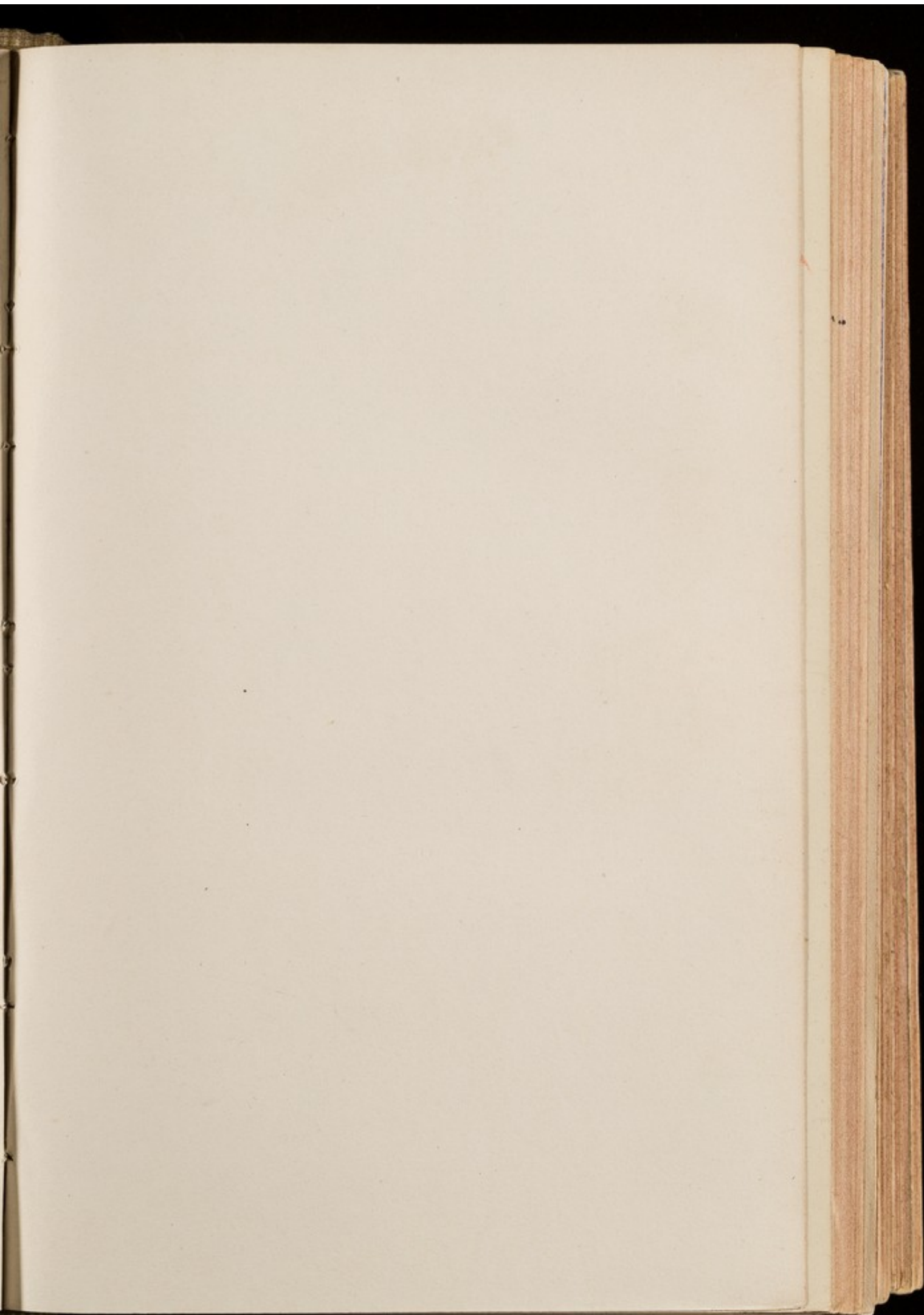




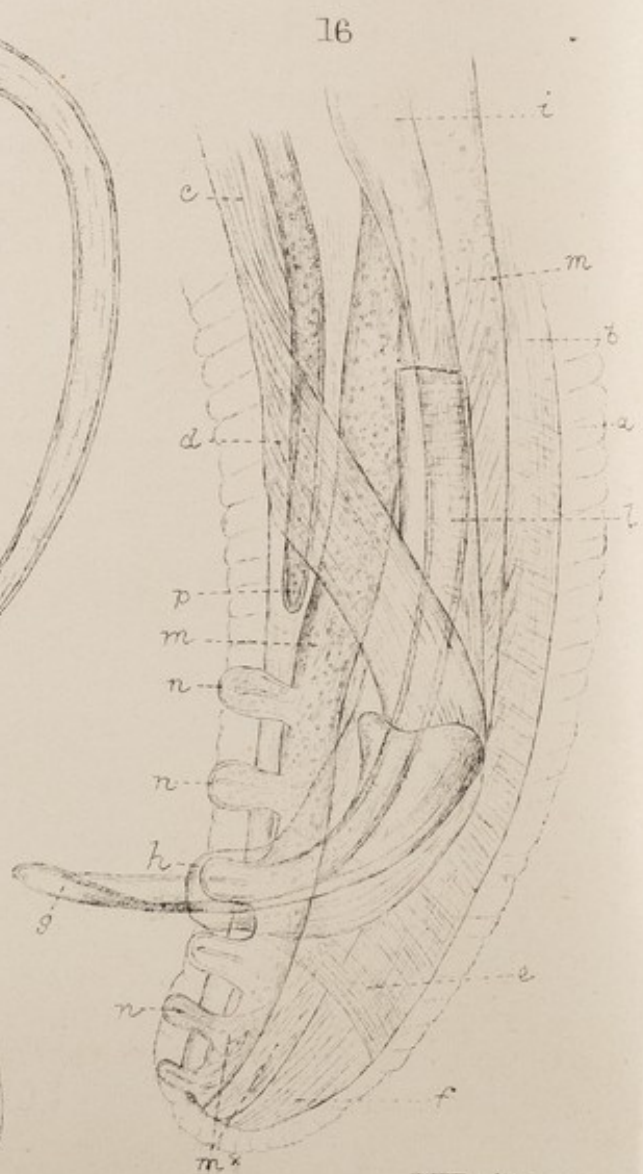
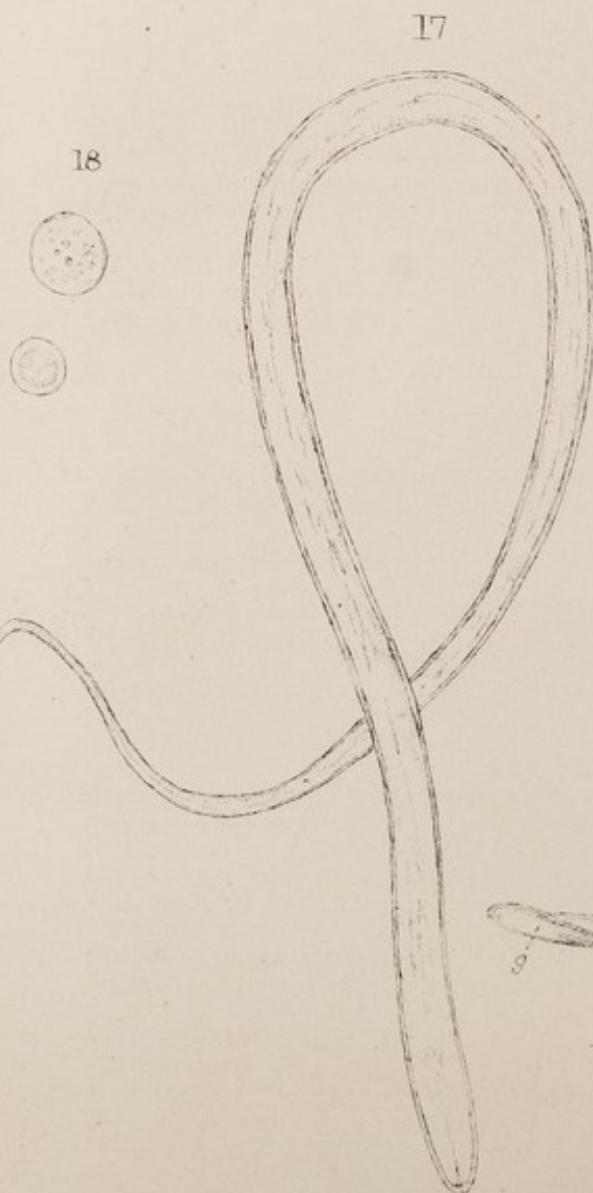
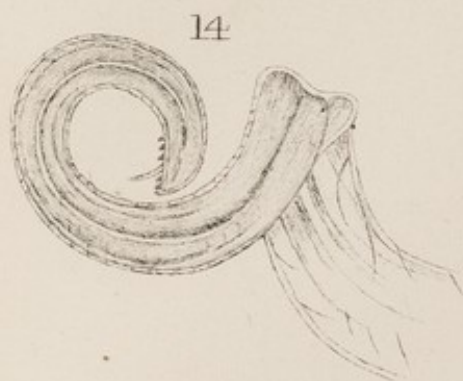
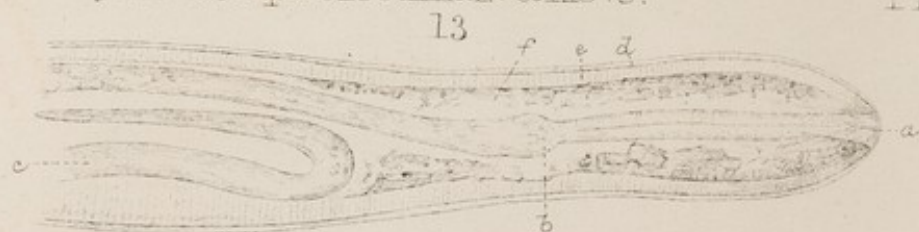














No. 18

I. — *A Description of the Thread-worm, Filaria immitis, occasionally infesting the Vascular System of the Dog, and remarks on the same relative to Hæmatozoa in general, and the Filaria in the Human Blood.* By FRANCIS H. WELCH, F.R.C.S.E., Assistant Professor of Pathology, Army Medical School, Netley, Southampton.

PLATES XXX., XXXI., AND XXXII.

SINCE the discovery of microscopic filariæ in the human blood in India by Dr. T. Lewis, Army Medical Department, fully detailed in the Annual Report of the Sanitary Commissioners of the Government of India, 1871, Appendix E, a much greater interest has naturally been thrown upon the presence of similar or congener forms in the blood of animals, and hence any collateral evidence which natural history can furnish tending to the elucidation of the

EXPLANATION OF THE PLATES.

PLATE XXX.

Fig. 1  $\times$  25 diameters.—The anterior end of female worm; the musculo-cutaneous tube split up to within a short distance of mouth and folded back; the alimentary and generative tubes turned out.

(a) mouth, (b) oesophagus, (c) alimentary canal with contents, (d) vagina, (e) water vascular canals.

Fig. 2  $\times$  25 diameters.—Tail end of female, showing (a) cæcal termination of the alimentary tube, (b) looped commencement of the ovarian tubes, (c) cupped-shapen cuticular orifices of the water vascular canals.

Fig. 3.—Female worm, natural size, curled up for convenience of sketching. Head, the left end. Tail, the right end in Plate.

PLATE XXXI.

Fig. 4  $\times$  75 diameters.—Vagina, showing the longitudinal and circular muscular layers, and the canal, containing free embryos, becoming bulbous before opening on the exterior of the body.

Fig. 5  $\times$  75 diameters.—Uterine canal taken from about the centre of the worm, and containing ova and embryos. The wall is extremely delicate, with longitudinal striæ and so-called calcareous corpuscles.

Fig. 6  $\times$  75 diameters.—Alimentary canal taken from about the centre of the worm. The wall is delicate, with longitudinal and circular striæ. The contents: fat-granules, and apparently blood colouring matter.

Fig. 7  $\times$  75 diameters.—Uterine canal, taken 4 inches from the tail end of the female worm, showing its connection with one of the ovarian tubes, and the presence in both of germ cells, more highly magnified in Fig. 8.



life history of hæmatozoa is acceptable. With this end in view, in the 'Lancet,' March 8, 1873, I gave a short account of some worms sent to Netley by Dr. Lamprey, A.M.D., with a brief statement that "they were taken from the heart of a dog at Shanghai on May 20th, 1865, and found in both ventricles and for some distance along the course of the aorta;" and to my description of the worms I appended a few remarks on the presence of nematodes in the blood of animals generally, relative to the filaria in the blood of man and the ova and larvæ of a nematoid worm in the urine. These worms had been preserved in alcohol since 1865, and were all females containing ova and embryos, yet they were not sufficiently numerous or perfect to allow of a complete inquiry into all the anatomical

## EXPLANATION OF PLATES—continued.

Fig. 8.  $a \times 300$ ,  $b \times 475$  diameters.—Germ cells found in the ovarian tubes and the uterine canal occupying the lower third of the body of the worm. The degree of maturity of the cells is traced from below upwards in the Plate. Free sperm cells are present, as well as others attached to the germ cells (*b*).

Fig. 9  $\times 300$  diameters.—Germ cells—ova, taken from the middle third of the uterine canal. In most the yolk is in a state of segmentation, a few are abortive. Intermingled are free spermatozoa (*c*).

Fig. 10  $\times 300$  diameters.—Contents of the uterine canal, towards its termination in the vagina, and in the upper third of the body of the worm. Abortive germ cells; segmented yolk of irregular shape, surrounded by the egg-wall; coiled-up embryos, loosely retained within the capsule; free young worms (*a*).

Fig. 11.—Male worm, natural size; anterior two-thirds of body curled up for convenience of sketching; posterior third, spiral tail end, in the normal condition.

Fig. 12.  $a \times 300$ ,  $b \times 475$  diameters.—Sperm cells common to the entire sperm-producing tube throughout the body length of the worm.

## PLATE XXXII.

Fig. 13  $\times 25$  diameters.—Head end of the male worm, showing its general outline and the following parts:—(*a*) mouth, (*b*) œsophagus at its junction with alimentary canal, (*c*) sperm duct coiled on itself, (*d*) cuticle, (*e*) muscular layer, (*f*) free granular material within the musculo-cutaneous enveloping tube, "tube charnu."

Fig. 14  $\times 25$  diameters.—Tail end of the male, spirally arranged. The extreme end viewed laterally, and showing, within the tip, in the concavity of the coiled body of the worm, the exerted spiculum and the generative appendages.

Fig. 15  $\times 25$  diameters.—Tail end of the male worm viewed from above, showing its vertical compression as compared with the lateral cylindrical contour of Fig. 14, the rows of delicate imbricated epithelium, the arrangement of the internal seminal tubes, and the bases of the generative appendages.

Fig. 16  $\times 300$  diameters.—Lateral and slightly oblique view of the male generative organs.

(*a*) cuticle, (*b*) longitudinal muscular layer, (*c*) oblique muscular layer, (*d*) muscular layer for retraction of penis, (*e*) muscular layer for protrusion and withdrawal of penis, (*f*) muscular layer for protrusion of penis, (*g*) spiculum or penis, (*h*) sheath of penis, (*i*) common sperm duct, continuous with (*l*) vas deferens, and (*m*) horse-shoe duct of (*n*) generative appendages (vesiculæ seminales?), (*p*) cæcal termination of alimentary canal.

Fig. 17  $\times 850$  diameters.—Free young female worm, taken from a blood clot in the left ventricle of the heart.

Fig. 18  $\times 850$  diameters.—Outlined red and white blood corpuscles taken from the same blood clot for comparison with the young brood.



details; enough facts were obtained, however, to demonstrate that the worm was a *filaria*, and that the name hitherto applied—*spiroptera*—was misplaced, a point subsequently corroborated by Dr. Cobbold in a letter to the 'Lancet,' March 15th, 1873, consequent on my paper, and in which he mentioned that the term *Filaria immitis* had been given to the worm in Germany. Since this time, through the kindness of Dr. D. Macdonald, F.R.S., Assistant Professor of Naval Hygiene, Army Medical School, I have received the heart and one lung taken from a dog at Yokohama, Japan, by Staff-Surgeon H. Hadlow, R.N., containing numerous and comparatively recent specimens of the blood-worm—male, female, and free young; and the results of the examination of these are embodied in the present paper. I have applied the name *Filaria immitis* to these on the assumption that they are similar to those found in Germany and referred to by Dr. Cobbold, and I propose in this communication to detail the anatomy of the worms, and subsequently to append a few remarks on the hæmatozoa in general—animal and human.

*Mature Female Worm.*—Body long, thread-like, cylindrical (Plate XXX., Fig. 3), averaging 11 inches in length, but varying from 8 to 13 inches, with a body diameter of  $\frac{1}{20}$  inch in the centre,  $\frac{1}{30}$  inch at the head, and  $\frac{1}{100}$  inch at the tail; head blunt and rounded; tail bluntish, yet tapering towards a point; both gradually merging into the central maximum body thickness; colour, milk-white, opaque, but rendered translucent by immersion in glycerine. Worm coiled up, yet easily straightened out; tail straight; animal markedly resembling a piece of white twine, with an occasionally annulated condition of the centre or tail end, and especially in those fully distended with ova and embryos. With an ordinary hand-lens, while holding the worm up to the light, a differentiation of its structural components could be made, into the parietes, and internal viscera. The latter were made up of two dark tubes—one smaller (alimentary canal), traceable from the head throughout the entire body length, with the exception of the immediate tail end; the other larger (generative canal), apparently commencing about half an inch from the head, and terminating about an inch and a half from the tail, the latter interval being filled in by a convolution of small tubes. By the aid of glycerine and higher magnifying powers, further details were brought out, as follows:—The parietes were composed of cutaneous and muscular strata. The former consisted of a corium externally covered by imbricated longitudinal layers of a beautifully delicate minute epidermis, much resembling that on ophidians; the latter was made up of three layers in the following relation from the corium inwards: two oblique intersecting each other at an acute angle, a longitudinal, a circular, all varying in the degree of development in different situations. The combined



muscular and cutaneous tunics constituted about one-eighth part of the total body diameter, and formed a "tube charnu" to the loosely-lying contained viscera (Plate XXXII., Fig. 13). The mouth was a small circular aperture in the centre of a papilla, occupying the most prominent portion of the rounded anterior extremity of the worm (Plate XXX., Fig. 1, *a*; Plate XXXII., Fig. 13, *a*); and the longitudinal muscular layer diverging from it was very strongly pronounced. Continuous from this was the œsophagus, about  $\frac{2}{10}$  inch in length, and  $\frac{1}{20}$  inch in thickness, with strongly pronounced walls made up of a longitudinal and circular muscular layer (Plate XXX., Fig. 1, *b*; Plate XXXII., Fig. 13, *b*). At the junction of the gullet with the stomach was a clearly-defined sphincter. The stomach, or rather alimentary tube, into which the œsophagus opened, expanded from the sphincter into a delicate membranous canal nearly  $\frac{1}{10}$  inch in thickness (Plate XXX., Fig. 1, *c*), pursued a straight course along the body length of the worm, diminishing at the centre to  $\frac{1}{30}$  inch, and could be traced to within half an inch of the tail end, where it terminated in a cæcal extremity about  $\frac{1}{40}$  of an inch in diameter, lying between the convoluted ovarian tubes (Plate XXX., Fig. 2, *a*); or, in the case of the male worm, either above or below the sperm duct. Its delicate wall was made up of very fine longitudinal and circular fibres, and retained within it fat globules and granules, and not uncommonly red colouring matter, doubtless derived from the blood of the host (Plate XXXI., Fig. 6). The alimentary canal was encircled throughout its entire length by the reproductive organs. It will thus be seen that there was no anal aperture, a circumstance possibly connected with the life history of the worm passed within the vascular canals of the host, and with the nutriment obtained from a vital fluid comparatively free from effete products; the alimentary excreta of the parasite being thus reduced to a minimum, if not an actual nullity. In Plate XXX., Fig. 2, the tail end of the female is shown, the outline of the parietes in one aspect being straight, on the other side being comparatively sharply curved, with the result of throwing the tip in the direction of the straight longitudinal line of the body—a feature more strongly pronounced in the male.

The reproductive organs consisted of a vagina opening externally, an uterine canal, and ovarian tubes. The vulva was a small circular or somewhat oval aperture, about  $\frac{1}{20}$  inch in diameter, situated on the anterior end of the worm, generally about  $\frac{3}{10}$ ths of an inch from the oral aperture, but varying from  $\frac{2}{10}$  inch to, in one instance,  $1\frac{1}{2}$  inch from the head. Its presence was with great difficulty observed in the external surface of the body, even when, as in Plate XXX., Fig. 1, *d*, it had been clearly traced up from within; but when detected (from occasionally being surrounded by a somewhat elevated ring of tissue), the cutaneous envelope of the



body was seen to merge into its inner surface, while the longitudinal, and possibly the circular, muscular fibres of the body curved in with the canal, and were continuous with its outer layer. The vagina (Plate XXX., Fig. 1, *d*; Plate XXXI., Fig. 4) consisted of two clearly-defined muscular layers encircling a narrow canal—a strong outer longitudinal layer continuous with that of the body, a strong inner circular layer stopping short within the vulva, and at the bulbous expansion of the canal, which was observed to be occupied in more than one instance with free embryos (Plate XXXI., Fig. 4). The vagina was rather more than  $\frac{1}{200}$  inch in thickness, and about  $\frac{1}{2}$  inch in length, terminating internally in two uterine canals, which, after pursuing an individual course for about  $\frac{3}{4}$  inch, merged into a single membranous tube  $\frac{1}{50}$  inch in diameter, traceable, curved around the alimentary canal and doubled back upon itself, throughout the body of the worm to within 3 inches of the tail end, where it was continuous with the ovarian tubes. The uterine canal, more than four times the diameter of the vaginal, was seen to have its wall made up of a delicate transparent fibrous texture, marked by regular longitudinal lines and faintly oblique or circular ones, and dotted over with so-called calcareous corpuscles (Plate XXXI., Fig. 5). Folds of the delicate wall were numerous, indicating a greatly increased capacity of the tube when required, and fine bands of tissue passed from the outer surface of the wall to the inner surface of the body parietes, thus retaining the canal *in situ*. The continuity of the uterine canal with an ovarian tube is shown in Plate XXXI., Fig. 7, the former merging into the latter like the body of a wine-glass into its stem. The mode in which, however, all the ovarian tubes are connected with the common uterine cloaca is not so apparent. At 4 inches from the tail end of the worm two tubes are to be noted, one, small—intestine; one, large—uterus. At 3 inches there are four; one intestine, three germ-bearing; all about the same size. Within this distance and the inferior end of the worm, the caecal termination of the intestine can be observed, and three loops of ovarian tubes. I could not discern the coalescence of the ovarian tubes with each other, yet from the clear merging of the uterine canal into one tube, I am led to infer that the loops discharge their products into the latter, and hence into the common germ-accumulating canal. The structure of the ovarian walls was similar to that of the uterine sac. The contents of the germ-bearing system varied accordingly to proximity, or otherwise, to the vaginal discharging canal. Commencing with the ovarian tubes, these were seen to be lined throughout with a well-defined layer of epithelium-like cells (Plate XXXI., Fig. 7, *a*), represented detached and further magnified in Plate XXXI., Fig. 8, *a*. These masses of protoplasm were irregular in shape, but not uncommonly assumed an ovoidal form somewhat flattened and drawn out at each



end; except the strongly-marked nucleus the mass was transparent. They were somewhat smaller than those found in the lower end of the uterine canal, and figured at the centre, and to the upper end of Plate XXXI., Fig. 8. Here the average size was  $\frac{1}{1000}$  inch in length, by  $\frac{1}{1000}$  inch in breadth; the shape was oval, or approaching that form, the nucleus double or triple, with well-defined nucleolus; the mass was occasionally divided into two by a transverse line, and granular spermatozoa were detected attached to the germ body as at *b*, Plate XXXI., Fig. 8, or free among the masses as at *c*, Fig. 9. It is apparent that at this point in the uterine canal the germ had met with the spermatic fluid, the mass thrown off from the ovarian tubes had become fecundated, assuming an oval outline, and that growth and development had commenced in the multiplication of the nucleus. In the middle third of the uterine canal the ova were in a state of yolk segmentation (Plate XXXI., Fig. 9), mingled with a few free spermatozoa and a few abortive or non-impregnated masses. Higher up the segmented yolk was irregular in shape, with the flexible egg-wall loosely surrounding it; the form of the embryo was faintly mapped out in some, in others it was clearly defined, while on approaching the double uterine canal, the cavity was observed distended with free embryos coiled up or straightened out (Plate XXXI., Fig. 10, *a*). Throughout the canal abortive germ masses were to be met with, and the egg-wall, or limiting membrane of the mass, was transparent, flexible, yet easily ruptured by pressure; some of the ova were as small as  $\frac{1}{1250}$  inch  $\times$   $\frac{1}{2100}$  inch; but as a rule an increase in size took place on impregnation, and on the distinct maturation of the embryo. The ova and embryos were so innumerable that the entire worm was mainly made up of one large germ-containing bag.

Besides the alimentary and generative system, was the water vascular system. Passing from one extremity of the worm to the other, and clearly shown from the inside by splitting up the musculo-cutaneous parietes, were four main tubes attached to the inner muscular layer (Plate XXX., Fig. 1, *e*), their walls thick but transparent, and freely studded with calcareous corpuscles in common with the "tube charnu" generally, and also the uterine canal. These main tubes were apparently connected with the surface by a series of oval cuticular depressions with circular circumferences, having a central aperture at the bottom of the cup (Plate XXX., Fig. 2, *c*), communicating with the tube within. Sometimes these breathing orifices were linearly arranged, but generally scattered, and more numerous towards the tail end of the animal. Within the musculo-cutaneous parietes these main tubes appeared also connected with some very delicate ones ramifying between and around the contained viscera, and especially numerous towards the ovarian convolutions; and in the centre of the body of the worm were on a



former occasion mistaken by me for diverticula, or smaller delicate ovarian tubes, from the main uterine canal.\*

*Mature Male Worm.*—Like that of the female, the body is long, cylindrical, thread-like, straight from the head to within two inches of tail, which is spirally arranged in gradually-decreasing circles terminating in a sharpish free point (Plate XXXI., Fig. 11). Average length of body, 7 inches; thickness,  $\frac{1}{16}$  inch; somewhat thinner towards the head than the centre of the body, but markedly thinning off towards tail. The firmer, thinner, whipcord-like aspect of the body and spiral tail, easily, to the unaided eye, distinguishes the male from the female; the former being to the latter in relative frequency as 1 to 8. The "tube charnu," alimentary system, and water vascular canals present no deviation from the description of the same in the female worm; it is only when we come to the generative system and the organ for the transfer of the sperm fluid to the germ-containing canal that a divergence becomes necessary. Commencing with the sperm-producing tract, it was found to consist of a membranous tube originating in a blind but somewhat pointed extremity about  $\frac{1}{2}$  inch from the head; passing up for a short distance it was reflected on itself (Plate XXXII., Fig. 13, c), and thence traversed the entire length of the worm's body, lying either parallel to or encircling the alimentary canal, from which it would with facility be distinguished by the diminished calibre of the latter (one-half that of the spermatic canal) and the light-refracting quality of the oily contents, ultimately terminating in a vas deferens at the base of the spiculum. The wall of the sperm canal consisted of exactly the same delicate striated and corpuscular membrane forming the uterine wall, the contents only differing. Towards the upper cæcal end of the tube there was a strongly-defined minute epithelium-like layer extending over the entire inner surface, the elements being somewhat larger than, but in character similar to, the free masses lying in innumerable quantities throughout the entire sperm canal. These masses generally had oval club-heads, terminating in the opposite direction in a slim pointed tail (Plate XXXI., Fig. 12); their aspect was that of minute, oval, caudated epithelium; they were strongly nucleated, occasionally tailless, but more frequently than that having two tails opposite the one to the other. Their average size was  $\frac{1}{1300}$  inch in length  $\times$   $\frac{1}{3000}$  inch in breadth, yet it was not difficult to find others of half these dimensions; and it will be remembered that these spermatozooids were found also in the uterine canal, both free, and attached to the germ masses. It is apparent that the sexual particles in both male and female were nucleated masses of protoplasm thrown off from a germ-producing basement tubal membrane, and not inclosed in a capsule or cell-wall as in most of the higher organisms.

\* 'Lancet,' March 8, 1873.



Turning now to the tail end of the worm, the seat of the intromittant organ, it was observed that when viewed laterally it gave a decreasing cylindrical contour (Plate XXXII., Fig. 14), when from above downward a much broader spatulated character (Plate XXXII., Fig. 15), induced by a spreading out of the sides as from vertical compression, a feature conspicuous throughout the entire spiral portion of the tail end of the animal. As is seen in Plate XXXII., Fig. 14, the outline of the body following the concavity of the last spiral twist is straight terminating in the tip, while opposed to this the contour is that of a sharp convexity also terminating in the tip—an excess of that characterizing the female tail, and within the tip, at a distance from it of  $\frac{1}{30}$  of an inch on the straight surface, the spiculum emerges. It is obvious that this arrangement of the parts—the curve of the tail, the flatness of the surface to be brought in direct contiguity with the female, and the thinned-out lateral edges capable of adapting themselves to the sloping sides of her body—must greatly assist in the act of copulation and in the retaining of the male in close contact with the female during the necessary period. The penis or spiculum is a curved, narrow, silicious, somewhat brittle, intromittant organ, bluntly pointed at the free end, bulbous with one, and possibly, two (one on each side) root-like projections at the base (Plate XXXII., Fig. 16, *g*), having a groove along the concavity receiving the vas deferens and stopping short of the tip, and lodged within a membranous sheath (Plate XXXII., Fig. 16, *h*). The sheath is an elongated capsule connected with the cuticle at the genital fissure, is pierced behind by the vas deferens, and has connected with it strong layers of muscular fibres concerned in the protrusion, withdrawal, and elevation of the spiculum, and derived by modification from the muscular layers of the “tube charnu.” Thus, a broad band (Plate XXXII., Fig. 16, *d*) is continued from the oblique layer, and is traceable to the base of the spiculum for its retraction after protrusion; another band (*e*) from the circular layer would tend to protrude the spiculum if retracted, or partially retract it and elevate it if protruded; while a third band (*f*) from the longitudinal layer would directly draw it forward when retracted and protrude it; these layers are doubtless double, one on each side of the worm. The spermatic canal (*i*) was observed to terminate in a much reduced calibre tube, a vas deferens, just short of the base of the sheath, being joined at the same time by a horse-shoe tube, one branch of which passed on each side of the sheath and met its opposite member at the extreme end of the tail (Plate XXXII., Fig. 16, *m*<sup>x</sup>; Plate XXXII., Fig. 15, *a*), being connected with the generative appendages (Plate XXXII., Fig. 16, *n*). These appendages (possibly vesiculæ seminales) were twelve in number, in two parallel rows running longitudinally to the body of the worm, and on each side of the spiculum. They consisted



of a globular, papilla-like body, rather less than  $\frac{1}{1000}$  inch in thickness, not projecting beyond the epidermis, by their attached end continuous with the horse-shoe duct (*m*), and opening into it by a smaller duct traversing the gland in its long diameter. The substance of these glandular bodies was identical in character with the material occupying the horse-shoe duct into which they discharged themselves, and no external aperture was detected. Their connection with the duct opening into the seminal tube evidently associates them with the generative function, and their secretion mingled with the spermatic fluid would find its way by the vas deferens to the groove of the spiculum and so into the uterus of the female.

Hence, then, from these anatomical details, we may sum up these mature worms as having a filiform musculo-cutaneous cylindrical envelope, containing an alimentary, generative, and water vascular system, the sexes distinct and the reproductive organs largely predominating, mouth circular and papillary, intromittant organ of the male sub-caudal, genital orifice of the female situated on the anterior end of the worm within 2 inches of the oral orifice, alimentary canal cæcal.

*Free Young Worm composing the Brood.*—These were microscopic, free within the vascular canals of the host equally with the parent worms, and so numerous that a piece of blood clot the size of a pea, taken from the left ventricle of the dog's heart and broken up in a teaspoonful of glycerine, gave twelve specimens to two drops of the fluid from a pipette. The young worm was of filiform shape, identical in relative thickness of parts of body with the mature worms, head rounded, tail pointed, average length  $\frac{1}{84}$  inch, thickness  $\frac{1}{4000}$  inch, proportion of breadth to length 1 to 47, proportion of tail to total length 1 to 8, body structure translucent with delicacy of texture or granular from fatty degeneration or fat particles within the alimentary canal and then removed by the addition of liquor potassæ. Following the contour of the external surface was an inner line which mapped off a transparent parietes, corresponding to the "tube charnu" of the mature worm and merging into the general translucency of the tail end of the young animal. On the addition of magenta colouring the textures became more easily distinguished the one from the other, and undoubted transverse striæ were noted along the concave margin of the curled body of the worm, as well as often faintly elsewhere. By the colour staining of the body, especially after the dispersion of the fat-granules by the potash solution, a light-refracting inversion of the cuticle over the head, indicating the mouth, was perceptible, and from it an alimentary canal was feebly, though indubitably, marked out, while one or two darker lines were traceable along the length of the body of the worm, stopping short of the tail. The dead animal was easily broken across, when the dis-



inction between the parietes and the inner mass was no less apparent than when the body continuity was preserved, but no differentiation of the inner mass into organs was determinable. In Plate XXXII., Fig. 17, an entire worm, highly magnified, has been drawn by the camera lucida, while, for comparison, a red and white blood corpuscle lying under the same microscope slide have been outlined on the same Plate (Fig. 18). The average length of embryos within the body of the mother was  $\frac{1}{100}$  inch by  $\frac{1}{2800}$  inch breadth, but a considerable latitude in size was observed and a proportionate thickness to length, varying from 1 to 16 to 1 to 28; hence, as compared with these, the free young worm was longer and narrower, the thickness of the body more uniform, there was less of the transparency of the tail end, more clear foreshadowing of internal organs and body striation, more rounded outline of the anterior end of the worm. Among the free young, moreover, while retaining the relative proportion of length to breadth, there were some as small as  $\frac{1}{150}$  inch long, while a few were as large as  $\frac{1}{30}$  inch, clearly suggesting growth since birth. Another feature was conspicuous as regards the tail end—a division of the young into two categories, the one with the posterior extremity of the worm tapering off cylindrically into a point, the other with this portion flattened from side to side, or from above downwards, and spirally twisted, apparently distinguishing even at this early stage the female from the male. In this flattened spirillum the aspect of the worm at first sight strongly suggested the existence of an enveloping membrane to the tail end, similar to that observed in the human filaria during life.

From these remarks it will be seen that the microscopic young worm clearly and accurately foreshadowed the mature animal.

*General Observations.*—In the 'Veterinarian,' Jan. 1873, the editor asserts that "nematodes are common enough in the blood-vessels of the young ass, colt, and some other animals." MM. Grube and Delafond originally detected minute worms in the canine blood, about  $\frac{1}{100}$  inch in length, and "less than a blood corpuscle in diameter." They found them in the vessels in all localities, but none in the lymph, chyle, secretions, and excreta. Injected into the blood of a non-contaminated dog they were traceable at the end of three years; they lived 89 days when transferred to the blood of two rabbits, but died when placed in the serous and cellular tissues of dogs; it was clear that their habitat was the blood. On one occasion naked-eye worms, supposed to be the parent worms of the microscopic forms, were found lodged in a clot in the right ventricle of the heart, 4 females, 2 males, from 5 to 7 inches in length, and from  $\frac{1}{25}$  to  $\frac{1}{15}$  inch in diameter, and to these they gave the name of *Filaria papillosa hæmatica canis domestici*. This instance of mature worms, coexistent with the microscopic animals, was noted but once in 29 affected dogs: the ascribed parentage is apparently doubted



by Leuckart, who states that, with the exception of *T. spiralis*, no nematode is known to infect its own bearer, and that young hæmatozoa in dogs and frogs have never been known to develop into mature helminths. Instances of the so-called *Spiroptera sanguinolenta*, not apparently determined as such, but linked to the *Filaria immitis* by their recorded features, are far from uncommon in dogs in China and Japan, and also, according to Dr. Cobbold, in France and Germany. In the 'Field,' 1872, p. 162, is a letter from a Mr. Dare recording the deaths of three spaniels, imported from England, from this cause, in China. The worms were found in the right side of the heart only, and in the branches of the pulmonary artery; they measured from 6 to 11 inches, with a diameter of  $\frac{1}{40}$  inch; and the suggestion is there made that the germ or ovum was received with the food or drink, and passed by the thoracic duct into the venous circulation. In Dr. Lamprey's case the animal was an English pointer born in China; the dog was fat and apparently in good health, and the suddenness of the death led to the opening of the body and the detection of the worms. They were coiled together, resembling a ball of ligature thread, and filled the ventricles to such an extent as to excite astonishment at the possibility of blood passing between or around them, and to, or from, the heart's cavities. In the instance from which the specimens described in the present paper were taken, the right auricle and ventricle were full, the mature worms passing between the columnæ carneæ into the pulmonary artery which was firmly impacted with them, and reaching the larger subdivisions of the vessel in the lung; probably there were at least thirty of them in all. In the left ventricle was a firmish blood clot which had entangled innumerable free young worms, but no parent ones were present in the left cavities; and in the right ventricle particles of blood clot evinced there also an abundance of the young brood, a feature no less conspicuous by taking portions of the muscular tissue of the heart, or portions of lung tissue, free from the mature worm. The lung was engorged with blood, and in a condition bordering on apoplexy. In the letter accompanying this example from Yokohama, Staff-Surgeon Hadlow, R.N., remarks, — "It (*i.e.* the worm) is always found in the right side of the heart, and often extends through the pulmonary vessels to the lungs. I have several times examined the inferior cava and intestines with all the care I could, but without finding anything to suggest how the parasite found entrance, or in what form." On a subsequent occasion, however, he discovered mature worms also in the inferior cava. In all the instances in which the fact was inquired into, the presence of the worms did not in any way interfere with the general nutrition of the dog nor impair the muscular powers; their sole deleterious nature was displayed mechanically, inducing sudden death by actual



rupture of the heart or obstructing the pulmonary or cerebral circulation. The young brood appeared innocuous. It is clear that the loss of valuable sporting animals by sudden death while in apparent full health, and the idea of "foul play" as the cause, have led to the elucidation of this branch of canine pathology, and an inquiry into the life history of the parasite.

Turning to the human fluids, ova and minute larvæ of a nematoid worm were found, apparently as parasites, in the urine by Drs. Salisbury and Cobbold. Filariae in the urine associated with chyluria and more or less hæmaturia, probably as cause from mechanical blocking of the capillaries and rupture of their walls, have been detected in Germany, and also in India by Dr. Lewis, A.M.D. The latter observer noted them in fifteen or twenty patients, in Europeans and East Indians or natives in about equal proportion. Dr. Lewis also discovered filariæ in the blood in four individuals, twice associated also with chyluria and the presence of the worms in the urine; one case was fatal from coexistent disease, but no clue as to the nature or cause of the worm infection was detected *post mortem*. Judging from the numbers present in a drop of blood, he calculated their presence throughout the circulatory system would amount in one individual host to 140,000. He ascertained that the blood filariæ were similar to those found in the urine. Their average size was,—length  $\frac{1}{75}$  inch, breadth  $\frac{1}{3500}$  inch, relative proportion of breadth to length 1 to 46, length of tail to total length 1 to 8. The body was filiform, head rounded, tail acutely pointed, texture of body translucent but becoming granular, marked by delicate faint transverse striæ, a foreshadowing of a differentiation of the body components into organs. A delicate faint membranous capsule, like the myolemma of muscular fibre, surrounded the worm during life, and in which the animal moved, but this feature was not constant after death. Their presence did not appear hurtful to the host beyond the blocking of the renal capillaries for a temporary period.

On the affinity of the dog filaria to congener forms, it may be observed that in the general outline of the body, the round oral aperture, the blind alimentary canal, and the large uterine cavity, the mature female canine worm approaches the *F. medinensis*, while the broods also present certain general features in common. Roughly speaking, the links between the mature worms and the ascarides and oxyurides on the one hand, and between the young and the trichinæ on the other hand, connect these as family groups in the animal world. It is, however, when we place the young canine worm side by side with the human blood filaria that the closest relationship is brought out. It is evident from what has been adduced as to the anatomy of the free young canine that its points of accord with the human filaria completely overbalance the points of discord. There are slight but insignificant diver-



gencies in size, the only marked difference is the "delicate enveloping tube." As before said, though observed in the human worm during life, it was not constant after death, a feature clearly pointed out by Dr. Lewis; it received considerable modifications on the passing of the worms from life to death, and competent observers failed to detect it in a few preserved specimens sent to Netley. On the other hand, in the majority of the dead young canine worms there were no indications of its presence, although a halo of light thrown from the curved sides of the worm's body gave a phantom existence to it; as before remarked, also, the aspect of the tail end of the male at first strongly suggested it; yet in a few instances, especially after the staining of the textures by magenta, a faint outline could be traced along the worm for some distance which was not dissipated by focal alteration or varying the direction of the source of illumination of the microscope. Whether this unquestionable delicate line, locally bulging out occasionally, was due to the presence of an "enveloping tube," or a mere separation of the epidermis *en masse* from the cutis, I cannot state with certainty; the examination of the living young canine worm is necessary to determine the point; but meanwhile, the doubt thrown on its existence in the dead canine cannot, in the face of the death modifications observed in the delicate tube of the human, be considered as sufficient to differentiate the one worm from the other. That the human blood worm is the young brood of a filaria closely allied specifically to the filaria of the dog can hardly be a subject of controversy; the only point of doubt is the question of identity, and certainly the grounds for assuming it are strong.

Concerning the life history of the canine worm, it appears to me that the specimens, the subject-matter of this paper, tend to set one part of it at least at rest. It is quite clear that the mature worm can infect its host, and it seems equally deducible that the young may develop into mature helminths in the dog's blood-vessels. In this example we have mature males, females brood-containing, and a free young brood varying greatly in size and suggesting growth, in the same host. Whence and how came the mature worms? Considering their size and the absence of any boring apparatus as a means of locomotion through the tissues, we may put on one side the idea of their reaching the vascular canals in a mature state; the worm also is viviparous, and the question of the conveyance of soft, frangible, immature ova may be disposed of; the free active young remain. The faculty of migration of the white corpuscle of the blood through the tissues of the body has been demonstrated; the diameter of the body of the young filaria is considerably below that of the corpuscle; hence with the brisk, wriggling, movements of life, the possibility of their passage through a mucous membrane, especially through the soft granulations of an ulcer, is quite within the bounds of reality. Based upon the facts we know, we may in imagination

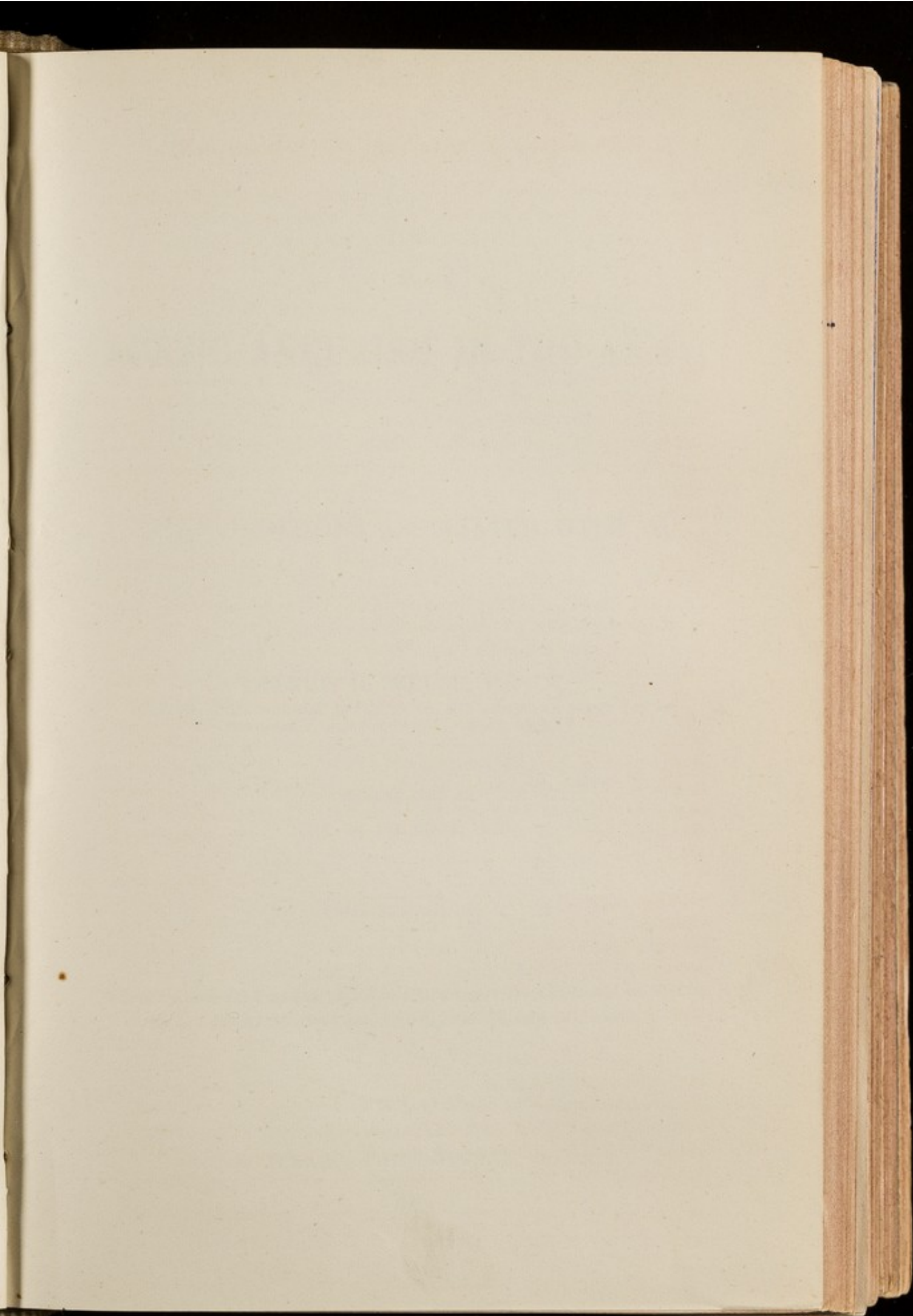


follow them from a mucous tract (*e. g.* the intestine) to a lacteal or blood-vessel; they follow the course of the circulation, growing on the pabulum of the blood of the host, and easily passing with the corpuscles through the capillaries; soon their size unfits them to traverse every viscus, and the minute capillaries of the lungs act as a sieve to retain them in the venous circulation; they copulate and the females become fecund; a young brood arises to continue on the race, provided accidental causes, such as the mechanical blocking up of important blood-vessels by the parent worm, do not determine the death of the host. By this hypothesis the ingress of individuals capable of arriving at maturity is explained, while the countless hordes of young are rendered lucid only by the presence of one or more parent worms within the vascular walls. These parent worms after producing their progeny may possibly die and disintegrate, and so account for their absence, or non-discovery, in hosts teeming with the young brood.

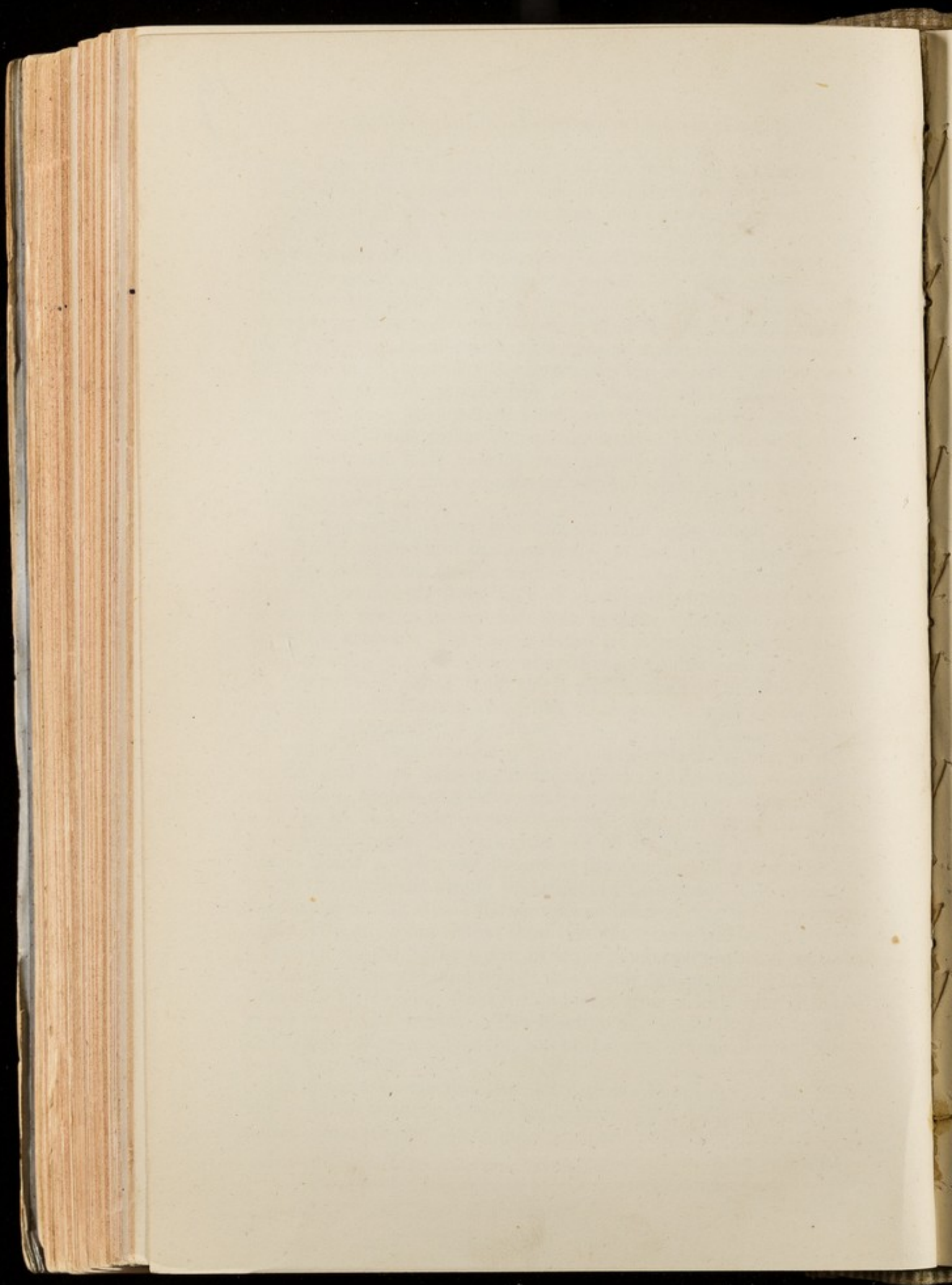
The question, however,—whence come the young which, entering into the blood-vessels of the host, arrive at maturity? is not clear. Do they exist in the food or water which the dog feeds upon? Are they derived directly from the flesh of an infected animal fed upon, or can they pass an intermediate state in water subsequently lapped up by the animal? Take for instance an infected dog dying and disintegrating in a tank from which human beings and animals of all descriptions slaked their thirst (no uncommon condition one would think in Eastern countries), what would result to the imbibers? Assuming the possibility of the young retaining vitality in water, the impregnation of the water-drinkers by the young worms, and their subsequent life history in the host as above sketched, is highly suggestive, and supported by the experiments with the trichina. Or, on the other hand, take for example a portion of impregnated flesh taken in as food by human beings when badly cooked, or eaten raw by any of the carnivora, is it not within reason to assume the strong probability of infection? Considering the frequency with which the worms are found in dogs in China and Japan, it is to be hoped that these doubtful points will in the early future be cleared up by a few carefully-conducted experiments on non-infected animals, and so by this means the possibility of any human being carrying about within him swarms of loathsome microscopic worms be averted. The identity also of the human worm and canine embryo might be solved by the examination of the living dog worms.

It appears to me also that an accurate knowledge of the life history of the *Filaria immitis* may throw much light on doubtful points connected with the Guinea worm and congener forms.











No: 19

ON  
AORTIC ANEURISM IN THE ARMY,  
AND  
THE CONDITIONS ASSOCIATED WITH IT.

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COMMUNICATED BY  
GEO. D. POLLOCK, M.D.

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Read November 23rd, 1875.

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1876



# THE ARMY IN THE ARMY

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To any one perusing the literature of this subject in the text books of our schools, the idea must occur how unstable and various are the opinions advanced in regard to the causation and surroundings of these vascular lesions, and how little knowledge we possess of the disease which is placed upon a basis not open to question, and beyond the region of doubt. There is a strange discrepancy of opinion current in the military and civil segments of the medical community both in reference to ascribed external physical causations of the lesion, as well as to internal generating conditions; among the latter I especially include the influence of the syphilitic virus, an opinion firmly held by many military medical men, but more than doubted by the civil medical community at large, the



reason probably being that (in the words of the late Professor Parkes) "no analysis of cases has been made, and therefore at present its effects must be considered uncertain."

Doubtless it may be said by some that the circumstances attending military life are so special and peculiar as to make the deductions arrived at, in reference to any disease prevalent among soldiers, comparatively worthless for application to the community at large; and although this may hold good of certain limited spheres of medical and surgical science, yet I think it will be patent to all that such an objection has no validity in regard to the subject under discussion in this paper. Human nature is the same, to be impressed by general agencies, whether clothed by the uniform or under the diversified garment of civil occupation, and it may moreover be urged that the surrounding conditions and circumstances of a soldier's life are so precise and well known as compared with those of his civil brother as to render deductions on disease made from this segment of the community of much greater value and trustworthiness.

Thirty-four fatal cases of aortic aneurism are fully detailed in the pathological records of the Royal Victoria Hospital, Netley, and these form the basis of the paper. The average death age is 32 years but ranging from 26 to 42 with an average period of service of 12 years, and ranging from 4 to  $21\frac{1}{4}$  years, thus embracing the entire course of military life. The average duration of the lesion is  $1\frac{1}{12}$  years, varying from  $3\frac{1}{2}$  months to  $2\frac{8}{12}$  years, but this is necessarily calculated from the time the disease became sufficiently pronounced to render the sufferer cognisant of its existence, to the date of death, and consequently is decidedly within the period from which the dilatation of vessel dates; it represents what may be termed the clinical duration of the malady. In 5 cases the aortic dilatation was multiple; in one two sacs projected from the transverse portion of the arch, one superiorly, one inferiorly; in one with two sacs from the transverse arch



posteriorly, was a third (largest and death-causing) from the descending thoracic; in two there was a thoracic and abdominal sac; and in one, with a thoracic sac were three abdominal sacs; and in two instances an aneurism of the innominate artery was conjoined with the aortic dilatation. As regards the form of the dilatation in 6 this was fusiform, viz. 5 thoracic (3 embracing ascending and transverse portion of arch, 1 transverse, 1 transverse and descending portion), and 1 abdominal; in the remainder the sacculated variety was found. In 1, the sacculated aneurism came under the category of false, the sac seated in the heart's substance and taking origin from immediately above the aortic valve; in 4 of the fusiform cases there was a false sac in connection with the original sac; in one of the sacculated cases this also existed; and in one a dissecting aneurism was situated in the walls of a sacculated abdominal aneurism. On the point of site of the sac the following table is explanatory, brought out as a percentage to exemplify relative frequency.

Ascending portion of arch	. . .	26.1 per cent.	} Arch of aorta 64 per cent.
Ascending and transverse combined <sup>1</sup>	. . .	9.5 "	
Transverse	. . .	26.1 "	
Transverse and descending combined <sup>1</sup>	. . .	2.3 "	
Descending thoracic aorta	. . .	16.6 "	
Abdominal aorta	. . .	19. "	; the thoracic
lesion predominating over the abdominal a little in excess of the ratio of 5 to 1.			

In 24 of the cases the condition of the heart was clearly ascertained as follows:—in 9 or 37.5 per cent. it was normal; in 11 or 45.8 per cent. (taking 10.07 oz. as the average weight of the viscus in health), it was enlarged, in 6 of the cases generally, in 5 limited to left ventricular hypertrophy; in 3 or 12.5 per cent. it was atrophied, reduced in size, but normal in structure; in 1 or 4.1 per cent. it was fattily degenerated. Hence these cases tend to show that a heart diverging from the normal standard in size or condition is no necessary asso-

<sup>1</sup> *i. e.*, both portions implicated in the sac.



ciate of aortic aneurism, and they also indicate that the cause of aortic aneurism cannot as a rule be linked with an over-acting viscus extra-forcibly ejecting the blood and overcoming the normal recoil of the arterial walls. The inference is rather that divergence in form and structure of the heart follows the arterial lesion, in proportion to the obstacle to the blood current and to the constitutional capacity of the system to meet the altered demands of the viscus.

Turning to the statistics of its dispersion throughout the service, we find that during the decennial period, 1863—1872, the loss by combined deaths and invaliding from aortic aneurisms alone was as follows in the three chief countries now occupied by British troops :

Home force (cavalry, artillery, and infantry) . . . . .	·55	per 1000 of strength.
Mediterranean garrisons (infantry, artillery, and engineers) . . . . .	·50	” ”
India (cavalry, artillery, infantry, engineers, &c.) . . . . .	·47	” ”

The home segment, with an average yearly strength of 68,760 men, during the period of ten years suffered an average annual loss from aortic aneurisms of thirty-eight men.

The component branches of the service constituting the home segment during this period gave a loss as under.

Cavalry (household and line) . . . . .	·53	per 1000 of strength.
Artillery . . . . .	·69	” ”
Infantry (foot guards and line regiments) . . . . .	·52	” ”

Inspector General Lawson, taking the station of Aldershot as an exponent, concluded from the statistics of the disease during 1867—8, “that aneurism was not connected with any particular arm of the service, and even in the infantry was very irregularly distributed,” for example, “out of an average of 10·2 foot corps, deaths from aneurism appeared in four of them only, while one third of the whole number of the cases of the disease was



met with in one regiment, and all apparently under the same conditions of dress, duties, &c." ('Blue Book' for 1868, p. 269.)

These figures indicate that the causes of aortic aneurism in the service are generally dispersed, not peculiar to climate, station, segment, or branch, while it is equally apparent that in the components of the respective branches of the service considerable diversity exists, and the thirty-four cases of this paper show that these causes are not connected with any special age, nor any condition of system brought about by mere length of service. What these causes are is an important problem to solve, one that it is impossible to over-estimate; and on this point the evidence furnished by the morbid anatomy and life-history of these cases seems conclusive. The deductions arrived at may be placed in the form of two propositions.

1. *That the aneurismal tumours are associated with, and preceded by, a diseased condition of the contiguous layers of the internal and middle coats of the vessel—a tissue growth terminating in degeneration—which, by impairing the elasticity and contractility of the walls, allows of their expansion and dilatation under the tension of normal arterial blood pressure, or this abnormally increased by any cause.*

This diseased state of the vessel walls comes under the nomenclature of atheroma, an extremely unsatisfactory designation, inasmuch as, taking the word in its present accepted meaning as expressive of a phase of fatty degeneration, it conveys but part of a truth, and that not the most important, and allows of the accumulation under one heading of structural changes divergent in origin and progress.

This disease in its early stage is met with as small, elevated, translucent dots, situated immediately beneath the serous surface, irregularly scattered or linearly arranged, by coalescence assuming any shape of outline; they are due to material added.<sup>1</sup> They increase in thick-

<sup>1</sup> I find that the combined internal and middle coats of the aorta in health average  $\frac{4}{10}$  of an inch in thickness, while in this disease I have observed a thickness of  $\frac{2}{10}$  inch, due to excess of bulk of the internal coat alone from material added to it.



ness and extent, and subsequently become opaque white, or occasionally mottled red or black from blood-colouring, and from their origin in scattered foci of tissue germination, by coalescence, the inner surface of the vessel is rendered nodulated and furrowed, the furrows not uncommonly being linear and in the direction of the vessel. A vertical section through the diseased walls shows the added material as hillocks of firm tissue between the internal and middle coats, and by dissection this tissue is found mainly to be connected with the internal one (Pl. IV, figs. 1 and 2).

Under the microscope the new tissue consists of fibrous tissue cells and fibres, with very numerous nuclei in a free state (Pl. IV, fig. 3), apparently interspersed among the normal constituents; it comes under the category of growths due to localised germination of normal tissue elements, a phase of the so-called chronic inflammation, an end-arteritis. Up to this point the calibre of the vessel is unquestionably encroached upon; instead of the area being increased it is decreased from the projection within it of the more or less numerous nodular elevations (Pl. IV, fig. 1). Should the disease rest here, the vessel walls become permanently thickened, indurated, with a loss of elasticity; but as a rule the new material, following the general law of abnormal tissues, retrogresses, the node breaks up from the centre, fat globules, caseous-like particles, phosphatic crystals, and cholesterine gradually replace the fibrous tissue elements (Pl. IV, fig 6). This phase is, to the naked eye, associated with increasing opacity and softening of the patch, and then rightly comes within the strict meaning of atheroma—a reduction to a gruel-like fluid; the elevation of the inner surface of the vessel disappears, the coats reach their normal thickness or become thinner, the internal one still retaining its glistening appearance, but thrown into wrinkles by the gradually absorbed subjacent node; and so the aorta may be left with a cicatricial-like puckering of its walls and internal roughness, but no dilatation. But as a rule the formation



of abnormal material does not proceed to any great degree without implication of the inner portion of the middle coat, and consequent on the pressure from the added material and the degradation ensuing in it the walls of the vessel corresponding to the patch become decidedly impaired in structure and function. They lose their property of contracting and recoiling after distension by the blood current, the distension remains and is gradually increased, ultimately reaching a degree which brings it within the category of pronounced aneurism.

As above said the serous surface of the vessel undergoes but little if any change, retaining its translucency and glistening aspect, thrown only into folds and rugæ by the changes ensuing in the subjacent node, but occasionally it is seen to be implicated, and this in three ways:—(a) By the formation on its free surface of a delicate lymph layer, generally stained by the colouring matter of the blood, and made up of extremely delicate interlacing fibres and nuclei. (b) By the transformation of its substance into a smooth, glistening, thin, friable, inorganic stratum, answering to the so-called ossification of arteries, and occupying the free surface of the vessel, lying on a subjacent fibroid patch, or one in process of softening. This may occasionally be seen forming a ring at the commencement of the aorta for about three quarters of an inch in extent, above which, in the continuity of the vessel, will be nodes firm or softening, gradually merging into healthy texture beyond. (c) It may be implicated in the disease-process, and gradually disintegrate, forming, with the subjacent changes, a sharp cut ulcer with walls and base studded with particles of degenerate tissue (Pl. IV, fig. 5). The middle coat is also occasionally seen to be involved by the production within its fibres of a distinctly circumscribed fibrous tissue nodule answering to the node formed in the voluntary muscles, and undergoing the same phases as the sub-serous thickening (Pl. IV, fig. 4, d). Also in the external coat may be noted the occasional presence within its loose meshes of



small, circumscribed, microscopic nodules of nuclear adenoid tissue,—lymphatic outgrowths, miliary tubercle; these being connected with each other by cordlike processes of similar material, and also with similar processes passing through the middle coat to a disintegrating internal patch. These examples suggest the normal distribution of the lymphatic tissue in the large vessels, and also outgrowths from the same under infection from the degenerating nodule towards the inside of the vessel, similar to the phases observed elsewhere under inoculation and artificial tuberculosis. Also occasionally, before any dilatation of the vessel wall has ensued, corresponding to the internal patch, is augmented vascularity of the external coat, being apparently the first stage in the natural process which ultimately forms the aneurismal sac; an intermediate stage—that of tissue production and thickening—is seen in Pl. IV, fig. 1 *d*.

As before mentioned the disease commences in separate foci ultimately more or less coalescing, and the condition of the nodules found in any given case leads to the inference either that these foci succeed each other as successive crops at different intervals or that the changes ensuing in the several masses of abnormal material are not at all uniform in time or degree. For example, in the same vessel we may find the following: (1) pouching or dilatation, general or localised, with nodulated and corrugated walls,—the most advanced of the disease already gone on to immature aneurism; (2) cicatricial-like puckering of the inner surface, with walls either of normal thickness or slightly thinned, but with no dilatation—nodes completely retrogressed and absorbed; (3) patches of thickening, opaque, soft, and friable—retrogressing; (4) nodes firm and semi-translucent, encroaching on the area of the vessel. Under these conditions it is clear either that the nodes are not all formed at the same time, or that if so formed there are great divergencies in time in the ulterior changes; the former, however, would appear to be the explanation. There is also marked



variation in the extent of vessel implicated—sometimes there is one circumscribed patch, oval in outline, and this is more often seen in the abdominal aorta; more generally the patch is irregular, more or less encircling the calibre of the vessel; at the commencement of the aorta the predominating forms are either a distinct ring, or a localised patch in one or more of the sinuses of Valsalva—under the latter phase very intense in degree generally; not uncommonly, from the site of commencement, characterised by the greater intensity and most advanced stage, the disease is seen to radiate even throughout the entire aorta, the extreme limits being marked by outlying small isolated nodules. As regards regional selection, the commencement of the aorta is at the head of the list, then the transverse portion of arch or abdominal portion just beyond the diaphragm; and in either of these or other site selected the disease may be found localised with a complete freedom of any other part of the aortic continuity.

I have dwelt thus long on the vascular disease because it seems to me to be the key to all the ulterior changes, and because a knowledge of its phases and their modifications appears to explain much that is obscure and questioned in the natural history of the aneurismal tumour. It is clear that the extent and subsequent phase of the node determine the ulterior results, and the nature and kind of the aneurismal lesion. So long as the added fibroid material remains as such, or should it be limited in extent and on retrogression be absorbed without impairment of the function of the walls, no dilatation will ensue. But should the natural function of the walls be impaired, then in the event of the disease being generally dispersed over the whole calibre and uniform in degree of degradation, we get a general dilatation, a fusiform aneurism; should the lesion be limited in extent, a mere patch, the dilatation will be limited and the aneurism sacculated, and this is not uncommonly seen combined with the former form from one patch of disease



out of a mass generally dispersed being in advance of the rest, and so inducing a sacculated aneurism projecting from a fusiform kind; should the internal coat of the vessel be implicated in the degeneration forming an open ulcer, then all the elements for the dissecting aneurism are present. It will also be apparent that an aneurism may arise from a local patch of disease, and yet no disease may be found elsewhere in the vessel; a feature clearly illustrated in the natural history of aortic nodes, and which I believe forms often the true explanation of many of those so-called examples of "aneurisms not preceded by atheromatous change," the deduction being generally made from the absence of disease elsewhere in the vessel, and the fact overlooked that the stages of thickening and atheroma are necessarily past and gone before the aneurism can ensue.

The evidence furnished by the post-mortem records of this hospital clearly shows that it is impossible in pathology to separate the aortic disease from the aneurismal lesion, the former being the precursor of the latter, and this is seen not only in those examples coming under the category of aneurism, and classified as such, but also in those cases of disease elucidated post mortem, the cause of death being otherwise than arterial lesion, but in which the aortic disease is present yet not sufficiently advanced or pronounced to give it a maximum importance in the determination of death. From the fibrous node in the internal and middle coat to the aneurism is a connected chain, which commencing as a tissue growth, abnormal in origin, leads through a fatty and caseous degeneration of the formed material to impairment of the resiliency of the arterial walls, and so under internal blood pressure to dilatation. That this degeneration of the vessel coats is no mere result of age-changes, is clear from the death ages of these cases; that a tissue growth precedes the degeneration is unquestionable; hence the important point in ætiology is to find out the causation of the growth—the conditions under which this germination of the con-



tiguous layers of the internal and middle coats of the vessel originates; for the subsequent degeneration to which it is liable, and which lays the foundation for the aneurismal dilatation, is a phase common to most abnormal growths and some normal tissues under deteriorated states of the system.

But there is another condition of the aortic walls also included under atheroma. It is met with as a more or less diffused opacity seen from the inner surface of the vessel, in the form of an irregular patch or streak; its seat being in the internal or possibly the inner layer of the middle coat. But there is no thickening of tissue conjoined with it, and no added material, and in all the examples I can find in these records it is never seen otherwise than as an opacity with no anterior or succeeding phase; I have not been able to connect it with any dilatation of the vessel, it appears a mere passive condition. Microscopically it is sometimes unquestionably fatty degeneration, and apparently of normal tissue; sometimes no fatty change can be detected, and the cause of the opalescence is far from clear. In its extent, degree, structure and ulterior results, it diverges from the nodular growth; it fairly comes under the definition of a limited opacity of the internal arterial wall, and does not appear to be followed by any deleterious result within the soldier's service—eighteen to forty years of age—and under the conditions of military life.

Thus, these two forms of aortic disease are included under atheroma: the one a passive degenerative phase apparently innocuous, the other a fibrous tissue growth with sequelæ as follow:—(a), it may encroach on the calibre of the aorta and produce a permanent curtailment of its area; (b), it may induce an indurated and inelastic condition of the walls antagonistic to the normal expansion and recoil under the blood current; (c), when seated in the ascending portion of the vessel it may so obstruct the onward passage of the blood as to lead to hypertrophy or dilatation of the left ventricle and death through the



damming back of the venous blood current; (d), by extension to the aortic valve it may effect the same end; (e), by softening and impairment of function of the walls it may illustrate aneurismal lesion, and (f), by its roughened surface, it may lead to fibrinous deposition, and through this to embolic transference to distant parts.<sup>1</sup>

(2nd Proposition). *That these two forms of textural derangement of the aorta are dissimilar in origin and causation; that the limited passive opacity is connected with long-standing diseases of various kinds inducing a diminished vitality of the system at large; that the structural growth is in the major number of instances associated with syphilis, and in a minor degree with rheumatism and alcoholism, as causations: hence it follows that, as the latter phase is the commencement of that pathological sequence of events under one aspect terminating as aneurism, the means for the prevention of the aneurismal tumour must be essentially directed towards the elimination of the special exciting agencies.*

Taking in the first place the thirty-four cases of aneurism, the matter stands thus:

(a) In constitutions undoubtedly syphilitic and nothing otherwise, 17 or 50 per cent.; (b) in constitutions probably syphilitic, but not beyond doubt, 5 or 14·7 per cent.; (c) with an acute rheumatic diathesis, 2 or 5·8 per cent.; (d) with excessive intemperance, but no other disease, 2 or 5·8 per cent.; (e) with syphilitic infection, but also rheumatism and alcoholism, 1 or 2·94 per cent.; (f) of no known condition of system from absence of reports, 6 or 17·64 per cent.; (g) with history, but no ascertainable condition of system, 1 or 2·94 per cent.

This analysis is based upon the "medical history

<sup>1</sup> Equally also in the vessels of the brain, both large and small, we see similar changes of thickening, dilatation, blood obstruction, thrombosis and embolism, leading to impaired and irregular function of the nerve centres, softening, and death, and under conditions of system similar to the aortic disease. The records of this hospital illustrate such cases, and indicate them as *one* form of brain disease due to the syphilitic virus.



sheet" of the man, detailing his diseases from the date of entry into the service, and the post-mortem facts. One or two of the headings require explanation. By "probably syphilitic but not beyond doubt" is meant, for example, that with a history of primary sore there are conjoined post-mortem lesions whose import might possibly be questioned, such as induration and ulceration of tonsils, or that with no history of primary sore the post-mortem lesions, although strongly suggestive of syphilis, cannot, without doubt, be classed as such; yet in these examples it must be remembered that there were no other diseased conditions with which to connect the lesions. Under (*f*) are embraced those cases whose life-records are not forthcoming, and in which the post-mortem data throw no conclusive light upon associated systemic conditions.

Hence, it is clear that 50 per cent. *at least* of these aortic aneurisms occurred in subjects with syphilitic infection, and with no other ascertainable conditions present to neutralise the deductions arrived at on the point of causation; while, on the other hand, the only other recognisable conditions present with which to connect these lesions were, the acute rheumatic diathesis and alcoholism, each represented by a percentage of 5·8.<sup>1</sup>

But as the aneurism is only one sequel of aortic nodulation, it is very essential, on the point of ætiology, not only to regard the surroundings of one of the pathological phases, but also the disease itself, and on this point the following details throw light.

<sup>1</sup> Also since this paper was written four cases of aortic aneurism have passed through my hands with brief details as under:

In one, not diagnosed during life, the history was incomplete and post-mortem incomplete. In the second there was a history of syphilitic infection, rheumatism, and alcoholism. In the third (a specimen sent to the museum) the man first suffered from continued fever and bronchitis, subsequently contracted a chancre in 1871, followed by secondary syphilis, and died of aneurism in 1875. In the fourth (also sent to museum) constitutional syphilis (roseola and iritis in 1874) formed the only admissions in the "medical history sheet," the man dying suddenly in the barrack-room from rupture of the aneurism (very small, and from the sinus Valsalva) in 1875.



Throughout the pathological records I can find 117 instances of aortic deterioration, excluding those embraced under aneurism, but including both forms of the lesion already described, and the systemic conditions with which they were associated are as follows :

46.1	per cent.	in undoubtedly syphilitic subjects.
6.8	„	probably syphilitic, but not beyond doubt.
21.3	„	in phthisical subjects.
14.2	„	with no record for determining the matter.
5.9	„	with heart disease.
5.7	„	with various other diseases individually small.

Here again there is a numerical preponderance with syphilitic infection ; but that which this table does not show, yet which is of immense importance in regard to aneurism, is this, that while the aortic node disease is the rule in the syphilitic diathesis, it is the exception under any other heading. For example, there are 56 cases detailed of the syphilitic virus terminating in death through special lesions, and of these 60.7 per cent. illustrate aortic nodulation and its phases, the major part of a severe type ; and let this point be observed, that in about  $\frac{1}{3}$ rd of the node cases (*i. e.* 18 out of the 56 cases) dilatation of the vessel, either in the form of pouching or distinct sacculated projections, had actually ensued, that is to say, were in the immature stage of aneurism, and required only further development to bring them into this classification. Adding these 18 immature aneurisms, and one subsequently mentioned as due to the acute rheumatic diathesis, to the 34 already detailed, 53 cases are at hand, and of these 66 per cent. at least occurred in subjects infected with syphilis, and with no other ascertainable systemic status. But a possible objection may be raised to these deductions in this wise ;—is not the syphilitic virus so generally dispersed in the service as to considerably weaken the inference of the connection of aneurism with it in the light of effect and cause, and rather to tend to regard these lesions as merely running side by side in the same subject ? To show how far such an



objection is valid, I have collected all the cases I can find in which the non-existence of syphilitic infection may be fairly deduced both from the previous history and post-mortem data ; these amount to 111 and give the following conclusions :

Five cases of aneurism or 4·5 per cent. ; 2 with acute rheumatic diathesis ; 2 with alcoholism ; 1 not ascertainable ; all these figure in the aneurismal list. The remaining 106 non-syphilitic subjects thus exemplify the aortic disease. In 1, or ratio of ·94 per cent. the disease was severe, and had led on to dilatation, in an acute rheumatic diathesis with alcoholism ; in 5 or 4·7 per cent. the disease had produced corrugation of the inner coat of the vessel but no dilatation—3 phthisical, 1 alcoholism, 1 aortic valve disease ; in 29 or 27·3 per cent. the disease was slight, chiefly if not wholly to be included under the second form of this paper, mere opacity of the inner wall, 15 of these instances were associated with phthisis, and the remainder with renal affections, hepatic disease, dysentery, diabetes, scrofula, lupus, cancer in nearly equal proportions.

Considering that these aortic aneurismal tumours are associated with syphilitic infection to the extent of 66 per cent., and that nodular disease of the aorta in the service is not often met with otherwise than with it, it seems an incontrovertible deduction that syphilis is a very potent cause in the production of the vascular disease and consequently also of the aneurismal tumour. The syphilitic aortic lesion in its growth, its possible stability as a fibroid node, its degeneration, its retrogression leaving a scar-like cicatrix, its impairment of normal structures in which it occurs and in its vicinity, finds its counterpart in syphilitic bone disease, cranium for example, with its surface nodes passing on to softening, cicatricial-like loss of substance, atrophy of bone elements, &c.

It must, however, be recognised that an apparently similar nodular lesion<sup>1</sup> of the aorta may be produced by

<sup>1</sup> In saying "apparently similar," I do not wish it to be inferred that I



rheumatism, alcoholism, and possibly other conditions, such as extension of disease from the aortic valves. The influence both of the rheumatic poison and alcohol on the fibrous tissues is fully acknowledged, and it can create no wonder to find them acting as irritants upon the aortic walls inducing fibroid germination terminating in fatty degeneration. That the syphilitic virus as an exciting agency of the end-arteritis is generally dispersed in the service equally as the aneurismal disease, is clear from the statistics of the secondary lesions, and I have elsewhere shown that the aortic disease is the most common sequel to severe infection in the internal structures.<sup>1</sup> I am also inclined to believe that although not limited to any one period of virus evolution, it is yet not uncommonly one of the earliest produced lesions, and this feature seems to explain the comparative absence of gummata in the viscera in these cases of advanced aortic disease, the aneurism killing before the so-called tertiary lesions have had time to develop themselves.

But how then does the chest constriction from accoutrements, pack, &c., stand to this theory of the connection of syphilis and aneurism? That the aortic disease bears no relation to chest constriction and arterial obstruction, or the force of the blood expelled from an hypertrophied heart, seems to be clear from the observed post-mortem features of the disease, and the distribution of aneurism among the segments of the service. In the cases of aortic disease an enlarged heart is far from general, the disease is not at its commencement a dilatation, but on the contrary a thickening of the vessel walls,

regard the rheumatic and alcoholic lesion as identical with the syphilitic form. That there are many points of resemblance is, to my mind, clear, though it is highly probable that attention to the subject in the future will produce features differentiating the one lesion from the other. The special character of the aortic disease due to syphilis as set forth by some writers, viz. fibroid, is a feature certainly not peculiar to it, as the lesion in undoubtedly non-syphilitic subjects is often also so in the early stage. Further evidence is required to render stable these points.

<sup>1</sup> Blue Book, 1870, p. 384.



and an encroachment on its area; it is true that it most frequently affects the ascending aorta, but it is far from uncommon in the transverse and abdominal portions when the ascending aorta is free; and in the few instances in which an elongation and dilatation of the ascending arch could be fairly charged to an overacting heart, no disease was present. Equally in reference to the dispersion of aneurism in the service, the statistics show it to be generally distributed irrespective of climate or occupation; the infantry man in England with his pack and full accoutrements suffers no more from the disease than does the cavalry soldier; he suffers equally as much in India and the Mediterranean with a loose special climate uniform, as in England; the cavalry man in India appears worse off than in England. But while deducing that morbid anatomy, pathology, and statistics, exclude chest constrictions as a *direct* agent, in the production of aneurism in the service, it is not intended to deny its influence *indirectly*. Given the aortic disease with impairment of the aortic walls from syphilis, rheumatism, and alcoholism as a groundwork—then the obstruction to the circulation from any chest constriction and forced exertions in full marching order must tell upon the weakened vessel and cause its dilatation when possibly no such result in the diseased vessel would ensue under ordinary conditions. The accoutrements and forced exertions of the soldier stand to aneurism in the light of fostering agencies to the germs laid by syphilis, rheumatism and alcoholism.

Equally also it may be asked how this theory stands in reference to the *excess* of aneurism in the army as compared to civil life considering that in the opinion of competent observers there is no reason to suppose that the syphilitic virus is more common to the one segment of the community than to the other? But to this it may be replied that there are no reliable data at present from which accurate deductions and comparison can be instituted. There cannot be a particle of doubt that so far as



the army is concerned, we are far from having fathomed the influence of the virus, whether in the light of a producer of disability or death, and there is nothing to guide us in civil life in gauging its true import beyond an expression of opinion. It may also be said that the practice of constantly verifying the diagnosis by post-mortem examination gives an insight into the dispersion and frequency of aneurism in the service, which the civil records do not possess, and hence comparisons cannot be fairly instituted. But granting that the amount and degree of syphilis are about equal in both communities, and consequently also an equal amount of aortic disease from it, we might infer an excess of aneurism in the army from the conditions under which the soldier is placed. Aortic disease is not necessarily followed by aneurism, but so long as the disease is present, the groundwork of the aneurism is laid, and while no dilatation need ensue under ordinary arterial pressure or such as might be present under civil exertion, yet under the forced exertions, with chest constriction, of army exercises it would be difficult to understand how such a crippled tube as a degenerate and weakened aorta could resist the extra-internal pressure. Hence the groundwork being equal, an excess of aneurism in the army might be anticipated over that in civil life, from the special conditions under which the soldier is compelled to do his duty.

We may summarise the paper as under :

(1) That in the army we have a lesion of the aortic walls characterised by the presence of a fibroid growth mainly in the internal coat, which, as a rule, ultimately disintegrates; and that this growth is connected with syphilis in a major degree, and rheumatism and alcoholism in minor degrees, as exciting agencies.

(2) That this disease of the aortic coats may retrogress without producing any marked ulterior results upon the system at large; but if extensive or severe, as a rule, it is followed by one of three fatal phases: formation of



aneurism, implication of aortic valve, or hypertrophy, with or without dilatation of one or more of the heart's cavities.

(3) In the army there is also a lesion of the aortic walls characterised by limited opacity or fatty change of the normal textures of the internal coat; this is common to all diseases associated with prolonged general deterioration and especially lung destruction, but it does not appear, *per se*, to lead to ulterior results.

(4) That the chest constriction and temporary forced exertions to which the soldier is liable are powerful secondary causations in the production of aneurism, acting on the portion of vessel deteriorated by syphilis, rheumatism or alcoholism.

(5) That in the adoption of preventive measures against aneurism, the attention must be primarily directed against the causes of the aortic disease, notably the suppression of syphilis, and secondarily, against the conditions of dress, &c., which assist in its development.



## DESCRIPTION OF PLATE IV.

F. H. Welch on Aortic Aneurism in the Army.

Fig. 1, natural size.—A nodulated aorta slit up, cut transversely across and straightened out, to show the relative thickness of the diseased coats. (*a*) Internal coat extremely nodulated, encroaching on the area of the vessel; (*b*) middle coat normal, except opposite *a*, where it is somewhat thinned; (*d*) external coat, thickened where the middle one is thinned.

Fig. 2,  $\times 20$  diameters.—Vertical section through a node with part of the middle coat displayed. (*a*) Internal coat extensively thickened by laminated fibroid tissue, in which fatty or caseous degeneration has commenced in the form of granules arranged in lines; (*b*) middle coat normal.

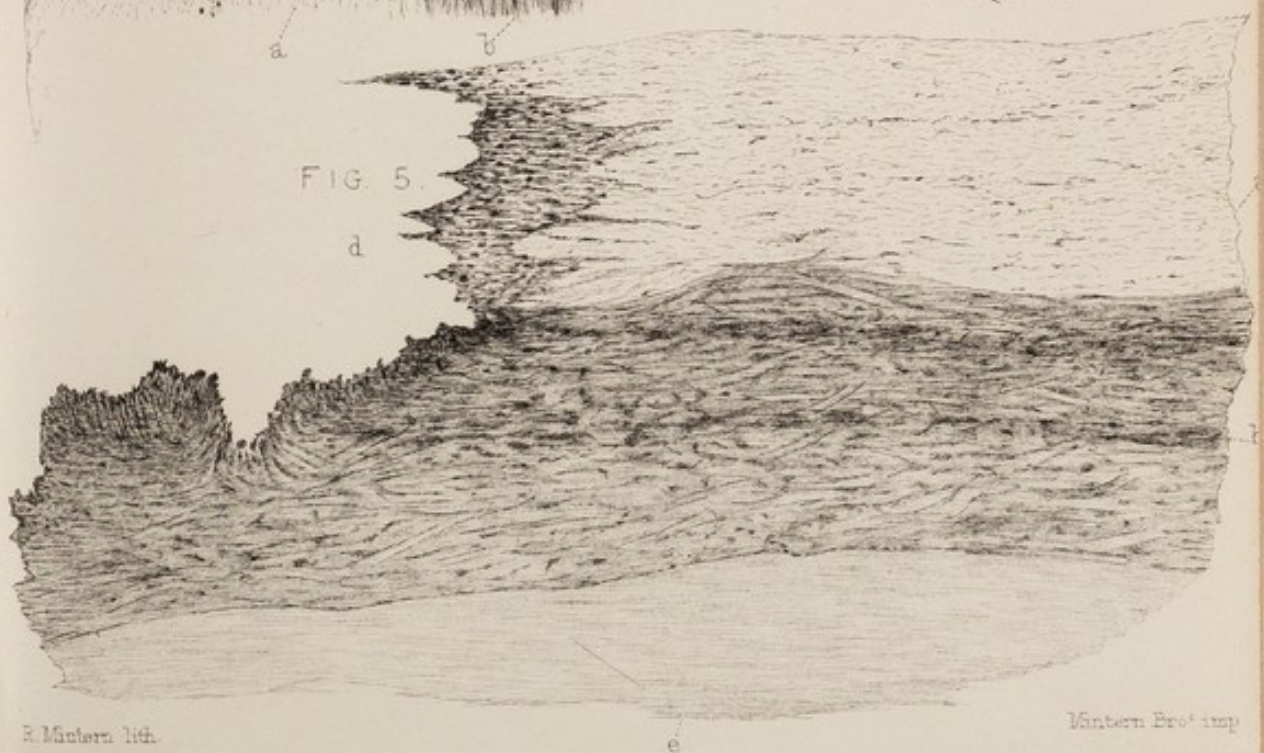
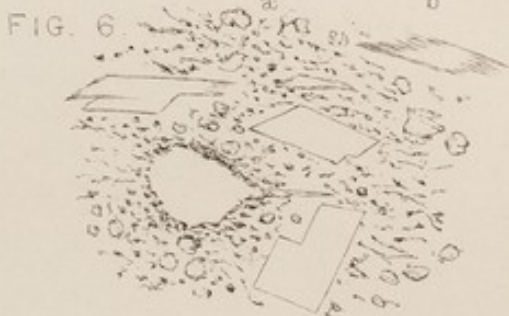
Fig. 3,  $\times 500$  diameters.—A fragment of the structure of the node at an early period, the age of the particles read from left to right; from the large nucleus, through the elongated cell, to the mature fibrous tissue structure.

Fig. 4,  $\times 20$  diameters.—Vertical section through a diseased aorta, showing the condition of the internal and middle coats. (*a*) Internal coat thickened by laminated fibrous tissue, and still more nodulated from the presence within (*b*), the middle coat, of (*d*), a circumscribed tumour made up of delicate fibrillæ and commencing to soften and degenerate in the centre.

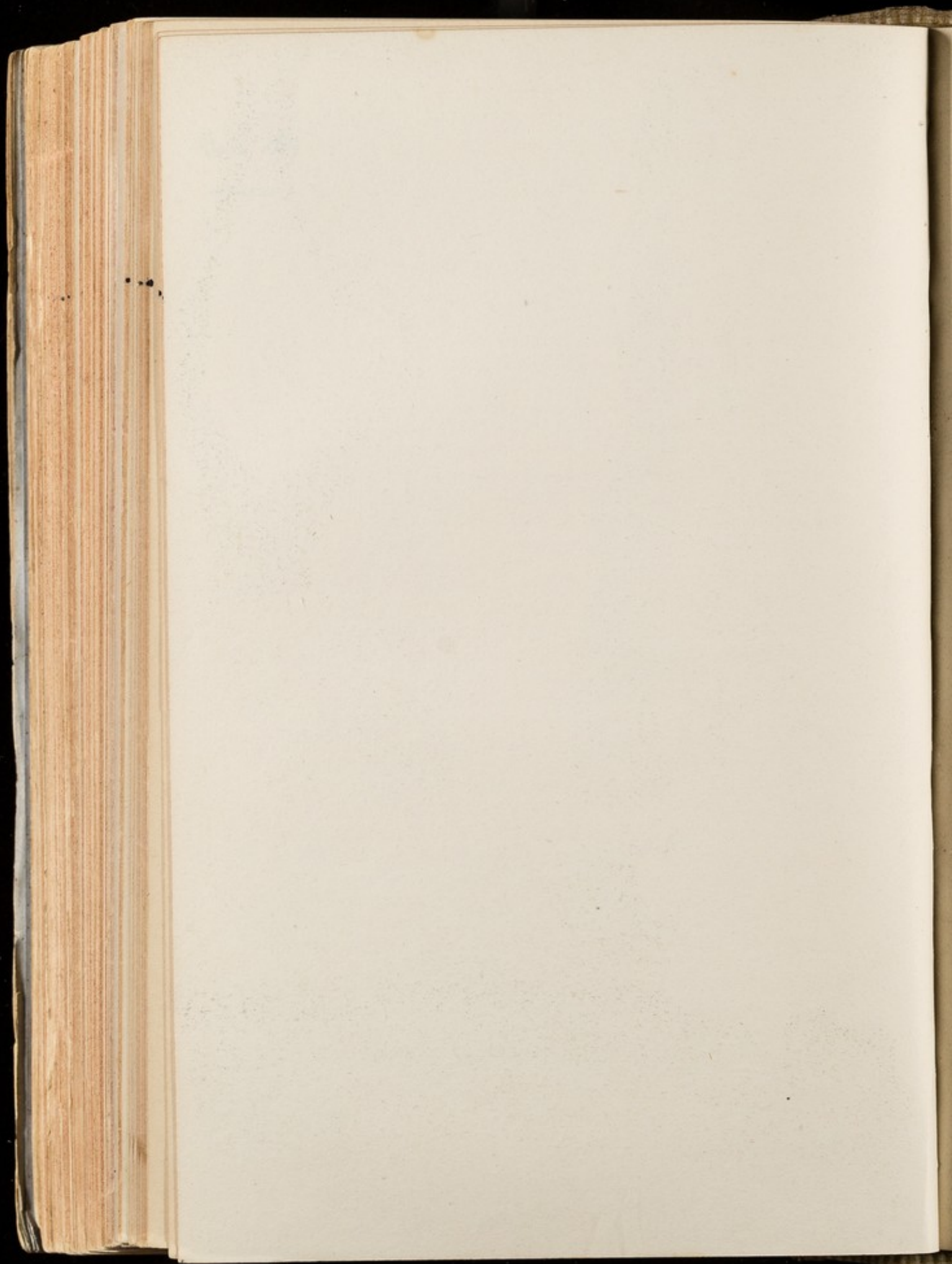
Fig. 5,  $\times 20$  diameters.—Vertical section through part of an ulcer of the aortic walls. (*a*) Internal coat thickened by fibrous laminæ; (*b*) middle coat with lines of fatty degeneration running through it; (*d*) ulcer completely eroding the internal coat, and half way through the middle one; (*e*) external coat which, instead of being made up of a loose meshwork, is thickened and condensed into compact fibrous tissue, evidently for the purpose of strengthening the weakened walls.

Fig. 6,  $\times 500$  diameters.—Elements forming a node in process of softening, in a state of atheroma. Granules, caseous-like particles, and cholesterine plates compose the soft mass with a few phosphatic crystals, but well-formed oil globules are decidedly absent.











2nd Paper

No 20

OBSERVATIONS

ON

# YELLOW FEVER.

By ROBERT LAWSON,

DEPUTY INSPECTOR-GENERAL OF HOSPITALS.

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*(Reprinted from the British and Foreign Medico-Chirurgical Review  
for April, 1862.)*

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COVENT GARDEN.

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OBSEVATIONS

ON THE

YELLOW FEVER.

IN THE CITY OF PHOENIX, IN THE YEAR 1852.

BY ROBERT L. LONDON.

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## OBSERVATIONS ON YELLOW FEVER.

### *Division I.—Influence on the Secretions.*

HAVING been stationed in Jamaica from September, 1856, till June, 1860, I was enabled to examine some of the peculiarities of yellow fever as it occurred there during that period. Part of the results have appeared already in the pages of the 'British and Foreign Medico-Chirurgical Review;' the present communication embraces observations on the secretions during, and the morbid appearances left by, the disease, which are of importance both in practice and in giving more precise notions as to its nature. Many of the subjects in the following remarks were mentioned by Blair in his papers on the Yellow Fever at Demerara; others have been alluded to by La Roche, in his work on 'Yellow Fever;' but I have endeavoured to push the observations further, and to trace the connexion between the different phases of the disease more fully than either, or than I have seen elsewhere.

*Urine.*—The liability to suppression of urine in yellow fever, and the serious consequences resulting therefrom, have long been known; but it is only of late years that the composition of the secretion has been receiving attention, and as yet it is far from having obtained what its importance demands. In fact, men in practice have their time so fully occupied, especially during the prevalence of an epidemic, that anything beyond the most simple examination is out of their power.

The urine during the first days of yellow fever presents the ordinary characters seen in febrile affections. Its quantity is rather less than natural; its colour somewhat higher, though clear, and of moderate specific gravity. From the third to the fifth day of the disease, the quantity is often diminished to fifteen, or even twelve ounces, or less, in the twenty-four hours; its colour from six to seven of Vogel's scale, and specific gravity from 1018 to 1030 at 60°; it continues acid, and presents more or less sediment. Should the patient survive the fifth day, the quantity generally increases and often becomes copious—fifty, sixty, or even eighty ounces being passed in twenty-four hours. With this increase the colour becomes lighter, unless when obscured



by blood or bile, and the specific gravity less; and as the patient convalesces, the secretion gradually assumes its usual appearance.

Suppression of urine is most common from the fourth to the sixth day of the disease; but this period may pass, the flow become copious, and yet suppression occur many days later. At either period the result is almost universally fatal.

A cloudiness appears in the urine on the morning of the fourth day of the disease; and if a specimen, obtained at this time, be allowed to stand for an hour or two in a cylindrical vessel, a sediment will subside, frequently amounting to one-fourth the bulk of the fluid, or even more. On examination with the microscope, this is found to be composed almost exclusively of scaly epithelium from the bladder. On the morning of the fifth day, an equally copious deposit will occur, but differing from that of the previous day in being composed of granular tube casts from the kidneys, frequently with but a trace of scaly epithelium. The solid transparent casts called waxy are not uncommon at this period. After the sixth day the casts become gradually more hyaline, the quantity diminishes, and in a few days thereafter they nearly disappear. When it was possible to fix the date of the first accession of the fever, the desquamation of the bladder seemed fairly developed on the morning of the fourth day; while the casts from the kidneys, though probably formed at the same time, were not copious in the urine before the morning of the fifth day. It is possible these might occur earlier in some cases, but I have not met with any in which this was ascertained satisfactorily. In cases of mixed typhoid fever, presenting on post-mortem examination the distinct raised ulceration of Peyer's glands in the ileum, and which terminated with suppression of urine, albumen and granular tube-casts were found in it, but these occurred longer after the first accession of the disease than in pure yellow fever.

The casts are usually  $1\frac{1}{10}$  to  $1\frac{3}{10}$ \* in diameter. They are highly granular from the first, with few traces of the outline of the original epithelium. The solid waxy casts are of the same sizes; if these be illuminated with a pencil of small angle, and viewed with an object-glass of large angle of aperture, epithelium more or less granular can always be seen in them. The substance connecting the granular and epithelial matter in both descriptions of casts is soluble in caustic potash; acetic acid dissolves it in the granular casts, but seems not to affect the waxy. These reactions induce me to believe the waxy part of the casts is casein, which, it will be shown below, is common in the urine in yellow fever.

It is rare to find a blood-globule in the tube-casts, even at the commencement, and many cases of the disease run their course without a single globule being detected in the urine. In others there may be hæmorrhage from the kidneys or urinary passages, in which case blood-

\* In this method of expressing microscopic measurements, the thousandth of an English inch is taken as the unit, and its fractional parts are given decimally, which offers far greater facilities for comparison, and for conversion into foreign measures, and *vice versa*, than the method by vulgar fractions usually employed in this country. See Beale's Archives of Medicine, No. 8 (April, 1861), p. 292.



globules are found in the secretion, or in the casts. A third series occurs in which the urine is of the colour of blood, without a globule being found in it; in these the epithelium and substance surrounding the granular matter of the casts are deeply impregnated with hæmatine, though not a single entire globule can be detected among them.

If the case proceed favourably, the casts diminish in number, and become less granular and more hyaline on the sixth or seventh day, and soon disappear altogether. If it run on to suppression of urine at this period, they maintain their granular character; but if the flow of urine be increased after the fourth or fifth day, and the suppression do not occur until a later period, the casts become less granular and less numerous until just before that event takes place.

The urine is frequently coloured deeply by bile. This may be distinguished from hæmatine by the brownish-yellow colour a thin stratum gives with transmitted light, while urine coloured by hæmatine always presents a blood red. The former gives a green colour with nitric acid, varying in depth from a light pea-green to a greenish black, and occasionally, when not too deep, the usual changes to the violet and red can be perceived; while with the latter this acid produces a coagulum, from a dirty brownish grey to a dark liver colour. The two, however, may exist in the same specimen, when the reaction will partake of both characters.

The discharge of blood, whether in the form of globules or of hæmatine, and that of bile, in the urine, usually occur from the fourth to the sixth day, and either may continue for several days thereafter. The excretion of bile in this way is always beneficial. Blood, if in the form of globules—constituting hæmorrhage, in short—is generally beneficial, from whatever organ it proceeds, if the flow be not so copious as to depress the vital powers too much, and with its appearance unpleasant symptoms are often dissipated. When originating in the kidneys, it seems to act as a local depletion, obviating that engorgement of these organs so liable to arise at this period, and favouring the flow of urine. It is very different when the discharge is in the form of hæmatine without globules; then it seems to be strictly a secretion, for the epithelium of the casts, and that in the convoluted tubes of the kidneys themselves, is deeply impregnated with it, while blood globules are not to be seen either around the Malpighian bodies or inside the tubes. This form of discharge is often copious, always unmanageable, and almost of fatal import.

The colour of the urine has been stated already to be as high as from 6 to 7 of Vogel's scale, from the fourth to the sixth day. This arises from its ordinary colouring matter, the uræmatine. In addition, this secretion sometimes contains, for long periods, and in healthy persons as well as those labouring under disease, a large amount of uroxanthine, or its derivatives, urrhodine and uroglaucine. These do not deepen the colour, but as they seem connected with some peculiarities in the form of yellow fever, I notice them here.

The presence of urrhodine, or uroglaucine, may be determined by adding a few drops of urine cautiously to a drachm of hydrochloric



acid in a small test-tube, when a colour will be developed where the fluids meet, varying from red through purple to blue, according to the predominance of either of these pigments, and more or less intense according to their quantity. Their presence is indicated in another way. If a portion of urine treated with nitric acid, in the usual manner for the detection of albumen, be set aside for some hours, if containing more than a trace of uerrhodine it will become of a deep reddish-brown colour, while the tint of uræmatine is not altered materially by this process. While these pigments were present in small quantity only, fever seemed to have less of the epidemic character, though the cases which presented themselves displayed an earlier and more serious implication of the liver, and more intense jaundice, than when they were more general and more copious. Just previous to my leaving Jamaica, the nitric acid gave the deep colour pretty generally, after having been absent from the early part of 1859. Upon this I stated the probability that the following season would be unhealthy, which prediction has proved correct.

If urine when heated, or treated with nitric acid, present a coagulum, this is generally believed to be albumen; but it may contain other matters which coagulate when so tested, and in yellow fever it does so very commonly. Globuline is coagulated by heat, and casein by nitric acid, as well as albumen, and these are by no means infrequent in the urine of fever in Jamaica. The following table shows the reactions of these three substances with different tests, and affords the means for distinguishing them :

	Heat.	Nitric acid.	Acetic acid.	Heated with dilute solution of carb. soda.
Albumen .	{ Coagulates at 146° Fahr. }	... Coagulates	... Unaffected	... Unaffected.
Globuline .	{ Coagulates at 200° Fahr. }	... Coagulates	... Unaffected	... Dissolves.
Casein .	{ Does not coagulate. }	... Coagulates	... Coagulates	... Dissolves.

In examining urine it was, in nearly every instance, passed through a paper filter, to remove epithelium, tube casts, mucus, or other extraneous matters; portions were then placed in three test-tubes, one of which was heated, another treated with nitric acid, and the third with acetic acid in a similar manner. The indications at the time were noted, and again after twelve to twenty-four hours.

On heating a specimen cautiously, with the tube inclined, the fluid along its upper edge sometimes became opaline, and the appearance then spread rapidly through the whole before the temperature was sufficiently high to form steam. At other times small bubbles of steam were generated and passed up, nearly reaching the surface, before an opalescence appeared, indicating a much higher temperature of the fluid. The coagulation in the former case was from albumen, in the latter from globuline. Sometimes there was a slight coagulation at the lower temperature, and a much more copious one at the higher, indicating an excess of globuline, though no free blood-globules were



seen in the urine. In common, however, the albumen so far exceeds the globuline that the latter cannot be detected in this manner; but it may be separated from the albumen by boiling alcohol, which I have done several times.

The nitric acid test was confirmatory of that by heat, and served to distinguish discoloration by blood from that by bile, as well as indicate the presence of urrhodine. Part of the specimen can be examined for chlorides, after the subsidence of the coagulum.

When acetic acid was added to a specimen containing casein, the colour became lighter, and more or less opaline, but in general subsidence did not take place to any extent for some hours. After twelve hours the precipitate had usually fallen, and constituted a fine amorphous, rather compact deposit, at the bottom of the tube. The supernatant fluid was then poured off, the precipitate washed and allowed to subside again, when the fluid was separated, and fresh water being added, a few drops of solution of carbonate of soda dissolved it at the temperature of the air ( $80^{\circ}$  to  $86^{\circ}$  Fahr.); this observation has been repeated in so many instances, with the same result, as to leave no doubt concerning it.

Urine rich in urates gives a precipitate with acetic acid, if near the point of saturation, and at a low temperature, and the precipitate dissolves in carbonate of soda. This differs from casein in the precipitate forming immediately, and subsiding quickly; and, on decomposing the soda solution with an acid, by giving uric acid in a crystalline form, which can be recognised with the microscope. If a portion of the same urine be warmed, it will no longer give a precipitate on the addition of an acid, and if allowed to cool gradually the uric acid will be deposited in a crystalline form on the sides and at the bottom of the vessel. It was almost universally in the latter forms that it occurred in Jamaica.

I had seldom examined the soda solution for uric acid, but very frequently evaporated some drops of the secretion itself, acidulated with hydrochloric acid, on a slip of glass; and in the most decided instances of the presence of casein, did not find traces of uric acid, though hippuric was plentiful. The following case will illustrate this, as well as several other points noticed in this paper:

Henry Goodwin, a black soldier, aged about thirty, had a paroxysm of fever on the 10th August, 1859, but did not report himself sick. On the 12th, the third day of the disease, he went to hospital in the afternoon with a sharp attack of fever; the conjunctivæ were then deeply yellow. From this time till the morning of the fourth day he passed sixteen ounces urine, which was slightly albuminous. On the fifth day there was a remission; passed twenty-eight ounces urine. On the sixth day he continued much the same, the urine containing granular and epithelial tube casts in moderate quantity, with a little albumen and casein, very little urea, but much creatine and hippuric acid; no uric seen. The urine had not been examined microscopically before this day. On the seventh day fever ensued again; he had passed thirty ounces urine from the previous morning, of the same



character as last. About noon it became bloody, giving the colour of venous blood by transmitted light. It was then strongly acid, specific gravity 1014 at 84°, did not deposit a sediment, but had a few flocculi of granular and epithelial tube-casts, and epithelium from the bladder, but not a blood-globule could be detected. As the fluid filtered with extreme slowness, part was heated without filtration; coagulation took place partially, some time before ebullition, but increased as that occurred, and a sediment of a reddish colour fell, leaving the supernatant fluid pretty clear. Some of the latter gave a deposit with acetic acid, which dissolved in dilute carbonate of soda. A portion of the urine was treated with acetic acid; coagulation was produced almost immediately, and after some hours a deposit of one-seventh of the bulk of the fluid took place, of a reddish colour, and over it a thin loose stratum of deeper red colour, leaving the supernatant fluid clear dark amber; both deposits dissolved with carbonate of soda. As on the previous day, hippuric acid and creatine were copious, but there was little urea, and no uric acid. On the morning of the eighth day the fever continued; forty-two ounces of urine had been passed from the previous noon, of darker colour than before. Early this morning gallic acid was commenced, in three-grain doses every fourth hour. A specimen of the urine passed this forenoon was darker in colour than that of the previous day; it contained several granular tube-casts, which were tinged red, but none contained blood-globules, neither were any free globules seen. A coagulum of one-third formed by heating; but with acetic acid it was, to-day, not more than one-thirtieth of the whole, the supernatant fluid remaining of a clear deep cherry red. On the morning of the ninth day the urine collected in the previous twenty-four hours amounted to eighty ounces, of similar character; there was less fever, but a tendency to collapse; the gallic acid was increased to three grains every third hour. In the afternoon, ten ounces of a much lighter coloured secretion was passed, when the gallic acid was diminished a half. On the morning of the tenth day there was more fever; no urine had been passed since the preceding day; the gallic acid was then stopped. On the morning of the eleventh day, no urine having been passed for thirty-six hours, a catheter was introduced, and four ounces drawn off, of a dark brown muddy appearance. It contained numerous short solid pieces of granular tube-casts, of 2<sup>l</sup>.0, 1<sup>l</sup>.0, and 0<sup>l</sup>.75 in diameter; these seemed infiltrated with a clear material, which in many had accumulated pretty thickly outside the granular portion, and with it was tinged throughout of a reddish brown colour. These casts were unaffected by strong acetic acid. No blood-globule was seen in the casts, or free in the urine itself. With heat the urine gave a coagulum amounting to one-fifth of the whole, and with acetic acid one amounting to one-tenth; the former dissolved in caustic potash, but was unaffected by carbonate of soda; the latter dissolved in carbonate of soda. The man died in the evening of this day.

This case is of much interest in the following respects:—1st. As showing the existence in the urine, at the same time, of albumen,



casein, globuline, and the colouring matter of the blood. 2nd. In the absence of all trace of blood-globules throughout. 3rd. In the immediate reduction of the quantity of casein on the eighth day, under the influence of gallic acid. 4th. In the formation of waxy tube-casts under these circumstances, and the rapid diminution of the urine. Gallic acid passes through the kidneys unchanged, and may be detected in the urine within a very short time of its administration. It does not coagulate albumen, but precipitates casein immediately, and if brought in contact with the latter, sufficiently concentrated, as in the tubes of the kidneys, would cause its coagulation between and around the epithelium and granular matter constituting waxy casts, as in this case. Gallic acid would thus be a remedy of very questionable advantage in cases in which the urine contained casein.

The occurrence of albumen in the urine of yellow fever was first remarked, so far as I am aware, by Staff-surgeon Collins, at Barbadoes, in 1848,\* and the same gentleman met with two cases in which the albumen was replaced by a substance having the properties of casein.† Blair seems to have doubted the correctness of the latter observation,‡ and there is no indication in La Roche's work, that any other person had detected this substance in the disease.

In watching a case from day to day it is found that, sometimes in the course of the third day, or by the morning of the fourth, heat indicates a small portion of globuline or albumen in the urine; and on the morning, or in the course of the fourth day, albumen generally appears in such quantity as to obscure the indications of globuline. The fifth day the albumen is more copious, and would seem to attain its maximum on that or the following one, after which it gradually declines. Casein appears about the fourth day, and accompanies either globuline or albumen. I do not remember to have seen it alone in fever. When albumen becomes very copious, the casein frequently disappears, and, under ordinary circumstances, seems to do so before the albumen. In some cases, globuline and casein have continued during the course of the disease, without albumen having been detected.

The quantity of albumen, &c., may be estimated approximately, from day to day, by the space the sediment occupies in the test-tube relatively to the bulk of the original fluid, and may be expressed conveniently in parts of the whole, either as a decimal, or vulgar fraction. The albumen was found to vary in different cases from a mere trace to 1·0; the globuline, from a trace to 0·7, though in general not exceeding 0·1; and the casein from a trace to 0·2, but generally less than 0·1.

The albumen varies greatly. At one time most cases present it to a considerable amount, at another there is much less, though the cases may be very severe, or even fatal. When the liver was severely implicated, and there was marked tenderness over it, with an early yellowness of the surface, the urine contained less albumen than when the

\* Blair on the Yellow Fever at Demerara, third edition, p. 98. † Ibid., p. 99.

‡ Blair: Report on the Recent Yellow Fever Epidemic at Demerara, 1856, p. 18.



hepatic affection was less prominent. This peculiarly existed during the greater part of 1859, and early part of 1860.

Though the urine have a high specific gravity from the third day onwards, the urea seems much diminished. I have not determined the quantity with precision, but much less was obtained on evaporating a small portion of the fluid, acidified with nitric acid, than from healthy urine. La Roche gives the result of an analysis to the same effect.\*

Though urea be deficient, creatine is unusually copious in the febrile affections of Jamaica, whether pure remittent or yellow. If two or three drops of urine from such cases be evaporated on a piece of glass, numerous needle-like crystals, visible to the unassisted eye, more or less branched, appear before the fluid has quite dried, and frequently cover the surface extending from one side of the specimen to the other, among the substances deposited during the evaporation. At a certain stage in the operation small rhomboidal plates appear, or more frequently hexagons, with the obtuse angles of the rhomboid removed, and, as the concentration proceeds, these are seen to shoot out both ways from the acute angles, forming the needle-like crystals mentioned: the needles always present a swelling in the position of the original hexagon, and the prolongations seem to have a triangular section, with the base on the glass, and the apex uppermost. These crystals present the nacreous appearance peculiar to creatine; they are soluble in water, ammonia, and dilute nitric, hydrochloric, and acetic acids, from which they are deposited again, generally in the form of hexagonal plates. Alcohol does not seem to affect them. Sometimes, though the specimen under examination be rich in creatine, it remains fluid and the creatine does not crystallize; if a drop or two of alcohol be added under these circumstances, numerous rhomboidal or hexagonal crystals appear, but they generally redissolve as the alcohol evaporates.

In one case, in which these crystals were numerous, and the portion of the urine from which they were obtained was evaporated to dryness over a water-bath, the residue was exhausted by alcohol, to remove urea, &c., and the creatine was separated from the remainder by ammonia. On filtering and concentrating the respective solutions, a quantity of creatine was obtained, about equal to that of the urea.

Creatinine exists in many of these cases in considerable quantity, besides creatine, but as it requires a troublesome process to isolate, it was less easily detected, and not so often looked for. In one case in which the urine had been treated as in the last paragraph, a portion of the concentrated alcoholic extract gave very little urea, even when nitric acid was added, but the remainder displayed numerous clusters of beautiful navicular crystals of creatinine. When a drop of this secretion acidified with nitric acid is evaporated on a slip of glass, in addition to the nitrate of urea, crystals are often seen resembling the dendritic masses of creatinine figured by Robin and Verdeil,† but

\* La Roche on Yellow Fever, vol. i. p. 361.

† Robin et Verdeil: *Traité de Chimie Anatomique et Physiologique*, Atlas, pl. xxvii. fig. 2.



these mostly extend from one side of the axis of the mass only, and are not symmetrical, as represented by those authors; at other points they present the characters delineated at Fig. 2*a* of the same plate. The exact composition of the crystals in question I cannot say, but if digested in ether, the latter on evaporation affords the symmetrical crystallization represented by Robin and Verdeil, with more or less hippuric acid, which usually accompanies them. I have recently obtained similar results from a specimen of urine from a case of bronchitis in this country.

Rounded masses resembling leucine were occasionally seen, when a few drops of the secretion were allowed to evaporate on glass, but this was rare. I do not recollect to have met with tyrosine, as figured by Frerichs in the frontispiece of the Sydenham Society's edition of his work on 'Diseases of the Liver.'

Uric acid was frequently present, and even in considerable quantity, when the urea was much diminished, and the chlorides almost or entirely absent. This was not found in every case, however, and I am not prepared to indicate the peculiarity of those in which it was observed.

Hippuric acid is formed copiously in the urine of febrile cases in Jamaica, as indeed in every other instance in which it was looked for. Uric acid was often plentiful in the same specimens, neither seeming to take the place of the other. When present in any quantity, it is easily detected by placing two or three drops of the secretion on a slip of glass, adding a drop of nitric acid, and evaporating slowly, when the peculiarity of the crystallization is quite characteristic.\*

The chlorides in the urine undergo a marked decrease in the case of yellow fever, as met with in Jamaica. The only notice I have seen on this point is that given by La Roche,† on the authority of Dr. Wragg, of Charleston, who was of opinion that hydrochloric acid was thrown out largely from the kidneys. The details of Dr. Wragg's process are not given, nor the period of the disease to which his observations refer, which are important circumstances. My observations were made in the usual manner, by acidifying with nitric acid a portion of urine with its albumen removed (when so plentiful as to mask the operation), and then adding nitrate of silver. The freedom of the nitric acid from chlorine was previously ascertained.

With these precautions, the chlorides were found perceptibly less as soon as the urine contained traces of albumen, and on the evening of the fourth day and course of the fifth, when the desquamation of the urinary passages was in active progress, there was never more than a trace, sometimes not even a trace, to be detected. These began to re-appear about the seventh day, when the case progressed favourably, and increased from day to day thereafter.

\* British and Foreign Medico-Chirurgical Review, vol. xxviii. p. 487. I have found hippuric acid in advanced pregnancy and in chronic bronchitis, in this country, where no benzoic acid had been administered previously, and apprehend it is more common than is generally supposed.

† La Roche on Yellow Fever, vol. i. p. 359.



Blair remarks\* that albumen was not detected in the urine of cases of intermittent which occurred contemporaneously with the epidemic, and he saw the value of the distinction in diagnosis. My observations are to a similar effect, having found, concurrent with decided yellow fever, intermittents and remittents, which presented the usual characteristics of these affections, and neither displayed desquamation of the bladder or kidneys, nor albumen, globuline, or casein in the urine, while the chlorides remained undiminished throughout. I met with one case, however, exactly resembling those of yellow fever, which occurred about the same time, save that there were neither tube-casts nor albumen in the urine, nor were the chlorides much diminished. This individual had previously had frequent attacks of inflammation of the sheaths of the tendons in the wrists, hands, ankles, and feet. How far the kidneys may have been influenced by the peculiarity of constitution indicated thereby, must remain an open question at present.

Albuminuria is common in Jamaica, and it is quite possible that febrile symptoms might arise in such a case, and lead to a doubt as to its nature. It may be distinguished from yellow fever, however, by the absence of the desquamation of the bladder on the fourth day, followed by that of the kidneys, and by the urine retaining a fair proportion of chlorides, though loaded with albumen.

*Alvine Evacuations.*—The alvine evacuations have not received the attention they require; until they have been as closely examined as the urinary, much valuable information regarding disease will remain untouched. My own observations on the subject have neither been so numerous nor so minute as those on the urine, still they afford some hints which are not noticed elsewhere, and which seem of value in explaining the characters of yellow fever.

Blair has given a short chapter on the character of the stools, as he saw them in Demerara,† which agree in the main with what was found in Jamaica. He describes the evacuations as feculent at first, with more or less admixture of mucus, and a matter he denominates "melanotic," and as giving off a very disagreeable odour. These were succeeded by what he calls the "caddy stool," a liquid light-coloured evacuation, depositing a dirty grey sediment, containing crystals of triple phosphates, and uric acid, and numerous little amorphous masses of black opaque matter, which he regards as its constant ingredient. As the disease advanced the caddy stool was replaced by a very scanty mucous stool, consisting of clear mucus, with broken-up epithelial matter, and myriads of epithelial granules, either uncoloured, or variously tinted of yellow, or green colour, by bile, or brown or black with the elements of blood. These may present several of the crystalline forms of the caddy stool, and are contemporaneous with diminished urine and black vomit. The elements of blood were sometimes so copious as to give the evacuation the appearance of black vomit.

In Jamaica the bowels were seldom costive or difficult to move. The first evacuations were always feculent, more or less modified by medi-

\* Report, 1856, p. 21.

† Ibid., pp. 24-28.



cine, and generally offensive. About the fourth day, or earlier, the brown feculent character which had already been becoming less marked, often disappeared when the lighter-coloured stool Blair designates "caddy" took its place; this, though frequently liquid as he describes, was by no means always so, for I have seen it consistent, and formed, in many cases; it was never very copious. Its chief characteristic was the want of the brown colouring matter (usually thought bilious), supplied by the glands of the mucous membrane of the colon,\* which is altogether different in colour from bile, and gives a different reaction with acids. These discharges may even have a yellowish or greenish tinge, from bile, however, while the proper brown is nearly or entirely absent. They seem to differ little from the clayey evacuations which accompany jaundice and other affections in this country, only less copious, and essentially depend on the colon performing its secreting function imperfectly, a circumstance which though frequently associated with retention of the biliary secretion, is not necessarily so, either in diseases of this country or the tropics.

The persistence of these light-coloured evacuations is always of serious import, as they are frequently followed by black vomit, or other forms of hæmorrhage. Their disappearance, on the other hand, on the occurrence of a more natural feculent evacuation about the fourth or fifth day, is usually the harbinger of a safe termination, and speedy convalescence. The suppression of the natural secretion of the colon would therefore seem to be intimately connected with the vicarious appearance of hæmatine in some form elsewhere. The importance of this principle in yellow fever is very great, as it directs attention to exciting the secretion of the colon, as the natural way of obviating many of the unmanageable symptoms of this disease, a point of late years too much overlooked.

The evacuations occasionally contained the elements of blood. These varied in appearance from blood little changed, through a fluid of the colour of dark venous blood with very few globules, to one exactly resembling black vomit, of a blackish brown colour, with scarcely a blood-globule to be seen. The more hæmorrhagic forms came from the lower part of the small intestine, or colon, and those without the globules from the stomach or duodenum. The mucous membrane of these organs respectively, in such cases as were examined, being found congested, softened, and easily abraded. In the intestines these fluids sometimes present a very different aspect in different parts. I have seen a fluid like very dark venous blood, with acid reaction, in the stomach and duodenum, which, in the lower part of the jejunum, had a black colour with alkaline reaction, and under the microscope a greenish tint, changes effected by an admixture of bile. In this case there had not been black vomit, but from the stomach to the cæcum the canal was filled with this bloody fluid. Some assistance may be obtained towards deciding on the part these discharges come from by the nature of the contained epithelium. The black vomit from the stomach, in addition to columnar epithelium, contains numerous small

\* See British and Foreign Medico-Chirurgical Review, vol. xxviii. p. 488



granules with occasional granular cells; that from the intestine has the columnar epithelium in abundance; while the discharges from the colon alone contain casts more or less complete from the tubular glands of its mucous membrane. A discharge may contain all these, but one form or other will predominate, according to the locality where it was produced.

A full chemical analysis of the alvine evacuations in yellow fever is very desirable. I made various attempts at qualitative examination, but as the methods were defective, and the results consequently uncertain, it would be useless to notice them further.

*Discharges from Stomach.*—Though the discharges from the stomach have attracted attention from the earliest period, much difference of opinion exists as to their nature and origin, and their value as characteristic of the disease.

At the commencement, if the stomach be irritable, the matters rejected, in addition to the ordinary ingesta, are mucous, more or less tinged with bile. To these succeed, in many cases, a clear fluid, with an acid reaction, which seems to have been particularized first by Blair, and which he denominated "acid elimination," or "white vomit." This, again, is followed by black vomit. All these may occur in succession, in the same individual, but one or more, or even all, may be absent in a genuine case of yellow fever.

The early vomitings are accompanied by a good deal of nausea, and much straining. With the white vomit there is extreme oppression at the precordia, often with a burning sensation; the straining during the efforts to vomit is very great, and, after a painful endeavour to relieve the stomach, the patient will often turn back in bed without having thrown off anything. When a little is rejected it is usually clear mucus, sometimes very acid, but sometimes this is less marked. The more copious the white vomit is, the less acid is it found to be, and the oppression at the epigastrium seems less.

When black vomit comes on, the discharge takes place without any very decided effort, and often without any apparent exertion of those muscles which are deeply engaged in the ordinary efforts of vomiting; and the oppression at the precordia, so remarkable with the white vomit, has often completely disappeared.

The transition from white to black vomit first manifests itself by the appearance of brown specks in the clear mucus, which have been likened to pinches of snuff. These increase in number, the mucus becomes more limpid, and tinged more or less of the same colour, and a sediment separates. The fluid in this condition often remains decidedly acid. As the brown matter increases in quantity, the acidity frequently becomes less marked, and sometimes is insufficient to redden litmus.

The nature, and place, and mode of origin, of black vomit, have given rise to much discussion. Many have thought it a morbid secretion of the liver; others have attributed it to a dissolved state of the blood, allowing it to exude through the mucous membrane; others have considered there was hæmorrhage from the capillaries, and that the blood-



globules were destroyed in the acid secretions of the stomach; others, again, have attributed the black vomit to a secretion from the mucous surfaces of the organs in which it was found.

On examining specimens of characteristic black vomit by the microscope I found much columnar and glandular epithelium, the latter granular; and many free granules which were colourless, pretty clear, spherical, and sometimes corrugated on the surface; these were half the diameter of blood-corpuscles, and of a different colour. The colouring matter was brown, amorphous, and no blood-globules were detected. Spores, torulæ, and other extraneous matters were common. These appearances agree in the main with those described by American authors; but I have not met with the masses "of modified and disintegrated blood-corpuscles," or "the granular detritus and irregular masses, apparently the results of degradation of blood-corpuscles" described by La Roche.\* The discharge is sometimes much more of the colour of venous blood than the usual coffee-ground appearance, and may even contain blood-globules, little altered, from hæmorrhage, but in its most characteristic forms these may be, and most frequently are, completely absent.

When little black vomit had been ejected, or formed in the stomach, a large portion of the mucous membrane was often of a deep brown colour. When more of that had been formed, even though it remained in the organ, the lining membrane presented a less extensive discoloration, a few brown streaks only remaining, or even these were absent. It is clear, from this fact, that the discoloration of the mucous membrane does not arise from imbibition of the coloured fluids in contact with it. Yet on placing a section from the discoloured portions under the microscope, the tubular glands were found with their epithelium in a granular condition, and thoroughly impregnated with a brown colouring matter—the granules, however, remaining pretty free from it. Vessels could be detected among the tubes, in various places, distinctly, with entire blood-corpuscles in them. As has been stated by Blair and others, it is quite a mistake that the blood, generally, is in the dissolved state so often supposed by many authors.

The facts of the glandular epithelium in the tubular glands of the stomach being coloured brown and containing numerous granules, coupled with the disappearance of that colour as black vomit becomes copious, and the occurrence of similar elements constituting the characteristic portions of the vomit itself, appear to leave no doubt as to its place of origin, and as to its being a true secretion, though occurring in the course of disease. It is quite analogous in this respect to what has been described above as having taken place from the kidneys in the course of this disease, and to what I have elsewhere shown takes place in a state of health from the glands of the mucous membrane of the colon.† It is a significant fact, too, that those cases of yellow fever in which the colon ceases to perform this part of its

\* On Yellow Fever, vol. i. p. 315.

† British and Foreign Medico-Chirurgical Review, vol. xxviii. p. 488.



function, are those most inimical to black vomit, or similar discharges, or hæmorrhage from other organs, while natural-coloured alvine discharges are the surest signs of amendment. The occurrence of hydrochloric acid in considerable quantity in the white and black vomits, coincident with the diminished elimination of chlorides from the kidneys, affords another indication of the stomach exercising a vicarious eliminative action in the disease.

Blair has given a table of the days of occurrence of white and black vomits, from which it appears that the former manifests itself most frequently on the third and fourth days of the disease, though frequently also (and nearly in equal numbers each day) on the second and fifth days; while in other cases it took place as late as the twelfth day. The black vomit appeared most frequently on the fourth, fifth, and sixth days, though cases were by no means uncommon on the third and seventh days, and instances were seen on the first, and as late as the thirteenth day of the disease. As these discharges may be regarded as efforts of the system at crises, it is clear they may be looked for at the various periods of the disease when critical evacuations might be expected; and though most frequent from the third to the sixth day, yet it is possible they might occur either sooner or later. Blair's table, however, may require modification; he was under the impression that the access of yellow fever was characterized by well-marked symptoms, which left no doubt as to its period of invasion; this, however, is not always the case, and the exceptions are more numerous than he contemplated. The following extract from one of the older writers on West Indian fever is more correct:

"It is worth remarking, that the fever sometimes appears in a very slight way, with languor, loss of appetite, some degree of headache, disturbed sleep, and whiteness of tongue; the patient being able all the while to go about his usual employment. In symptoms so moderate, the presence of a fever is hardly acknowledged, though the readiness with which they rise into a severe disease, on the least irregularity, or any anxiety or distress of mind, leaves no doubt of their nature."\*

Cases answering this description must have occurred to every one of any experience in the tropics; and the difficulty I have had in fixing the period of accession of the disease in such, makes me doubtful as to the weight to be attached to Blair's determinations for the earlier days in his table.

*Hæmorrhages from other Organs.*—I have known three cases of discharge of bloody fluid from the lungs in the last stage of yellow fever; and oozing from the gums, nose, and conjunctiva are not uncommon. Copious discharges from the vagina are met with in females. As in none of these cases, however, had I examined the fluid with the microscope, I cannot give any information as to the condition of the blood it contained.

\* Observations on the Diseases of the Army in Jamaica, by John Hunter, M.D., Physician to the Army, p. 95. London, 1788.



No 21

SIR JAMES CLARK was born at Cullen in Banffshire in December 1788, and was educated at the parish school of Fordyce, and subsequently at the University of Aberdeen. In 1806 he entered a writer's (solicitor's) office at Banff; but, not liking the law, he was given the choice of the Church, with the promise of a ministry, or the profession of medicine. He chose the latter calling, and proceeded to Edinburgh. In 1809 he passed at the College of Surgeons, and then entered the medical service of the navy. He served at Haslar Hospital till July 1810, when he was sent to sea as Assistant-Surgeon in the schooner 'Thistle,' which was going with despatches to New York. The 'Thistle' was wrecked, with the loss of several of her crew, on the coast of New Jersey, and the survivors lost everything they possessed, and suffered great privations. On returning to England he was promoted to the rank of surgeon, and joined the 'Collobrée.' It is remarkable that this vessel was also wrecked on the American coast. He was then appointed to the 'Chesapeake,' which had been recently taken by Sir Philip Broke, in his famous action, and served in her until 1814, when he was transferred to the 'Maidstone.' In this ship he met with and formed a strong friendship for Lieutenant (afterwards Sir Edward) Parry, the celebrated Arctic navigator, and made, in conjunction with him, a series of experiments on the temperature of the Gulf-stream. During his service in the navy his attention appears to have been strongly directed to the question of climate, and the few notes he has left of this period of his life chiefly refer to observations he made on this subject, and to the hygienic conditions influencing the health of the men under his charge.

In 1815 the 'Maidstone' returned to England to be paid off, and Sir James Clark was placed on half pay. In 1816 he went to Edinburgh, where he attended the University Classes, and graduated as M.D. in 1817.

In 1818 he was asked to accompany a gentleman far advanced in consumption to the south of France. He went with his patient to Marseilles, Hyères, Nice, and Florence, during the winter and spring, and in the summer to Lausanne. It was owing to this charge that his attention was especially drawn to the effect of climate on consumption, and that he commenced the collection of meteorological and climatic data, with a view of studying their influence on that disease.

In 1819 he settled in Rome, where English families were beginning to congregate, and remained there until 1826, when he removed to London.

During his residence at Rome he spent the summers in visiting the medical schools and the watering-places of Italy, France, and Germany, and continued his studies on climate. In 1820 he published a small work, entitled "Notes on Climate, Diseases, Hospitals, and Medical Schools in France, Italy, and Switzerland," which formed the foundation of a subsequent larger work on the 'Sanative Influence of Climate.' In the same year he was married to Miss Stephen, the daughter of the Rev. Dr. Stephen,



Rector of Nassau, and Chaplain to the Forces at New Providence. In 1826, being partly urged to the step by his friends, and partly influenced by consideration for his wife's health, he left Rome; and after a few months spent in visiting the chief medical institutions of France and Germany, and the Pyrenean and German baths, then very little known in England, he settled in London. In the autumn of 1827 he was attacked with typhoid fever, and was ill for several months. He never recovered perfectly from this attack; it left a delicacy of digestion behind it, and permanently enfeebled him.

Soon after settling in London, Prince Leopold, afterwards King of the Belgians, whose attention had been called to him by his investigation of the German waters, appointed him his physician, and this subsequently (in 1834) led to his appointment as physician to the Duchess of Kent.

In 1829 he published his larger work on the 'Sanative Influence of Climate.' This work, which was long considered the standard book on climate, and went through several editions, has had a very wide influence, not only on medical practice, but on the collection of meteorological and other data respecting climatic conditions. He subsequently (1832) published articles on air and climate in the 'Cyclopædia of Practical Medicine.'

In the autumn of 1829 Prince Leopold, who was then engaged in the negotiation which resulted in his refusal of the crown of Greece, offered, if he accepted the crown, to take Dr. Clark to Athens; but this he declined.

He was elected a Fellow of the Royal Society in 1832, and in 1835 published his 'Treatise on Consumption and Scrofula,' which, as well as the work on climate, was translated into Italian, German, and French, and passed in this country through several editions.

Soon afterwards he wrote an article on tubercular phthisis in the 'Cyclopædia of Practical Medicine.'

Two years subsequently, on the accession of Her Majesty, he was appointed Physician in Ordinary, and subsequently received a similar appointment to Prince Albert.

From this time the life of Sir James Clark (he was made a baronet in 1838) was spent in the discharge of his responsible duties as medical adviser to the Court, and in the fatigues of a London practice. It was therefore impossible for him to continue his scientific observations on climate, or even to prosecute further his more purely professional inquiries. But indirectly, in this latter period of his life, he lent a most powerful aid to science.

He was always ready to help, and to use his influence, which yearly became greater, both with the Court and with the leaders of parties, for the furtherance of scientific objects, and for the advance of education. It is difficult to give a complete account of what he did in this direction, as he has left no records. He was, indeed, singularly indifferent to the recognition of his services, and, provided the end was gained, did not desire that his share in it should be known. But his chief influence appears to have been directed to the improvement of medical and of general education,



to fostering special scientific instruction, to the promotion of sanitary measures, to the improvement of the Lunacy Laws, and of the public medical services.

He appears to have always taken a deep interest in medical education. Early in life he had published in Italian a work addressed to Professor Tommasini on English medical literature, and some time afterwards he published some 'Observations on the System of Teaching Clinical Medicine in the University of Edinburgh, with suggestions for its improvement.' He had also corresponded with both French and Italian physicians on this point; and in the summer of 1825 he had spent several months in Paris for the purpose of observing the method of clinical teaching followed by Laennec.

When, therefore, in 1838 the University of London was founded, and he was asked to serve on the Senate, he was fully prepared to deal with this subject of medical education; and it is to a considerable extent to his labours at that time, and subsequently, when further changes were made in the curriculum, that the present examining system of the Medical Section of the University owes its shape. The leading features of the scheme which, in consultation with experienced medical teachers, he adopted, and which he advocated in the Senate, were to require evidence of a certain time having been spent in the study of medicine, but not to demand or to rely on many certificates of attendance, but to trust to a searching examination; to split up the examination into two (and subsequently into three) parts, to be undergone at different stages of education, and to make the examination as practical and as thorough as possible. Clinical examinations were not, however, at first employed, but he subsequently obtained the introduction of this important part of medical examination.

He continued to serve on the Senate until 1865, when he resigned, to the great regret of his colleagues.

In 1854, when the Government determined to open the Indian medical service to unrestricted competition, he was requested to organize the method of medical examination. He did so, and gave this examination the form which, with a slight alteration, it has since retained. In this examination he recommended the introduction of practical surgical and medical tests; and to this may be traced much of the improvement which has taken place of late years in all parts of the kingdom in practical medical teaching.

In 1858 he was appointed by the Crown a Member of the General Council of Medical Education which was constituted under the Medical Act of that year. He served on this body till December 1860.

In connexion with medical education, he interested himself on the subject of Medical Reform, and in 1842 and 1843 he wrote two letters to Sir James Graham on that subject. The second letter, which gives a *résumé* of the first, urges the need "for a good and uniform system of medical education," which he says should be the same throughout the empire for every medical practitioner. He then sketches the constitution of a body



to whom ought to be delegated the power of carrying out the principles of education to be laid down by the Government. He had evidently formed an idea of a General Medical Council, which may yet some day be turned to account.

He did not, however, restrict his labours to medical education. He took a deep interest in the improvement of the Universities generally, and assisted Prince Albert in the projects which eventually ended in the alterations in the Universities of Cambridge and Oxford. At a later date he was very active in aiding the reconstruction of the University of Aberdeen.

His greatest attempt to improve purely scientific education was made in connexion with the College of Chemistry. He was deeply impressed with the defective opportunities of studying practical chemistry in this country as compared with Germany, and with the unfavourable influence that deficiency would have, not only on our scientific standing, but on our powers as a manufacturing nation. The influence of Liebig's doctrines on agricultural chemistry and on the improvement of the productive powers of soil were also at that time attracting great attention in England, and impressed him greatly with the importance of cultivating this subject. Whether the State should or should not more or less assist the teaching of pure science, or should leave this to the independent exertion of institutions or private individuals, is a matter which need not be here discussed. Sir James Clark's opinion appears to have been that the Continental system of State aid had the effect of overweighting England in the race, and that if we wished to maintain our equality in science, we had no option but to imitate to a certain extent the Continental plan. The College of Chemistry, however, in the first instance, was intended to be self-supporting. It was commenced in 1845 by Dr. Gardner; and Sir James Clark soon became one of its most active supporters, and through his influence Prince Albert interested himself greatly in it.

In the summer of that year, when the Queen and Prince were in Germany, Professor von Liebig was requested by Sir James to name some chemist who could carry on in England the same kind of practical instruction which had made Giessen so famous. Liebig mentioned three names, and fortunately circumstances led to the selection of Dr. Hofmann. Through the influence of Prince Albert, Dr. Hofmann obtained leave from the University of Bonn for two years, and soon afterwards the College of Chemistry was opened.

How successful it was in a scientific point of view, even from the first, needs no record; but its expenses were heavy, and perhaps the College might even have been closed from pecuniary failure about the year 1852 had not the Prince Consort, urged on by Sir James, so exerted his influence that the Government consented to give a small assistance, and at length the College of Chemistry eventually became incorporated with the Royal School of Mines. Since that time the College (which is partly self-supporting) has done much to diffuse among our manufacturing and agri-



cultural population a knowledge of Chemistry, and to advance the science by original research. It is to be regretted, however, that the College of Chemistry, originally established as an independent institution, self-supporting, or aided, if necessary, by private means, could not maintain itself on that footing.

As far as possible also Sir James Clark gave a warm support to all plans for promoting the study of Natural History, and was ready to urge on the Government at any time any reasonable mode of doing this, or of furthering independent inquiries.

Passing from pure science, he had a great share in the sanitary movement which has been so marked a feature of our days, although his name was not brought before the public so prominently as that of others who had really less influence. From a very early period he had been a very strong advocate of measures calculated to prevent disease and to improve the public health. He therefore used his influence with the Government to institute the Health of Towns' Commission, and those other early inquiries which were the foundation of the present movement. He was at this time intimately acquainted both with Andrew and George Combe, and estimated very highly the philosophical characters of the two brothers. Some years afterwards he edited and partly rewrote one of Andrew Combe's Hygienic works on the Management of Infancy.

At a very early date also, long before the Crimean war, he did what he could to get the sanitary state of the army and navy inquired into and remedied.

There can be no doubt that his service in the Navy had impressed him with the urgent importance of this subject, and had also given him a strong conviction of the waste of life in warlike operations.

Owing probably to their knowledge of his exertions in this direction, the Government during the Crimean war requested his cooperation in the organization of Supplementary Civil Hospitals, in support of the Military Hospitals, which were overflowing and had proved unequal to the work entailed by a severe campaign. He assisted in the deliberations which resulted in the establishment of the Smyrna Hospital; and subsequently, when a second hospital was required, the Government requested him to undertake the entire organization. He did so, and the result was the great Hospital of Renkioi on the Dardanelles, which was intended for 3000 sick. This hospital, the design of which was made by Mr. Brunel, has proved the model of the American Wooden Hospitals established during the late civil war, and indirectly has given rise to many of the arrangements in field hospitals in war which were carried out in Italy and Germany in the campaigns of 1859 and 1866, and are now being repeated on a still larger scale.

It was therefore not surprising that after the Crimean war he was asked to serve on the Royal Commission, presided over by Mr. Sidney Herbert, for inquiring into the health of the army; and he had no small share in



shaping the conclusions arrived at in that well-known and important inquiry. He subsequently took an equal interest in the Indian Sanitary Commission; and it is really chiefly to his exertions and his influence with the Government (in support of the persistent action of Miss Nightingale, Sir Ranald Martin, Dr. Sutherland, and others) that we must attribute the advance which has been made in carrying out that most important reform, a reform which will influence not only the European soldiers in India, but the many million inhabitants of that empire.

It is not wished to claim for Sir James Clark more honour than is due. There were many other labourers in the field, and no one man unassisted could have done such great works. All that is urged for him is that he was one of the earliest of those who saw the importance of sanitary science, and that he was ever ready with time and thought and influence to aid in the progress of inquiry and reform. In connexion with military medical arrangements, he served on the Committee which organized the Army Medical School now stationed at Netley; and he continued to the last moment to take the warmest interest in everything connected with that institution.

In addition to the work of inquiry on sanitary legislation among the civil population and in the public services, he was very much interested in the legislation for the insane. In 1855 an American lady, Miss Dix, who was visiting the lunatic asylums of England and Scotland, was refused admission into some of the private asylums in the latter country. In order to compass her wishes, she obtained introductions to some influential persons, among others to Sir James Clark, and the inquiries then set on foot led to the appointment of a Royal Commission to inquire into the Scotch Lunacy Laws. In this inquiry, and in the appointment of the Lunacy Commissioners which followed the Report of the Royal Commission, Sir James Clark took an active share; and in after years, when various attempts were made to revert to the old state of things, he spared neither time nor trouble to stem the retrograde current by correspondence and verbal remonstrance with Members of Parliament and Members of the Cabinet; indeed, after his death, the Lord-Advocate quoted in Parliament a letter from him as a justification of the foundation of the Scotch Lunacy Board.

Only two years before his death he wrote a life of Dr. Conolly, the object of which was not only to perpetuate the memory of his friend, but also to place before the public the true treatment of the insane, and to rebut the attempts, certainly feeble enough, which have been made to impair the wise and benevolent mode of treatment which Conolly did so much to popularize.

When it is considered that all these labours (and in the true sense of the word his exertions were labours) were carried on in addition to the work entailed by his Court duties and a large private practice, the great activity of Sir James Clark will be appreciated.

In this sketch only some of the public services rendered by him can be



referred to ; for his mode of using his influence was so unostentatious, and his desire for a recognition of his services so small, that much of what he did is scarcely known ; and the want of specific details in showing how his influence was brought to bear in so many ways is owing to the modesty of his nature. Justice, too, has hardly been done in the foregoing lines to his scientific knowledge and sympathies. In this respect, as in his constant endeavour to promote the wellbeing of his fellowmen, he was so little self-obtrusive that few men knew the extent of his acquirements. He paid, even to within a week of his death, constant attention to scientific progress, and especially to its practical application. Among his notes written but a few weeks before his last illness are details of the composition and mode of action of chloral. It was this union of a scientific spirit with great benevolence of character which, aided by a large experience abroad and at home, made him so excellent a physician.

His position at the Court necessarily occupied much of his time and thoughts ; he was unceasing in his attention to the health of the Queen and of her children, and the Royal family owe to him much of that blessing of health which has happily been their lot. He was on most confidential terms with the Prince Consort ; and the Prince found in him a congenial adviser on all points connected with education and science. The Queen's trust in him was early and firmly implanted, and was never impaired, and her sympathy and, we can truly say, affection for him were manifested to the last.

Sir James Clark retired from private practice in 1860, and removed to Bagshot Park, which Her Majesty had lent him for his life. He died there on the 29th of June, 1870, in the eighty-second year of his age, retaining almost to the last hour of his life a warm interest in all scientific progress, and a heart-felt sympathy with every step which would promote the improvement and happiness of his fellowmen.







Homo plantat, Homo irrigat, sed Deus dat Incrementum.

Ancient Motto of the School.



# Merchant Taylors' School.

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Additions to the School "Fasti,"

FROM

JANUARY 1st, 1862, to JUNE 1st, 1874.



## SCHOLARS AT OXFORD.

### FELLOWSHIPS AT ST. JOHN'S COLLEGE, On the Old System.

1862	June	S. N. Tebbs, Probationary Fellow, 1859, First Class in Classics, and First Class in Mathematics at Moderations, Michaelmas, 1861.	} admitted Fellows of St. John's
1863	—	W. Baker, Prob. Fellow, 1860 ( <i>vide infra</i> ).	
1864	—	H. D. Traill, Prob. Fellow, 1861 ( <i>vide infra</i> ).	
—	—	E. C. Dermer, Prob. Fellow, 1861 ( <i>vide infra</i> ).	
—	—	L. L. Sharpe, Prob. Fellow, 1861 ( <i>vide infra</i> ).	

### FELLOWSHIPS AT VARIOUS COLLEGES.

- 1864 J. R. Thursfield, Scholar of Corpus, 1859, *vide infra*, *elected* Fellow of Jesus.
- Henry L. Mansel, Waynflete Professor of Moral and Metaphysical Philosophy, (*vide infra* "Appointments of former Scholars") *elected* Professor Fellow of St. John's.
- 1867 R. C. L. Dear, Scholar of St. John's, 1863, *vide infra*, *elected* Fellow of Merton.
- 1868 T. K. Cheyne, Scholar of Worcester, 1859, and Divinity Lecturer at St. Edmund Hall, *vide infra*, *elected* Fellow of Balliol.
- 1869 T. H. Ward, Scholar of Brasenose, 1864, *vide infra*, *elected* Fellow of Brasenose.
- R. S. Copleston, Postmaster of Merton, 1864, *vide infra*, *elected* Fellow of St. John's.
- Edward Bond, Scholar of St. John's, 1862, *vide infra* *elected* Fellow of Queen's.
- 1870 C. T. Cruttwell, Scholar of St. John's, 1862, *vide infra*, *elected* Fellow of Merton.
- 1872 I. S. Leadam, Scholar of University, 1867, *vide infra*, *elected* Fellow of Brasenose.
- H. M. R. Pope, Scholar of St. John's, 1867, &c., *vide infra*, *elected* Fellow of Lincoln.

### FIRST CLASSES AT B.A. DEGREE.

- 1863 Michs. J. R. Thursfield, Scholar of Corpus, 1859, and First Class in Classics at Moderations, 1861, *vide supra et infra*, *First Class in Classics*.
- 1865 Easter G. Hookham, Scholar of Lincoln, 1861, *vide infra*, *First Class in Classics*.
- Michs. E. C. Dermer, Fellow of St. John's, 1864, *vide supra et infra*, *First Class in Law and Modern History*.
- — R. Hughes, Andrew's Exhibitioner of St. John's, 1861, *First Class in Law and Modern History*.
- — S. P. Hall, Scholar of Pembroke, 1861, *vide infra*, *First Class in Classics*.
- 1866 — E. Bond, Scholar of St. John's, 1862, *vide supra et infra*, *First Class in Classics*.



- No 22
- 1867 Michs. R. C. L. Dear, Scholar of St. John's, 1863, vide *suprà* et *infra* *First Class in Classics*.  
 1868 — T. H. Ward, Scholar of Brasenose, 1864, vide *suprà* et *infra*, *First Class in Classics*.  
 1870 — C. T. Cruttwell, Scholar of St. John's, 1866, vide *suprà* et *infra*, *First Class in Classics*.  
 1871 Easter I. S. Leadam, Scholar of University, 1867, vide *suprà* et *infra*, *First Class in Classics*.  
 — Michs. H. M. R. Pope, Scholar of St. John's, 1867 vide *suprà* et *infra*, *First Class in Classics*.  
 1872 — Bernard Reynolds, of Wadham, *First Class in Modern History*.  
 — C. H. Gibson, Scholar of St. John's, 1868, vide *infra*, *First Class in Classics*.  
 1873 Easter A. W. Roberts, Lincoln College, *First Class in Modern History*.  
 — Michs. E. G. A. Holmes, Scholar of St. John's, 1869, vide *infra*, *First Class in Classics*.

#### FIRST CLASSES AT MODERATIONS.

- 1862 Easter W. Baker, Probationary Fellow of St. John's, 1860, vide *suprà* et *infra*, *First Class in Classics*.  
 — — H. R. Huckin, Andrew's Exhibitioner of St. John's, 1860, vide *infra*, *First Class in Classics* and *First Class in Mathematics*.  
 — Michs. G. Hookham, Scholar of Lincoln, 1861, vide *suprà*, *First Class in Classics*.  
 1863 Easter H. D. Traill, Probationary Fellow of St. John's, 1861, and School Tercentenary Scholar, vide *suprà* et *infra*, *First Class in Classics*.  
 1864 — E. Bond, Scholar of St. John's, 1862, School Tercentenary Scholar, and Pitt Club Exhibitioner, vide *suprà*, *First Class in Classics*.  
 1865 — R. C. L. Dear, Scholar of St. John's, 1863, and School Tercentenary Scholar, vide *suprà* et *infra*, *First Class in Classics*.  
 — Michs. H. R. Hand, Scholar of St. John's, 1863, *First Class in Classics*.  
 1866 Easter R. S. Copleston, Postmaster of Merton, 1864, and School Tercentenary Scholar, vide *suprà* et *infra*, *First Class in Classics*.  
 — Michs. Robert Hutchison, Scholar of Exeter, 1864, vide *infra*, *First Class in Classics*.  
 — — Edward Nolan, School Exhibitioner at St. John's, 1864, vide *infra*, *First Class in Classics*.  
 1867 Easter A. J. Swinbourn, Scholar of Queen's, 1866, vide *infra*, *First Class in Classics*.  
 — — H. W. Turner, Scholar of St. John's, 1865, *First Class in Classics*.  
 1868 — G. Shattock, Scholar of St. John's, 1866, and Pitt Club Exhibitioner, *First Class in Classics*, and *First Class in Mathematics*.  
 — — C. T. Cruttwell, Scholar of St. John's, 1866, School Tercentenary Scholar, and Pitt Club Exhibitioner, *First Class in Classics*.  
 1869 — I. S. Leadam, Scholar of University, 1867, vide *suprà* et *infra*, *First Class in Classics*.  
 — — H. M. R. Pope, Scholar of St. John's, 1867, School Tercentenary Scholar, vide *infra*, *First Class in Classics*, and *First Class in Mathematics*.  
 1870 — C. H. Gibson, Scholar of St. John's, 1868, vide *suprà*, School Tercentenary Scholar, *First Class in Classics*.  
 — Michs. C. F. Bourne, School Exhibitioner, 1868, vide *infra*, and Casberd Scholar of St. John's, 1870, *First Class in Classics*.  
 1871 Easter E. G. A. Holmes, Scholar of St. John's, 1869, vide *suprà* et *infra*, *First Class in Classics*.  
 — Michs. H. B. Ottley, Scholar of St. John's, 1869, School Tercentenary Scholar, *First Class in Classics*.



## SECOND CLASSES AT B.A. DEGREE.

- 1863 Michs. J. H. Merriott, Postmaster of Merton, 1859, First Class in Classics at Moderations, Easter, 1861, *Second Class in Classics*.  
 — — H. W. Challis, Postmaster of Merton, 1859, First Class in Mathematics at Moderations, 1861, *Second Class in Mathematics*.  
 1864 — W. Baker, Fellow of St. John's, 1863, vide *suprà et infrà*, *Second Class in Classics*.  
 — — H. R. Huckin, Andrew's Exhibitioner of St. John's, 1860, vide *suprà*, *Second Class in Classics*, and *Second Class in Mathematics*.  
 1865 — H. D. Traill, Fellow of St. John's, 1864, vide *suprà et infrà*, *Second Class in Natural Science*.  
 1867 — N. H. Paterson, Stuart's Exhibitioner of St. John's, vide *infrà*, *Second Class in Law and Modern History*.  
 1868 — John Bond, Scholar of St. John's, 1864, vide *infrà*, *Second Class in Classics*.  
 — — R. S. Copleston, Postmaster of Merton, 1864, vide *suprà et infrà*, *Second Class in Classics*.  
 — — W. G. Gribbon, Andrew's Exhibitioner of St. John's, 1864, vide *infrà*, *Second Class in Law and Modern History*.  
 1869 — A. J. Swinbourn, Scholar of Queen's, 1866, vide *suprà*, *Second Class in Classics*.  
 1870 — G. Shattock, Scholar of St. John's, 1866, vide *suprà et infrà*, *Second Class in Classics*.  
 — — W. E. Matthew, Andrew's Exhibitioner, 1866, and Casberd Scholar of St. John's, 1869, *Second Class in Classics*.  
 1872 — J. G. M. Stretton, Hebrew Exhibitioner of Wadham, 1869, vide *infrà*, *Second Class in Theology*.  
 — — C. F. Bourne, School Exhibitioner, 1868, vide *infrà*, and Casberd Scholar of St. John's, 1870, *Second Class in Classics*.  
 1873 — A. W. Roberts, Lincoln College, vide *suprà*, *Second Class in Law*.

## SECOND CLASSES AT MODERATIONS.

- 1862 Michs. F. C. Veley, School Exhibitioner at St. John's, 1860, *Second Class in Classics*.  
 1863 Easter E. C. Dermer, Probationary Fellow of St. John's, 1861, vide *suprà et infrà*, *Second Class in Classics*.  
 — — L. L. Sharpe, Probationary, Fellow of St. John's, 1861, *Second Class in Classics*.  
 — — S. P. Hall, Scholar of Pembroke, 1861, vide *suprà*, *Second Class in Classics*, and *Second Class in Mathematics*.  
 — Michs. A. Loughborough, Probationary Fellow of St. John's, 1861, *Second Class in Classics*.  
 1864 — T. Nolan, Scholar of St. John's, 1862, and Pitt Club Exhibitioner, *Second Class in Classics*.  
 1865 — N. H. Paterson, Stuart's Exhibitioner of St. John's, 1863, vide *suprà et infrà*, *Second Class in Classics*.  
 1866 Easter John Bond, Scholar of St. John's, 1864, vide *suprà*, *Second Class in Classics*.  
 — — W. G. Gribbon, Andrew's Exhibitioner of St. John's, 1864, vide *suprà*, *Second Class in Classics*.  
 — — T. H. Ward, Scholar of Brasenose, 1864, vide *suprà et infrà*, *Second Class in Classics*.  
 — Michs. Fred. Hookham, Exhibitioner of Lincoln, 1864, vide *infrà*, *Second Class in Classics*.  
 1867 Easter R. G. Brown, Jackson Scholar of Merton, 1865, and School Tercentenary Scholar, vide *infrà*, *Second Class in Classics*.  
 1868 — W. E. Matthew, Andrew's Exhibitioner of St. John's, 1866, vide *infrà*, *Second Class in Classics*.



- 1868 Easter R. R. Sharpe, Andrew's Exhibitioner of St. John's, 1866  
*Second Class in Classics.*
- 1869 — F. A. Gregory, of Corpus, *Second Class in Classics.*
- Michs. D. M. Birkett, Junior Student of Christ Church, 1868, vide  
*infra, Second Class in Classics.*
- — H. A. Redpath, Scholar of Queen's, 1867, vide *infra, Second*  
*Class in Classics.*
- 1870 — J. G. M. Stretton, Hebrew Exhibitioner of Wadham, 1869, vide  
*suprà et infra, Second Class in Classics.*
- 1871 Easter H. D. Elam, Stuart's Exhibitioner of St. John's, 1869, *Second*  
*Class in Classics.*
- 1872 — T. W. Gibson, Scholar of St. John's, 1870, School Tercentenary  
 Scholar, *Second Class in Classics.*
- — R. G. Matthew, Scholar of Wadham, 1870, *Second Class in Classics.*
- — E. A. Wells, Scholar of St. John's, 1870, *Second Class in Classics.*
- 1873 — Ambrose J. Wilson, Scholar of St. John's, 1871, School Tercen-  
 tenary Scholar, *Second Class in Classics.*
- Michs. W. H. Chater, Scholar of St. John's, 1871, *Second Class in*  
*Classics.*
- — W. G. Trousdale, Andrew's Exhibitioner of St. John's, 1871,  
*Second Class in Classics.*

#### SCHOLARSHIPS AT ST. JOHN'S COLLEGE BY COMPETITION FROM MERCHANT TAYLORS'.

- 1862 June E. Bond, Head Monitor, } vide *suprà.*
- — T. Nolan, Fourth Monitor, }
- 1863 — R. C. L. Dear, Head Monitor, vide *suprà et infra.*
- — H. R. Hand, Second Monitor, } vide *suprà.*
- 1864 — J. Bond, Head Monitor, }
- 1865 — [R. G. Brown, Head Monitor, vide *suprà et infra.*]\*
- — H. W. Turner, Second Monitor, vide *suprà.*
- 1866 — G. Shattock, Head Monitor, }
- — C. T. Cruttwell, Second Monitor, } vide *suprà et infra.*
- 1867 — H. M. R. Pope, Head Monitor, }
- 1868 — C. H. Gibson, Head Monitor, }
- 1869 — E. G. A. Holmes, Head Monitor, } vide *suprà.*
- — H. B. Ottley, Second Monitor, }
- — J. A. W. Madden, Third Monitor, }
- 1870 — T. W. Gibson, Head Monitor, vide *suprà.*
- — J. N. Ellaby, Second Monitor, }
- — E. A. Wells, Third Monitor, }
- 1871 — A. J. Wilson, Fifth Monitor, } vide *suprà.*
- — W. H. Chater, Fourth Monitor, }
- — A. H. Lang, Head Monitor, }
- 1872 — T. W. Aston, Head Monitor, }
- — W. S. Burrell, Sixth Monitor, }
- — F. Goldsmith, Fourth Monitor, }
- 1873 — R. R. H. Ross, Head Monitor, }
- — D. J. Cowles, Third Monitor, }
- — W. L. Giles, Eighth Monitor, }

#### SCHOLARSHIPS &c. AT VARIOUS COLLEGES.

- 1862 R. J. Crosthwaite, Scholar of Brasenose, 1859, and Pusey and Ellerton  
 Hebrew Scholar, 1860, *elected* Hulmian Exhibitioner of Brasenose.
- 1863 [N. H. Paterson, Seventh Monitor, *elected* Exhibitioner of Lincoln.]\*†
- 1864 R. S. Copleston, Second Monitor, and School Tercentenary Scholar  
*elected* to the £100 Postmastership at Merton.
- J. Whitmore, Fourth Monitor, *elected* Exhibitioner of Merton.
- T. H. Ward, Eighth Monitor, *elected* Scholar of Brasenose.

\* Resigned before Matriculation, to take a Jackson Scholarship at Merton.

† Resigned before Matriculation, to take a Stuart's Exhibition at St. John's.



- 1864 Robert Hutchison, late Fifth Monitor, *elected* Scholar of Exeter.  
 — Fred. Hookham, late Head Prompter, *elected* Exhibitioner of Lincoln.
- 1865 R. G. Brown, Head Monitor, and School Tercentenary Scholar, *elected* Jackson Scholar of Merton.  
 — A. J. Swinbourn, Fifth Monitor, *elected* Exhibitioner of Lincoln.  
 — H. W. Reynolds, late of Head Form, *elected* Hebrew Exhibitioner of Wadham.
- 1866 A. J. Swinbourn, Exhibitioner of Lincoln, 1865, *elected* Scholar of Queen's.  
 — Clement A. W. Cruttwell, Head Prompter, *elected* Lodge's Exhibitioner of University College.
- 1867 H. T. Waters, some time Eighth Prompter, Commoner of Wadham, *elected* Hebrew Exhibitioner of Wadham.  
 — Isaac Saunders Leadam, Fourth Monitor, *elected* Scholar of University College.  
 — Henry A. Redpath, Second Monitor, *elected* Scholar of Queen's College.  
 — E. Nolan, School Exhibitioner of St. John's, *elected* Casberd Scholar of St. John's.
- 1868 D. M. Birkett, late Head Monitor, *elected* Junior Student of Christ Church.
- 1869 P. M. Herford of Brasenose, *elected* Hulmian Exhibitioner of Brasenose.  
 — J. G. M. Stretton, late Fifth Monitor, of Wadham College, *elected* Hebrew Exhibitioner of Wadham.  
 — W. E. Matthew, Andrew's Exhibitioner of St. John's, *elected* Casberd Scholar of St. John's.
- 1870 G. A. Ommanney, late Fourth Prompter, of Wadham, *elected* Hebrew Exhibitioner of Wadham.  
 — R. S. Gregory, of Trinity, *appointed* Senior Exhibitioner of Trinity.  
 — R. G. Matthew, late Sixth Monitor, of St. John's, *elected* Scholar of Wadham.  
 — C. F. Bourne, School Exhibitioner of St. John's, *elected* Casberd Scholar of St. John's.
- 1871 H. D. Elam, Stuart Exhibitioner of St. John's, 1868, *elected* Casberd Scholar of St. John's.
- 1872 F. W. G. Perry, Upper Sixth Form, *elected* Hebrew Exhibitioner of Worcester College.  
 — W. L. Bicknell, late of Sixth Form, *elected* Scholar of Lincoln.  
 — Bernard Reynolds, late of Head Form, of Wadham, *appointed* Goodridge Exhibitioner of Wadham.  
 — Arthur Robert Bartlett, late of Head Form, of Wadham, *appointed* a College Exhibitioner of Wadham.
- 1873 F. W. G. Perry, Hebrew Exhibitioner of Worcester College, *elected* Meek Scholar of Magdalen Hall.  
 — A. F. Thornhill, Second Prompter, *elected* Exhibitioner of Magdalen Hall.  
 — T. R. E. Holmes, Second Monitor, *elected* Junior Student of Christ Church.  
 — P. J. Dear, late of Head Form, unattached Student, *elected* to Marriott's Exhibition for Unattached Students.  
 — T. R. E. Holmes, Second Monitor, *elected* Junior Student of Christ Church.  
 — A. W. Owen, late Eighth Monitor, *elected* to a Special Exhibition for Unattached Students.  
 — F. W. G. Perry, late of Head Form, *vide* *suprà*, *elected* Hebrew Exhibitioner of Wadham.  
 — V. R. Trousdale, Head Prompter, *elected* Ludwell Exhibitioner of Oriel.  
 — A. T. Hare, Third Monitor, *elected* Scholar of Wadham.
- 1874 T. H. Wright, School Exhibitioner, of Keble, *elected* Hebrew Exhibitioner of Wadham.  
 — A. F. Thornhill, late Head Prompter, Exhibitioner of Magdalen Hall, *elected* Lucy Scholar of Magdalen Hall.



- 1874 A. T. Hare, late Third Monitor, Scholar of Wadham, *elected* Hebrew Exhibitioner of Wadham.

#### UNIVERSITY SCHOLARSHIPS, PRIZES, &c.

- 1863 T. K. Cheyne, Scholar of Worcester, 1859, *vide supra*, *elected* Johnson's Theological Scholar.  
 — W. Baker, Probationary Fellow of St. John's, *proximè accessit* for the Gaisford Greek Verse Prize.  
 — T. K. Cheyne, *vide supra*, *obtained* the Ellerton Theological Essay Prize.  
 — T. K. Cheyne, *vide supra*, *elected* Kennicott Hebrew Scholar.  
 1864 T. K. Cheyne, *vide supra*, *obtained* Chancellor's English Essay Prize.  
 — T. K. Cheyne, *vide supra*, *elected* Pusey and Ellerton Hebrew Scholar.  
 1865 R. S. Copleston, *vide supra*, *proximè accessit* for the Hertford Latin Scholarship.  
 1866 W. Baker, *vide supra*, Fellow of St. John's, *elected* Denyer and Johnson's Theological Scholar.  
 1867 R. C. L. Dear, *vide supra*, Scholar of St. John's, *proximè accessit* for the Ireland Scholarship.  
 — E. C. Dermer, *vide supra*, Fellow of St. John's, *elected* Pusey and Ellerton Hebrew Scholar.  
 — E. C. Dermer, *vide supra*, Fellow of St. John's, *elected* Kennicott Hebrew Scholar.  
 1868 E. C. Dermer, *vide supra*, Fellow of St. John's, *proximè accessit* for the Denyer and Johnson Scholarship.  
 — H. M. R. Pope, *vide supra*, Scholar of St. John's, *proximè accessit* for Gaisford Greek Verse Prize.  
 — H. D. Traill, *vide supra*, Fellow of St. John's *obtained* Ellerton Theological Essay Prize.  
 — R. C. L. Dear, *vide supra*, Fellow of Merton, *elected* Craven Scholar.  
 — H. W. Reynolds, *vide supra*, Hebrew Exhibitioner of Wadham, *elected* Pusey and Ellerton Hebrew Scholar.  
 1869 C. T. Cruttwell, *vide supra*, Scholar of St. John's, *elected* Pusey and Ellerton Hebrew Scholar.  
 1870 G. Shattock, *vide supra*, Scholar of St. John's, *obtained* Canon Hall's Junior Greek Testament Prize.  
 1871 G. Shattock, *vide supra*, Scholar of St. John's, *obtained* Canon Hall's Senior Greek Testament Prize.  
 — H. M. R. Pope, *vide supra*, Scholar of St. John's, *mentioned with honor* for the Ireland Scholarship.  
 — W. E. Matthew, *vide supra*, Casberd Scholar of St. John's, *elected* Denyer and Johnson's Theological Scholar.  
 — G. Shattock, *vide supra*, Scholar of St. John's, *elected* Pusey and Ellerton Hebrew Scholar.  
 — G. Shattock, *vide supra*, Scholar of St. John's, *elected* Kennicott Hebrew Scholar.  
 — H. W. Reynolds, *vide supra*, Hebrew Exhibitioner of Wadham, and Pusey and Ellerton Hebrew Scholar, *proximè accessit* for Kennicott Hebrew Scholarship.  
 — C. T. Cruttwell, *vide supra*, Fellow of Merton, *elected* Craven Scholar.  
 1872 G. Shattock, *vide supra*, Scholar of St. John's, *elected* Denyer and Johnson's Theological Scholar.  
 — C. T. Cruttwell, *vide supra*, Fellow of Merton, *elected* Kennicott Hebrew Scholar.  
 — H. M. R. Pope, *vide supra*, Fellow of Lincoln, *elected* Craven Scholar.  
 1874 H. B. Ottley, *vide supra*, Scholar of St. John's, *highly commended* for the Ellerton Theological Essay Prize.

#### STUART'S EXHIBITION TO ST. JOHN'S, OXFORD.

- 1862 R. C. Connolly, Head Prompter, resigned in 1863, and went to Cambridge.  
 1863 N. H. Paterson, Seventh Monitor, } *vide supra*.  
 1869 H. D. Elam, Sixth Monitor, }



### ANDREW'S EXHIBITION TO ST. JOHN'S, OXFORD.

- 1861 Reginald Hughes, Seventh Monitor, *vide supra*.  
 — Arthur B. Mason, Eighth Prompter, *vide infra*.  
 1862 [C. E. Evans, Second Monitor.]\*  
 1864 W. G. Gribbon, Sixth Monitor, *vide supra*.  
 — [F. Hookham, Head Prompter, *vide supra*.]†  
 1865 W. J. O'Driscoll, Third Prompter.  
 — H. G. Wayman, Fourth Prompter.  
 1866 W. E. Matthew, Seventh Monitor, }  
 — R. R. Sharpe, Head Prompter, } *vide supra*.  
 1871 W. G. Trousdale, Second Monitor, }  
 1872 C. P. Berryman, Third Prompter. }  
 1873 R. V. O. Graves, Fifth Prompter.

### SCHOOL EXHIBITION TO OXFORD.

- 1864 Edward Nolan, St. John's College, Second Prompter, *vide supra*.  
 1867 [William M<sup>c</sup>C. Hill, St. John's College, Third Monitor.]‡  
 1868 C. F. Bourne, St. John's College, Second Monitor, }  
 1872 T. H. Wright, Keble College, Fourth Prompter, } *vide supra*.

## SCHOLARS AT CAMBRIDGE.

### WRANGLERS, AND FIRST CLASS IN CLASSICS.

- 1862 P. T. Main, of St. John's, Pitt Club Exhibitioner, and Parkin's Exhibitioner from the School, Bell's University Scholar, 1859, Foundation Scholar of St. John's, 1860, *bracketed as 6th Wrangler at B.A.*  
 1864 F. A. Lewin, Parkin's Exhibitioner from the School, Scholar of Caius, 1860, *bracketed as 6th Wrangler at B.A.*  
 1865 Alfred Marshall, of St. John's, Parkin's Exhibitioner from the School, Scholar of St. John's, 1861, Foundation Scholar, 1862, Additional Exhibitioner, 1863, *placed as 2nd Wrangler at B.A.*  
 1866 W. Covington, of St. John's, Company's Tercentenary Scholar, Foundation Scholar of St. John's, 1865, *placed as 18th Wrangler at B.A.*  
 — E. S. Dewick, of St. John's, Parkin's Exhibitioner from the School, Foundation Scholar of St. John's, 1865, *placed as 31st Wrangler at B.A.*  
 — H. Rowsell, of St. John's, Company's Tercentenary Scholar, Foundation Scholar of St. John's, 1865, *placed as 39th Wrangler at B.A.*  
 1868 H. B. Buckley, Parkin's Exhibitioner from the School, Scholar of Christ's, 1864, &c., *placed as 9th Wrangler at B.A.*  
 1869 John Sharpe, Stuart's Exhibitioner from the School, Scholar of Christ's, 1865, &c., *bracketed as 7th in the First Class in Classics at B.A.*  
 1871 Henry Hart, Parkin's Exhibitioner from the School, Foundation Scholar of Trinity, 1869, &c., *bracketed as 4th Wrangler at B.A.*

\* Resigned before Residence—afterwards went to Cambridge, *vide infra*, Cambridge List.  
 † Resigned before Matriculation, to take an Exhibition at Lincoln.  
 ‡ This was a Special Exhibition of £40 per annum for three years. He resigned it at Christmas, 1867, for an appointment in the Admiralty, gained by competition.



### SENIOR OPTIMES, AND SECOND CLASS IN CLASSICS.

- 1863 O. G. R. McWilliam, of Caius, Parkin's Exhibitioner from the School, Scholar of Caius, 1860, *placed as 8th Senior Optime at B.A.*
- 1864 F. B. B. Kitson, Stuart's Exhibitioner from the School, Scholar of Christ's, 1860, Bell's University Scholar, 1861, *placed as 1st Senior Optime and 13th in the Second Class at B.A.*
- 1867 A. Stokes, of Trinity Hall, *vide infra*, *placed as 4th Senior Optime and 12th in the Second Class at B.A.*
- S. B. Smyth, of Jesus, *vide infra*, *placed as 23rd Senior Optime at B.A.*
- 1868 P. T. R. Hodges, of Trinity Hall, *placed 3rd in Second Class of Law.*
- 1869 A. F. Ratty, of Pembroke, *vide infra*, *placed as 1st Senior Optime at B.A.*
- J. J. Scott, of Trinity, *vide infra*, *placed as 21st Senior Optime at B.A.*
- E. J. Watson, of Christ's, *vide infra*, *placed as 31st Senior Optime at B.A.*
- 1870 J. E. F. May, of Jesus, *vide infra*, *placed as 8th Senior Optime at B.A.*
- 1871 J. R. Hughes, of Sidney Sussex, *vide infra*, *placed as 11th in the Second Class in Classics at B.A.*
- 1872 J. N. Burrows, Parkin's Exhibitioner from the School, Scholar of Jesus, 1869, *placed as 28th Senior Optime at B.A.*
- W. Smale, of St. John's, *placed as 35th Senior Optime at B.A.*
- 1873 H. M. D. Ratcliffe, Parkin's Exhibitioner from the School, and Foundation Scholar of Pembroke, 1870, *placed as 17th Senior Optime at B.A.*
- A. D. Woolley, Parkin's Exhibitioner from the School, of St. John's, *placed as 23rd in Second Class in Classics at B.A.*
- 1874 A. E. Bourne, Scholar of Sidney Sussex, *bracketed as 18th in Second Class in Classics at B.A.*

### FELLOWS OF COLLEGES.

- 1862 A. Freeman, of St. John's, Foundation Scholar of St. John's, 1860, *placed as 5th Wrangler, 1861, obtained Chancellor's Medal for proficiency in Law Studies, 1862, elected Fellow of St. John's.*
- H. J. Sharpe, of St. John's, Parkin's Exhibitioner from the School, Foundation Scholar of St. John's, 1860, and *placed as 6th Wrangler, 1861, elected Fellow of St. John's.*
- 1863 P. T. Main, *vide supra*, *elected Fellow of St. John's.*
- 1864 F. A. Lewin, *vide supra*, *elected Fellow of Caius, and placed in the Second Class for the Tyrwhitt Hebrew Scholarship.*
- 1865 A. Marshall, of St. John's, *vide supra et infra*, *elected Fellow of St. John's.*
- 1868 H. B. Buckley, of Christ's, *vide supra et infra*, *elected Fellow of Christ's.*
- 1870 John Sharpe, of Christ's, *vide supra et infra*, *elected Fellow of Christ's.*
- 1872 Joseph Dixie Churchill, of Emmanuel, *vide infra*, *admitted Dixie Fellow of Emmanuel.*
- 1873 Henry Hart, Trinity, *vide supra et infra*, *elected Fellow of Trinity.*

### SCHOLARS, &c., OF VARIOUS COLLEGES.

- 1862 A. Marshall, of St. John's, *vide supra et infra*, *elected Foundation Scholar of St. John's.*
- 1863 A. Stokes, Fourth Monitor of the School, Company's Tercentenary Scholar, *elected Scholar of Trinity Hall.*
- C. E. Evans, late Second Monitor of the School, *elected Exhibitioner of St. John's.*
- B. B. Connolly, Fifth Prompter of the School, *elected Tancred Medical Exhibitioner, at Caius.*



- 1863 S. M. Crosthwaite, Sixth Prompter of the School, and Parkin's Exhibitioner from the School, *elected* Scholar of Pembroke.
- A. Marshall, *vide supra et infra*, E. S. Dewick, Parkin's Exhibitioner from the School, and W. Covington, Company's Tercentenary Scholar, *elected* Exhibitioners at St. John's.
- 1864 H. B. Buckley, Third Monitor of the School, Parkin's Exhibitioner from the School, *elected* Scholar of Christ's.
- E. S. Dewick, *vide supra*, and Herbert Rowsell, late of Head Form, Company's Tercentenary Scholar, *elected* Exhibitioners of St. John's.
- R. C. Connolly, of Queen's, *elected* Scholar of Queen's.
- S. M. Crosthwaite, of Pembroke, *vide supra*, *elected* Foundation Scholar of Pembroke.
- 1865 Herbert Rowsell, *vide supra*, E. S. Dewick, *vide supra*, and W. Covington, *vide supra*, *elected* Foundation Scholars of St. John's.
- John Sharpe, Third Monitor of the School, Stuart's Exhibitioner, *elected* Scholar of Christ's.
- A. F. Ratty, Head Prompter of the School, Company's Tercentenary Scholar, *elected* Exhibitioner of Pembroke.
- S. B. Smyth, of Jesus, late of the Sixth Form, *elected* Scholar of Jesus.
- J. J. Scott, of Trinity College, late Seventh Prompter of the School, Company's Tercentenary Scholar, *elected* a Proper Sizar of Trinity College, £80 per annum.
- 1866 H. B. Buckley, Scholar of Christ's, *vide supra*, *elected* to a Tancred Law Scholarship at Lincoln's Inn.
- A. F. Ratty, Exhibitioner of Pembroke, *vide supra*, *elected* Foundation Scholar of Pembroke.
- E. J. Watson, of Christ's, Parkin's Exhibitioner from the School, *elected* Scholar of Christ's.
- John Sharpe, of Christ's, *vide supra*, *elected* Bp. Gell's Hebrew Prize-man at Christ's.
- 1867 W. Covington, of St. John's, *vide supra*, *elected* Fry's Hebrew Scholar at St. John's.
- H. Hart, of the Head Form, Parkin's Exhibitioner from the School, *elected* Minor Scholar of Trinity College.
- John Sharpe, of Christ's, *vide supra*, *promoted* to improved or additional Scholarship, and *elected* Bp. Gell's Hebrew Prizeman at Christ's.
- John Royden Hughes, late Sixth Monitor of the School, Company's Tercentenary Scholar, *elected* Foundation Scholar of Sidney Sussex College.
- Joseph Dixie Churchill, left School 1865, *appointed* Dixie Scholar of Emmanuel.
- 1868 John Sharpe, of Christ's, again *promoted* to an improved Scholarship from £60 to £70, and *elected* Bp. Gell's Hebrew Prizeman at Christ's.
- R. M. Milburn, Third Prompter of the School, Company's Tercentenary Scholar, *elected* Scholar of Magdalen.
- J. E. F. May, of Jesus, Parkin's Exhibitioner from the School, *elected* Scholar of Jesus.
- 1869 H. Hart, of Trinity, *vide supra*, *elected* Foundation Scholar of Trinity.
- H. M. D. Ratcliffe, Fifth Monitor, Parkin's Exhibitioner from the School, *elected* Scholar of Pembroke.
- J. R. Hughes, of Sidney Sussex, *vide supra*, *elected* to Lovett's Exhibition (£45 per annum) at Sidney Sussex.
- J. N. Burrows, of Jesus, late of Sixth Form, Parkin's Exhibitioner from the School, *elected* Scholar of Jesus.
- 1870 H. M. D. Ratcliffe, Scholar of Pembroke, *vide supra*, *elected* Foundation Scholar of Pembroke.
- A. E. Bourne, late Second Prompter, Parkin's Exhibitioner from the School, *elected* Scholar of Sidney Sussex.
- H. C. Gaches, late of Head Form, Company's Tercentenary Scholar, *elected* Scholar of Sidney Sussex.



- 1871 A. Monro, late of Sixth Form, Parkin's Exhibitioner from the School, *elected* Scholar of Sidney Sussex.  
 — Herbert Falkner Hunt, late of Sixth Form,\* *elected* Scholar of Jesus.  
 1872 W. Marshall, Second Monitor, *elected* Scholar of St. Peter's.  
 — C. E. Gosling, late of Sixth Form, *elected* Exhibitioner of Sidney Sussex.  
 — A. G. L. Robertson, Eighth Monitor, *elected* Tancred Divinity Student of Christ's.  
 1873 F. B. de M. Gibbons, Head Form, *elected* Scholar of Caius.

#### UNIVERSITY PRIZES, &c.

- 1862 A. Freeman, of St. John's, *obtained* Chancellor's Prize for proficiency in Law Studies.  
 1867 W. Covington, of St. John's, *vide supra*, *First Class in Theological Honors*, and *bracketed for the University Hebrew Prize*, and mentioned with honor in Examination for the *Tyrwhitt Hebrew Scholarship*.  
 1870 J. Sharpe, of Christ's, *vide supra*, *First Class in Theological Honors*, *obtained* University Hebrew Prize, and *bracketed for Scholfield Prize*.  
 — J. Sharpe, of Christ's, *bracketed for Tyrwhitt Hebrew Scholarship*.  
 — J. Sharpe, of Christ's, *mentioned with honor in Examination for Crosse's Theological Scholarship*.  
 1871 J. Sharpe, of Christ's, *elected* Crosse's Theological Scholar.

#### EXHIBITIONERS FROM THE SCHOOL TO CAMBRIDGE.

##### STUART'S EXHIBITION TO CAMBRIDGE.

- 1864 [R. Hutchison, Fifth Monitor.]†  
 1865 John Sharpe, Third Monitor, Christ's College, *vide supra*.  
 1869 A. D. Woolley, Seventh Monitor, St. John's College.  
 1873 G. D. Pagden, Sixth Prompter, Christ's College.

##### PARKIN'S EXHIBITIONS TO CAMBRIDGE.

- |  |                       |
|--|-----------------------|
| 1862 E. S. Dewick, Sixth Prompter, St. John's College,     | } <i>vide supra</i> . |
| 1863 S. M. Crosthwaite, Sixth Prompter, Pembroke College,  |                       |
| 1864 H. B. Buckley, Third Monitor, Christ's College,       |                       |
| 1865 E. J. Watson, Fifth Prompter, Christ's College,       |                       |
| 1866 J. E. F. May, Second Prompter, Jesus College,         |                       |
| 1867 H. Hart, of the Head Form, Trinity College            |                       |
| 1868 J. N. Burrows, of the Sixth Form, Jesus College,      |                       |
| 1869 H. M. D. Ratcliffe, Fifth Monitor, Pembroke College,  |                       |
| 1870 A. E. Bourne, Second Prompter, Sidney Sussex College, |                       |
| 1871 A. Monro, of the Sixth Form, Sidney Sussex College,   |                       |
| 1872 A. G. L. Robertson, Eighth Monitor, Christ's.         |                       |
| 1873 F. B. de M. Gibbons, of the Head Form, Caius College, |                       |

\* For a short time at Sevenoaks' School, after leaving Merchant Taylors'.  
 † Resigned before Matriculation, having gained a Scholarship at Exeter College, Oxford, *vide supra*, Oxford List.



## SCHOLARS AT EITHER UNIVERSITY.

### SCHOOL TRICENTENARY SCHOLARSHIPS.\*

1861-63 H. D. Traill, Hd. Mon.	} vide suprâ Oxf. List.	1868-70 C. H. Gibson, Hd. Mon.
1862-64 E. Bond, Head Monitor.		1869-71 H. B. Ottley, 2nd Mon.
1863-65 R. C. L. Dear, Hd. Mon.		1870-72 T. W. Gibson, Hd. Mon.
1864-65 R. S. Copleston, 2nd Mon.		1871-73 A. J. Wilson, 5th Mon.
1865-67 R. G. Brown, Head Mon.		1872-74 J. W. Aston, Hd. Mon.
1866-68 C. T. Cruttwell, 2nd Mon.		1873-75 R. R. H. Ross, Hd. Mon.
1867-69 H. M. R. Pope, Hd. Mon.		

### PITT CLUB EXHIBITIONS.†

1862-66 E. Bond, Head Mon.	} vide suprâ Oxf. List.	1870-74 T. W. Gibson, Hd. Mon.
— T. Nolan, 4th Mon.		— J. N. Ellaby, 2nd Mon.
1866-70 G. Shattock, Hd. Mon.		
— C. T. Cruttwell, 2nd Mon.		

### COMPANY'S TRICENTENARY SCHOLARSHIPS.‡

1862 W. Covington, 2nd Prompter	1867 J. R. Hughes, 6th Monitor.
1863 A. Stokes, Fourth Monitor.	1868 R. M. Milburn, 3rd Prompt.
1864 H. Rowsell, late of Hd. Fm.	1870 H. C. Gaches, late of Hd. Fm.
1865 A. F. Ratty, Head Prompt.	1872 W. Marshall, Second Mon.
1866 J. J. Scott, late 7th Prompt.	1873 A. T. Hare, Third Monitor.

### COMPANY'S EXHIBITIONS.

1862 H. W. Challis, £50 for 4 years from Jan. 1862, vide suprâ, Oxford List.	} vide suprâ, Oxf. List.
1864 B. B. Connolly, £50 for 3 years from July 1864, vide suprâ, Cambridge List.	
1863 G. Hookham, £50 for 4 years from Jan. 1863,	
1864 S. P. Hall, £20 for 3 years from Jan. 1863,	
— J. Whitmore, £30 for 4 years from July 1864,§	
1865 A. J. Swinbourn, £30 for 5 years from Jan. 1865,	
1868 R. S. Copleston, £40 for three years,	
1869 I. S. Leadam, £30 for 3 years from June 1869,	
1870 R. G. Matthew, £40 for 3 years from Christmas 1870,	
1872 F. W. G. Perry, £20 for 3 years from Midsummer, 1872,	
1873 P. J. Dear, £20 for 3 years from Lady Day, 1873,	
— T. R. E. Holmes, £50 for 3 years from Midsum, 1873,	
— A. F. Thornhill, £30 for 3 years from Midsummer, 1873,	
— A. W. Owen, £20 for 3 years from Midsummer, 1873,	
1874 V. R. Trousdale, £30 for 3 years from Lady Day, 1874,	

\* For purely Classical Scholars.

† Given to "the two best Scholars leaving School for the University."

‡ For the promotion of Mathematical Studies. See, for all except A. T. Hare, the Cambridge Lists; but for him, the Oxford Lists.

§ Resigned this Exhibition, October, 1865.



## MISCELLANEOUS.

### UNIVERSITY COLLEGE, LONDON.

- 1863 G. E. Knox, late Fifth Prompter, Chief Sanscrit Prize.  
1865 G. E. Knox, Extraordinary Sanscrit Prize.  
— J. F. Fleet, Sanscrit Prize of the Junior Class.  
1866 J. F. Fleet, Sanscrit Prize of the Middle Class.

### KING'S COLLEGE, LONDON.

- 1859 Christopher T. Gardner, obtained a Mathematical Prize, and in 1861 a Student Interpretership to China by Public Competition; and afterwards a Certificate of Honor for English Literature and Arabic.

### COMPETITIVE EXAMINATION FOR INDIA CIVIL SERVICE.

- 1862 R. J. Crosthwaite, vide *suprà*, Oxford List.  
— O. G. R. McWilliam, vide *suprà*, Cambridge List.  
— R. T. H. Lucas, Scholar of Lincoln College, Oxford, 1861.  
1863 T. V. D. H. Hardinge, Trinity College, Dublin.  
1864 G. E. Knox, late Fifth Prompter, University College, London.  
1865 John Faithfull Fleet, late Sixth Monitor, University College, London.  
1866 Thomas Humphrey Ward, late Eighth Monitor, Scholar of Brasenose College, Oxford, 1864 (*First place*).  
— John Whitmore, late Fourth Monitor, Exhibitioner of Merton, 1864.  
1868 R. G. Brown, late Head Monitor, Scholar of Merton, 1865.  
1869 J. R. Maconachie, late of the Sixth Form, *Seventh place*.  
— Archibald Christie, late Second Prompter.

- 1866 Arthur B. Mason, late Eighth Prompter, Andrew's Exhibitioner of St. John's College, Oxford, elected for Ceylon.

### INNS OF COURT.

- 1859-1862 M. H. Cookson, Fellow of St. John's College, Oxford, of Lincoln's Inn, Competition Law Studentship.  
1864-1867 E. A. C. Schalch, of Lincoln's Inn, Competition Law Studentship.  
1871 Walter Galt Gribbon, of St. John's College, Oxford, of Gray's Inn, Dr. Lee's Essay Prize on the Law of Real Property.

### ROYAL MILITARY ACADEMY, WOOLWICH.

- 1865 Dove, H.—Passed in 6th; took 1st Prize for Mathematics; passed out 5th, Royal Engineers, in 1868.  
1866 Boddy, O. V.—Passed in 28th; passed out 11th, Royal Engineers, in 1868.  
1867 Main, T. R.—Passed in 6th; took Prize for Practical Mechanics; passed out 4th, Royal Engineers, in 1870.  
1870 Coxhead, J. A.—Passed in 30th; passed out 15th, Artillery, in 1872.



#### MEDICAL EXHIBITIONS TO ST. THOMAS'S HOSPITAL.

1862 R. Hullah, Upper Fifth Form.	1868 W. S. Mavor, Sixth Form.
1863 G. N. J. Burn, Lower Fifth F.	1869 C. W. Owen, Head Form.
1864 F. M. Miller, Head Form.	1870 F. Williamson, Head Form.
1865 A. H. Barrow, Sixth Form.	1871 P. J. Dear, Head Form.
1866 C. H. Newby, Sixth Form.	1872 F. E. Cockell, Head Form.
1867 D. F. Pearson, Head Form.	1873 J. T. Hague, Head Form.

#### HER MAJESTY'S MEDICAL SERVICE.

- 1871 B. B. Connolly, 12th successful Competitor as Assistant Surgeon in Her Majesty's British Medical Service.

#### WHITWORTH SCHOLARSHIP.

- 1869 R. B. Buckley, 7th out of ten Scholars first elected.

#### INCORPORATED LAW SOCIETY'S EXAMINATION.

- 1873 R. H. Witty, late of Upper Fifth Form, bracketed *First place*, with the Prize of the Hon. Society of Clement's Inn.

#### LONDON HOSPITAL.

- 1873 M. Greenwood, late of Sixth Form, obtained Buxton Scholarship of £30.

### SCHOOL PRIZES.

#### MR. GILPIN'S PRIZE.

1862 E. Bond, Head Monitor.	1868 C. H. Gibson, Head Monitor.
1863 R. C. L. Dear, Head Monitor.	1869 H. B. Ottley, Second Monitor.
1864 R. S. Copleston, Second Monitor.	1870 T. W. Gibson, Head Monitor.
1865 R. G. Brown, Head Monitor.	1871 A. H. Lang, Head Monitor.
1866 C. T. Cruttwell, Second Monitor.	1872 J. W. Aston, Head Monitor.
1867 H. M. R. Pope, Head Monitor.	1873 W. L. Giles, Eighth Monitor.

#### MONTEFIORE HEBREW MEDAL.

1862 E. S. Dewick, Sixth Prompter.	1868 H. M. D. Ratcliffe, Eighth Mon.
1863 R. S. Copleston, Fifth Monitor.	1869 E. G. A. Holmes, Head Monitor.
1864 R. G. Brown, Seventh Monitor.*	1870 J. N. Ellaby, Second Monitor.
1865 C. T. Cruttwell, Fifth Monitor.	1871 A. H. Lang, Head Monitor.
1866 G. Shattock, Head Monitor.†	1872 R. R. H. Ross, Third Monitor.
1867 H. A. Redpath, Second Monitor.	1873 A. T. Hare, Sixth Monitor.

\* R. S. Copleston is first for the Medal, but ineligible as having obtained it last year.  
† C. T. Cruttwell is first for the Medal, but ineligible as having obtained it last year.



### DR. HESSEY'S HEBREW PRIZE.

1862 R. S. Copleston, Eighth Mon.	1868 E. G. A. Holmes, Third Mon.
1863 R. S. Brown, Second Prompter.	1869 J. N. Ellaby, Head Prompter.
1864 J. Bond, Head Monitor.	1870 A. H. Lang, Fourth Monitor.
1865 G. Shattock, Fourth Monitor.	1871 R. R. H. Ross, Seventh Monitor.
1866 H. A. Redpath, Fourth Mon.	

### DR. BAKER'S HEBREW PRIZE.

1872 A. T. Hare, Head Prompter.	1873 G. D. Pagden, Sixth Prompter.
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### CHIEF HESSEY DIVINITY PRIZE.\*

1873 T. R. E. Holmes, Second Mon.	1874 G. H. Wells, Head Monitor.
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### CHIEF CLASSICAL PRIZES.

<i>Greek Comp., &amp;c.</i>	<i>Latin Verse.</i>	<i>Latin Prose, &amp;c.</i>	<i>History.</i>
1862 E. Bond, Hd. M.	E. Bond, Hd. M.	E. Bond, Hd. M.	R. C. L. Dear, Third M.
1863 R. C. L. Dear, Hd. M.	H. R. Hand, Second M.	R. C. L. Dear, Hd. M.	R. C. L. Dear, Hd. M.
1864 J. Bond, Hd. M.	R. S. Copleston, Second M. E. Nolan, Second P.	R. S. Copleston, Second M. T. H. Ward, Eighth M.	J. Bond, Hd. M. J. Sharp, Fourth P.
1865 C. T. Cruttwell, Fifth M.	G. Shattock, Fourth M.	R. G. Brown, Hd. M. H. W. Turner, Second M.	J. Sharpe, Third M.
1866 C. T. Cruttwell, Second M.	C. T. Cruttwell, Second M.	G. Shattock, Hd. M.	G. Shattock, Hd. M.
1867 H. M. R. Pope, Hd. M. H. A. Redpath, Second M.	H. M. R. Pope, Hd. M.	W. McC. Hill, Third M. H. M. R. Pope, Hd. M.	H. M. R. Pope, Hd. M.
1868 C. F. Bourne, Second M. C. H. Gibson, Hd. M.	C. H. Gibson, Hd. M.	C. F. Bourne, Second M. C. H. Gibson, Hd. M.	C. H. Gibson, Hd. M.
1869 E. G. A. Holmes, Hd. M. H. B. Ottley, Second M.	H. B. Ottley, Second M.	H. B. Ottley, Second M.	E. G. A. Holmes, Hd. M.
1870 T. W. Gibson, Hd. M.	T. W. Gibson, Hd. M.	T. W. Gibson, Hd. M.	E. A. Wells, Third M.
1871 A. J. Wilson, Fifth M.	W. H. Chater, Fourth M.	A. J. Wilson, Fifth M.	A. H. Lang, Hd. M. A. J. Wilson, Fifth M.
1872 J. W. Aston, Hd. M.	G. H. Wells, Fifth Prmpt.	J. W. Aston, Hd. M.	W. S. Burrell, Sixth M. M. Shearman, U. Sixth F.
1873. W. L. Giles, Eighth M.	R. R. H. Ross, Hd. M.	R. R. H. Ross, Hd. M.	M. Shearman, Fifth M.

\* This is the chief of the Six Annual Prizes in Divinity, founded, in 1872, as a Memorial to the Rev. Dr. Hessey, Head Master of Merchant Taylors' School from 1845 to 1870; by his former pupils and colleagues, and past scholars of the School.



# BISHOP OF GRAFTON'S ESSAY PRIZE (Special).

1867 I. S. Leadam, Fourth Monitor.

## SIR JAMES TYLER'S ELOCUTION PRIZE.

1869 H. B. Ottley, Second Monitor.	1872 T. R. E. Holmes, Fifth Mon.
1870 J. N. Ellaby, Second Monitor.	1873 R. R. H. Ross, Head Monitor.
1871 A. H. Lang, Head Monitor.	

## CHIEF MATHEMATICAL PRIZE.

1862 E. S. Dewick, Sixth Prompter.	1867 H. Hart, Head Form.
1863 { S. M. Crosthwaite, Sixth Prmt.	1868 J. N. Burrows, Sixth Form.
H. B. Buckley, Sixth Monitor.	1869 H. M. D. Ratcliffe, Fifth Mon.
1864 H. B. Buckley, Third Monitor.	1870 A. E. Bourne, Second Promp.
1865 { A. F. Ratty, Head Prompter.	1871 { A. J. Wilson, Fifth Monitor.
G. Shattock, Fourth Monitor.	F. B. de M. Gibbons, Sixth F.
1866 { G. Shattock, Head Monitor.	1872 F. B. de M. Gibbons, Sixth F.
H. Hart, Sixth Form.	1873 F. B. de M. Gibbons, Head F.

## CHIEF FRENCH PRIZE.

1862 { R. S. Copleston, Eighth Mon.	1869 { A. D. Woolley, Seventh Mon.
H. B. Buckley, Head Promp.	J. A. W. Madden, Third Mon.
1863 { H. B. Buckley, Sixth Monitor.	1870 F. G. Wintle, Head Form.
R. S. Copleston, Fifth Mon.	1871 { F. G. Wintle, Fourth Promp.
1864 C. T. Cruttwell, Fifth Promp.	A. J. Wilson, Fifth Mon.
1865 C. T. Cruttwell, Fifth Mon.	1872 { T. H. Wright, Fourth Promp.
1866 C. T. Cruttwell, Second Mon.	G. Cave, Head Form.
1867 { J. A. W. Madden, Sixth Prmt.	1873 G. Cave, Third Prompter.
H. M. R. Pope, Head Monitor.	
1868 { H. D. Elam, Second Prompter.	
J. A. W. Madden, Sixth Mon.	

## SIR JAMES TYLER'S PRIZE FOR ENGLISH HISTORY.

1862 I. S. Leadam, Up. Fifth Form.	1868 W. Mosey, Upper Fifth Form.
1863 C. N. Bazalgette, U. Fifth Fm.	1869 W. S. Woodman, U. Fifth Fm.
1864 H. D. Elam, Up. Fifth Form.	1870 A. E. Gordon, Up. Fifth Form.
1865 A. W. Roberts, L. Fifth Form.	1871 J. Greenwood, Up. Fifth Form.
1866 W. Towne, Upper Fifth Form.	1872 D'Arcy Power, Up. Fifth Form.
1867 A. T. Goodfellow, U. Fifth Fm.	1873 H. Mathewson, U. Fifth Form.

## MR. RICKARDS' ADDITIONAL PRIZE FOR ENGLISH HISTORY.

1863 P. M. Herford, U. Fifth Form.	1869 H. F. Hunt, Upper Fifth Form.
1864 O. R. Davidson, U. Fifth Form.	1870 S. Jopp, Upper Fifth Form.
1865 J. A. Coxhead, L. Fifth Form.	1871 A. P. Poley, L. Fifth Form.
1866 W. L. Bicknell, U. Fifth Form.	1872 W. N. Wilson, L. Fifth Form.
1867 A. J. Wilson, L. Fifth Form.	1873 A. Mathewson, L. Fifth Form.
1868 T. R. E. Holmes, U. Fifth Fm.	



**MERCANTILE PRIZE, FOUNDED BY MR. PIGEON AND  
MR. PUGH.**

1862	W. S. Bourne, U. Fifth Form.	1868	C. A. Bourne, L. Fifth Form.
1863	{ J. R. Hughes, U. Fifth Form.	1869	D. J. Chester Up. Fifth Form.
	{ J. R. Maconachie, L. F. Form.	1870	G. Cave, Upper Fifth Form.
1864	T. R. Main, Up. Fifth Form.	1871	E. J. Perry, Up. Fifth Form.
1865	L. J. Fraser, Up. Fifth Form.	1872	D'Arcy Power, U. Fifth Form.
1866	T. Goldney, U. Fifth Form.	1873	G. R. Alston, L. Fifth Form.
1867	E. B. Ottley, Up. Fifth Form.		

**SECOND MERCANTILE PRIZE, FOUNDED BY MR. MASON  
AND MR. DAVIS.**

1869	C. J. C. Pawley, Fourth Form.	1872	W. P. Perry, L. Fifth Form.
1870	C. J. C. Pawley, L. Fifth Form.	1873	F. W. Hewitt, U. Fifth Form.
1871	A. P. Poley, Low. Fifth Form.		

**COMPANY'S SCHOLARSHIPS, FOR BOYS IN THE SCHOOL  
UNDER FOURTEEN YEARS OF AGE (FOR FIVE YEARS).**

June 1866	A. H. Lang,	born Aug. 6, 1852,	entered Sept. 29, 1862	£25 per
—	W. G. Trousdale,	„ Aug. 7, 1852,	„ Sept. 30, 1831	Ann.
—	D. L. McAnally,	„ Oct. 7, 1852,	„ June 26, 1863	£20 p. A.
June 1867	F. Goldsmith,	„ Aug. 3, 1853,	„ Mar. 25, 1864	£25 per
—	J. W. Aston,	„ July 23, 1853,	„ Sept. 29, 1862	Ann.
—	R. R. H. Ross,	„ Dec. 3, 1854,	„ June 24, 1865	£20 p. A.
June 1868	T. R. E. Holmes,	„ May 24, 1855,	„ June 26, 1867	£25 per
—	D. J. Cowles,	„ Sept. 2, 1854,	„ June 23, 1865	Ann.
—	G. H. Trist,	„ Aug. 1, 1854,	„ Jan. 24, 1865	£20 p. A.
June 1869	A. T. Hare,	„ Sept. 13, 1855,	„ June 25, 1866	£25 per
—	G. H. Wells,	„ Nov. 23, 1855,	„ June 25, 1866	Ann.
—	J. L. Hague,	„ Sept. 5, 1855,	„ Jan. 24, 1867	£20 p. A.
June 1870	M. Shearman,	„ Apr. 7, 1857,	„ Apr. 6, 1869	£25 per
—	W. Brooke,	„ May 16, 1857,	„ June 25, 1866	Ann.
—	E. L. Cappel,	„ July 22, 1856,	„ Jan. 23, 1868	£20 p. A.
June 1871	C. W. Hunt,	„ May 24, 1858,	„ June 23, 1869	£25 per
—	E. S. Barry,	„ July 3, 1857,	„ Mar. 27, 1867	Ann.
—	H. W. Ratty,	„ Nov. 17, 1857,	„ Sept. 29, 1868	£20 p. A.
June 1872	J. F. Marr,	„ July 18, 1858,	„ Sept. 17, 1867	£25 per
—	W. Lawrence,	„ Mar. 20, 1859,	„ Jan. 21, 1869	Ann.
—	E. W. Watson,*	„ Aug. 11, 1859,	„ Apr. 6, 1869	£20 p. A.
June 1873	F. W. Low,	„ Jan. 25, 1859,	„ June 19, 1872	£25 per
—	H. S. Adams,	„ Feb. 4, 1859,	„ Apr. 6, 1869	Ann.
—	W. N. Wilson,	„ Dec. 25, 1858,	„ Sept. 29, 1869	£20 p. A.

\* Watson's scholarship was raised to £25, after successful competition in 1873, when he obtained the first place in the Examination.



## APPOINTMENTS, ETC., OF FORMER SCHOLARS.

FROM JANUARY, 1862.

SIR PETER MELVILL MELVILL, K.C.B., Major-General in the Army. Born July 2, 1803. Left School about June, 1819. Entered E. I. C. Service, at an early age, in the Bombay Native Infantry, attained rank of Colonel, 1856. *Made K.C.B. in 1860 for services in India.*

SAMUEL BIRCH, F.S.A., LL.D. Left School, 1831. Keeper of the Oriental and Mediæval Antiquities at the British Museum. Corresponding Member of the Institute of France, and of the Academy at Berlin. Author of "Views of the Nile," 1843, and "The Gallery of Antiquities," 1864, &c. *Created Hon. LL.D. of the University of St. Andrews, 1862.*

Ven. ROBERT WILLIAM BROWNE, M.A., Fellow of St. John's College, Oxford, 1827. 1st Class in Classics, and 1st Class in Mathematics at B.A. Degree, Easter, 1831. Tutor of St. John's. Select Preacher in the University, 1839. Professor of Classical Literature at King's College, London. Prebendary of St. Paul's and of Wells. Chaplain to the Forces. Phil. D. of the University of Heidelberg. F.G.S. Author of "Introduction to the Study of Greek Literature." Classical and Hebrew Examiner at Merchant Taylors'. Examining Chaplain to the Bishop of Bath and Wells. Archdeacon of Bath, 1860. *Canon of Wells, 1863.*

Rev. EGERTON F. M. MACCARTHY, M.A., Parkin's Exhibitioner, 1857. Scholar of Emmanuel College, Cambridge. 27th Wrangler, 1860. *Mathematical Master at the Bedford Schools, 1862. Chief Mathematical Master at Birmingham School, 1865.*

C. H. H. CHEYNE, M.A. Left School, 1857. Foundation Scholar of St. John's College, Cambridge. 18th Wrangler in 1862. *Mathematical Master at Westminster School, 1862.*

Sir ADAM BITTLESTON, Knight, Barrister-at-Law. One of the Justices of the Supreme Court of Madras, 1858. *Reappointed to the High Court, under the New Act, in June, 1862. Retired 1870.*

ALEXANDER PULLING. Left School, 1830. Barrister-at-Law. Author of "Laws and Customs of the City of London." *Serjeant-at-Law, 1863.*

Ven. JOHN HARDIE, M.A., of St. Mary Hall, Oxford. Archdeacon of Kaffraria, 1857. *Chaplain to the Bishop of Ely, 1864-1873.*

Rev. ALEXANDER I. MCCAUL, M.A., Andrew's Exhibitioner to St. John's College, Oxford, 1853. Pusey and Ellerton Hebrew Scholar, 1854. Second Class in Classics, and Second Class in Mathematics at Moderations, 1856. Third Class in Classics at B.A. Examination, 1857. *Lecturer in Hebrew and Divinity at King's College, London, 1859, and reappointed, with that special title, in 1864.*

SIR CHARLES TILSTON BRIGHT, Knight. Left School, 1847. Civil Engineer. Knighted by the Lord Lieutenant of Ireland for his share in carrying out the Atlantic Telegraph. *M.P. for Greenwich, 1865-1868.*



Rev. HECTOR NELSON, M.A. Left School, 1835. Of St. John's College, Oxford. 2nd Class in Mathematics at B.A. Degree, Easter, 1838. Principal of the Lincoln Training Institution. *Prebendary of Lincoln* 1865.

THOMAS SPINKS, D.C.L., Andrew's Exhibitioner at St. John's College, Oxford, 1838. Fellow of the College of Advocates in Doctors' Commons. Bencher of the Inner Temple. Author of a Pamphlet on "The Law of Wills." *Queen's Counsel*, 1866.

Rev. CHARLES MATHESON, M.A., Fellow of St. John's College, Oxford, 1850. Pusey and Ellerton Hebrew Scholar, 1851. 1st Class in Classics and 2nd Class in Mathematics at Moderations, Michaelmas, 1852. 1st Class in Classics at B.A. Degree, Michaelmas, 1854. Kennicott Hebrew Scholar, 1855. 2nd Master at Blackheath Proprietary School. *Classical Examiner at Merchant Taylors'*, 1862. *Head Master of the Clergy Orphan School, Canterbury* 1867.

CHARLES LEMPRIERE, D.C.L., Fellow of St. John's College, Oxford, 1837. Barrister-at-Law. *Colonial Secretary for the Bahama Islands*, 1867.

Very Rev. FREDERICK HOLDSHIP COX, M.A., Parkin's Exhibitioner to Pembroke College, Cambridge, 1839. Senior Optime and 2nd Class in Classics at B.A. 1843. *Dean of Hobart Town, Tasmania*, 1867-1874.

THOMAS HENRY THORNTON, D.C.L., Fellow of St. John's College, Oxford, 1851. Pusey and Ellerton Hebrew Scholar, 1852. 1st Class in Classics at Moderations, Easter, 1853. 16th successful Candidate at Indian Civil Service Examinations, 1855. 2nd Class in Classics, and 2nd Class in Modern History, at B. A., Midsummer, 1855. Broke down bridge over Sutlej at Loodiana during Indian Mutiny. Judge at Umritsur, also of Small Debts Court at Lahore, and at Delhi. *Secretary to Punjab Government*, 1867.

Professor THOMAS LONGMORE, C.B. Left School, 1835, to commence study at Guy's Hospital. After various services as Assistant-Surgeon with the 19th Regiment, in the Ionian Islands, West Indies, and Canada, served as Surgeon of the 19th Regiment in the Light Division of the Eastern Army from its first taking the field, throughout the campaign of 1854-55 until the termination of the Siege of Sebastopol; was present at the affair of Bulganac, battles of Alma and Inkermann, capture of Balaklava, sortie of 26th October, assault of the Redan on 18th June and 8th September. (Medal and three clasps, Turkish Medal, and Knight of the Legion of Honor.) Served in Bengal in 1857 to 1859 during the Sepoy mutiny. Author of various professional publications. Selected to be the Professor of Military Surgery at the Army Medical School on its establishment in 1860 by the then Minister of War, Lord Herbert. Deputy Inspector-General. *Made a Companion of the Bath* in 1867. *Appointed Surgeon Extraordinary to the Queen*, 1868.

Sir THOMAS TILSON, Knight. Left School 1816. J.P., and Chairman of Quarter Sessions for Surrey. *Knighted*, 1868.

CHARLES ALFRED COOKSON, B.A., Dean Ireland's Exhibitioner of Oriel College, Oxford. 2nd Class in Classics at B.A., Easter, 1852. *Second Judge of the British Consular Court at Constantinople*, 1868.

Rev. EDMUND VENABLES, M.A., Stuart's Exhibitioner from the School, 1838. of Pembroke College, Cambridge. 33rd Wrangler in 1842. Examining Chaplain to the Bishop of Lincoln. *Prebendary of Lincoln*, 1865. *Canon and Precentor of Lincoln*, 1867. *Chaplain to the Bishop of London*, 1869.



- Rev. HENRY HAYMAN, D.D., Fellow of St. John's College, Oxford, 1841. 2nd Class in Classics, and 2nd Class in Mathematics, 1845. One of the Under-Masters at the Charterhouse. Examiner in the Responsions Schools at Oxford, 1851. Assistant Preacher at the Temple Church, 1854. Head Master of Queen Elizabeth's Free Grammar School in St. Olave's, Southwark, 1855. Head Master of Cheltenham Grammar School, 1859. *Head Master of St. Andrew's College, Bradfield*, 1868. *Head Master of Rugby School*, 1869-1874.
- Rev. THOMAS ARUNDELL (formerly TAGG), B.D. Left School, 1826. Of St. John's College, Cambridge. Vicar of Hayton, near York. *Author of "Reminiscences of the City of London and its Livery Companies, 1869."*
- Rev. THOMPSON PODMORE, M.A., Fellow of St. John's College, Oxford, 1842. First Class in Classics at B.A., Easter, 1846. Head Master of Elstree School, 1861. *Head Master of Eastbourne College*, 1869.
- Rev. A. STOKES, M.A., Company's Tercentenary Scholar, and Scholar of Trinity Hall, Cambridge, 1863. Fourth Senior Optime and Twelfth in Second Class in Classics at B.A., 1867. *Appointed, in 1869, Principal of the Mussoorie College, N.W. Provinces, Bengal.*
- Rev. CHARLES PRITCHARD, M.A., of St. John's College, Cambridge. Left School about Christmas, 1819. 4th Wrangler, 1830. Fellow of St. John's College, Cambridge, 1831. Head Master of Clapham School. *President of the Royal Astronomical Society*, 1866. *Hulsean Lecturer at Cambridge*, 1867. *Savilian Professor of Astronomy at Oxford*, 1870.
- Rev. ROBINSON THORNTON, D.D., Fellow of St. John's College, Oxford, 1843. Junior University Mathematical Scholar, 1845. First Class in Classics, and Second Class in Mathematics at B.A., Michaelmas, 1847. Master of the Schools at Oxford, 1852. Head Master of Epsom College, 1855. *Vice-President of Victoria Institute*, 1869. *Warden of Trinity College, Glenalmond, and Pantonian Professor of Theology*, 1870-1873.
- Rev. WILLIAM DE LANCY WEST, D.D., of St. John's College, Oxford, 1841. First Class in Mathematics, and Second Class in Classics, Easter, 1845. Head Master of Hackney School. Head Master of Brentwood School. *Head Master of Epsom College*, 1870.
- WILLIAM RHYS WILLIAMS, M.D., F.R.G.S., Exhibitioner from the School to St. Thomas's Hospital, 1855. Graduated at St. Andrew's, 1862. *Member of the Royal College of Physicians, Edinburgh*, 1866. *Resident Physician and Superintendent to Bethlehem Hospital*, 1866. *Lecturer on Mental Diseases at St. Thomas's Hospital*, 1870.
- Right Rev. HENRY MACKENZIE, D.D. Left School, 1820. Of Pembroke College, Oxford. Master of Bancroft's Hospital. Vicar of St. Martin's-in-the-Fields. Rector of Tydd St. Mary's, Norfolk. Examining Chaplain to the Bishop of Lincoln. Prebendary of Lincoln. *Canon and Subdean of Lincoln*, 1864. *Archdeacon of Nottingham*, 1866. *Chaplain to the Bishop of London*, 1869. *Suffragan Bishop of Nottingham*, 1870. *Select Preacher at Oxford*, 1870.
- Rev. WILLIAM BAKER, D.D., Fellow of St. John's College, Oxford, 1860. Proximè Accessit for the Pusey and Ellerton Hebrew Scholarship, 1861. First Class in Classics at Moderations, Easter 1862. Proximè Accessit for the Gaisford Greek Verse Prize, 1863. Second Class in Classics at B.A., Michaelmas, 1864. Elected Denyer and Johnson's Theological Scholar, 1866. Tutor of St. John's. *Master in the Responsions Schools at Oxford*, 1869. *Examiner in Moderations at Oxford*, 1870. *Head Master of Merchant Taylors' School*, 1870.



- Rev. JOHN POWER, D.D. Left School as Parkin's Exhibitioner for Pembroke College, Cambridge, 1837. 8th Wrangler at B.A., 1841. Fellow of Pembroke, 1841. Tutor of his College for many years. *Master of Pembroke*, 1870. *Vice-Chancellor of the University of Cambridge*, 1870-71.
- ALFRED MARSHALL, M.A., of St. John's College, Cambridge, Parkin's Exhibitioner, and Scholar of St. John's, 1861. Foundation Scholar, 1862. Second Wrangler at B.A. Examination, 1865. Fellow of St. John's, 1865. *Lecturer in the Moral Sciences at St. John's*, 1871.
- ARTHUR ROBERTS ADAMS, D.C.L., Fellow of St. John's College, Oxford, 1830. Barrister-at-Law. Bencher of the Middle Temple. *Recorder of Birmingham*, 1866. *Queen's Counsel*, 1869. *Assessor of the Court of the Vice-Chancellor of Oxford*, 1871.
- Rev. H. W. BURROWS, B.D., Fellow of St. John's College, Oxford, 1833. First Class in Classics, and Second Class in Mathematics, 1837. Vicar of Christ Church, St. Pancras, 1851. *Prebendary of St. Paul's Cathedral*, 1871.
- Rev. JAMES AUGUSTUS HESSEY, D.C.L., Fellow of St. John's College, Oxford, 1832. First Class in Classics at B.A., Easter, 1836. Vicar of Helidon, Northamptonshire, 1839, but resigned it the same year. College Logic Lecturer, 1839-1842. Public Examiner in the University, 1842-1844. Head Master of Merchant Taylors' School, 1845-1870. Select Preacher in the University of Oxford, 1849. Preacher to the Honorable Society of Gray's Inn, 1850. Bampton Lecturer at Oxford, 1860. Prebendary of St. Paul's Cathedral, 1860. *Grinfield Lecturer in the Septuagint at Oxford* (for two years), June, 1865. *Re-appointed Grinfield Lecturer* (for two years), June, 1867. *Boyle Lecturer in Her Majesty's Chapel at Whitehall* (for three years), 1871-1873. *Examining Chaplain to the Bishop of London*, 1871.
- THOMAS HUMPHREY WARD, M.A., Scholar of Brasenose College, 1864. First in Competitive Examination for Indian Civil Service, 1866. Second Class in Classics at Moderations, 1866. First Class in Classics at B.A. Degree, 1868. Fellow of Brasenose, 1869. *Master in the Responsion Schools at Oxford*, 1871.
- Rev. WILLIAM H. MADDOCK, M.A., Fellow of St. John's, 1858. Third Class in Classics at Moderations, 1860. Third Class in Classics at B.A. Examination, 1862. *Assistant Master at Rossall School*. *Assistant Master at Malvern College*. *Head Master of Sandbach Grammar School*, 1871.
- Rev. JAMES BELLAMY, D.D., Fellow of St. John's College, Oxford, 1836. Second Class in Classics, and First Class in Mathematics at B.A. Examination, 1841. Tutor of St. John's. Examiner in Moderations at Oxford, 1853, 1854. *President of St. John's*, 1871.
- PHILIP THOMAS MAIN, M.A., of St. John's College, Cambridge. Parkin's Exhibitioner, 1858. Bell's University Scholar, 1859. Foundation Scholar of St. John's, 1860. Sixth Wrangler at B.A. Examination, 1862. Fellow of St. John's, 1863. *Lecturer in the Natural Sciences and Superintendent of the Laboratory, at St. John's*. *Examiner in the Natural Sciences Tripos at Cambridge*, 1867, 1868, 1871, 1872.
- THOMAS HALHED FISCHER. Left School, 1845. Barrister-at-Law. Bencher of Lincoln's Inn. *Queen's Counsel*, 1872.
- CHARLES JOHN FOLLETT, B.C.L. Fellow of St. John's College, 1856. Second Class in Classics at Moderations, 1858. Second Class in Classics at B.A. Examination, 1860. *Mayor of Exeter*, 1872-1874.



- FREDERICK WILLIAM PAVY. Left School in 1843. M.D., London, 1853. Fellow of the Royal College of Physicians, London, 1860. F.R.S. Physician to, and Lecturer on Physiology at, Guy's Hospital. Gullstonian Lecturer at College of Physicians, 1862 and 1863. Lettsomian Lecturer at Medical Society, 1859. Formerly Lecturer in Comparative Anatomy, Guy's Hospital. *Examiner in Anatomy and Physiology, College of Physicians*, 1872 and 1873. Author of various Medical Works, and most recently of "A Treatise on Food and Dietetics, Physiologically and Therapeutically considered," 1874.
- Rev. S. M. CROSTHWAITE, M.A., Parkin's Exhibitioner from the School, and Scholar of Pembroke, 1863. Foundation Scholar of that College, 1864. Fourth Junior Optime at B.A. Degree, 1867. Assistant Master at the King's School, Canterbury. *Head Master of Feversham School*, 1872.
- TIMOTHY HOLMES, M.A. Left School, 1843, with a Stuart's Exhibition to Pembroke College, Cambridge. Foundation Scholar of that College, 1845. Forty-second Wrangler, and Bracketed Twelfth in the First Class in Classics at B.A. Examination, 1847. M.R.C.S., 1853. *Chief Surgeon of the Metropolitan Police*, 1865. *Surgeon and Lecturer in Surgery at St. George's Hospital*, 1868. *Professor of Surgery and Pathology*, 1872-1874, and *Member of the Court of Examiners, of R.C.S.*, 1873. Editor and in part Author of "A System of Surgery," 2nd edit., 1870, and Author of "The Surgical Treatment of the Diseases of Infancy and Childhood," 2nd edit., 1869, and of other Medical works.
- Ven. HENRY GOLDNEY RANDALL, M.A., Andrew's Exhibitioner of St. John's, Oxford, 1827. Michel Scholar of Queen's, 1830, and afterwards Fellow. Second Class in Classics and also in Mathematics, Easter, 1831. Rector of St. Mary Redclyffe, Bristol. *Hon. Canon of Bristol*, 1867. *Archdeacon of Bristol*, 1873.
- Ven. RICHARD FREDERIC LEFEVRE BLUNT, M.A. (Cantuar.), of King's College, London. Theological Associate, First Class, 1857. Vicar of Scarborough, 1864. *Hon. Fellow of King's College, London*, 1869. *Rural Dean of Scarborough*, 1870. *Prebendary of York*, 1871. *Archdeacon of the East Riding*, 1873.
- J. R. THURSFIELD, M.A., Scholar of Corpus, Oxford, 1359. First Class in Classics at Moderations, Easter, 1861. First Class in Classics at B.A., 1863. Fellow of Jesus, 1864. Tutor of Jesus. *Examiner in Moderations at Oxford*, 1870. *Public Examiner*, 1873.
- Rt. Rev. JAMES RUSSELL WOODFORD, D.D., Parkin's Exhibitioner to Pembroke College, Cambridge, 1838. Senior Optime and Second Class in Classics, at B.A. Examination, 1842. Vicar of Kempsford, Gloucestershire. Chaplain to the Bishop of Oxford. *Hon. Chaplain in Ordinary to the Queen*, 1866, *Hon. Canon of Christchurch*, 1867. *Vicar of Leeds*, 1868. *Bishop of Ely*, 1873.
- Rev. J. W. NUTT, M.A., Scholar of Corpus Christi College, Oxford, 1852. First Class in Classics at Moderations, Mich., 1853. First Class in Classics at B.A. Degree, Mich., 1855. Kennicott Hebrew Scholar, 1857. Pusey and Ellerton Hebrew Scholar, 1857. Boden Sanscrit Scholar, 1857. Fellow of All Souls' College, 1858. One of Her Majesty's Inspectors of Schools. *Sub-librarian of the Bodleian with care of Oriental Books and Manuscripts*, 1867. *Grinfield Lecturer in the Septuagint at Oxford*, 1874-1876.
- Most Rev. WILLIAM WEST JONES, D.D., Fellow of St. John's College, Oxford, 1856. Second Class in Classics at Moderations, Easter, 1858. Fourth Class both in Classics and in Mathematics at B.A., Michaelmas, 1860. *Oxford University Preacher at Whitehall*, 1869. *Rural Dean of Oxford*, 1871. *Bishop of Cape Town and Metropolitan of South Africa*, 1874.



- Rev. A. F. RUTTY, M.A., Exhibitioner of Pembroke College, Cambridge 1865, and Foundation Scholar, 1866. First Senior Optime at B.A. Examination, 1869. *Successively Assistant Master of Newton Abbot College, Devon, Deputy Head Master of Feversham School, Kent, Assistant Master of Reading School, and Head-Master of Basingstoke Grammar School, 1873.*
- C. T. CRUTTWELL, M.A., Scholar of John's College, Oxford, 1866. First Class in Classics at Moderations, 1868. Pusey and Ellerton Hebrew Scholar, 1869. First Class in Classics at B.A., 1870. Fellow of Merton College, 1870. Craven Scholar, 1871. Kennicott Hebrew Scholar, 1872. *Examiner in Moderations at Oxford, 1873.*
- FREDERICK HOOKHAM, M.A., Exhibitioner at Lincoln College, 1864. Second Class in Classics at Moderations, 1866. Third Class in Classics at B.A. Examination, 1868. *Head Master of Kidderminster School, 1873.*
- HENRY HART, M.A., Parkin's Exhibitioner, and Minor Scholar of Trinity, Cambridge, 1867. Foundation Scholar of Trinity, 1869. Fourth Wrangler at B.A. Examination, 1871. *Mathematical Instructor in the Royal Military Academy, Woolwich, 1872. Fellow of Trinity, Cambridge, 1873.*
- WILLIAM BARROW SIMONDS. Left School, 1836. *Elected M.P. for Winchester, 1865; again in 1868; and again in 1874.*
- RICHARD HENRY MAJOR. Left School, 1836. F.S.A., F.R.S.L. Keeper of the Department of Maps, Charts, &c., in the British Museum, 1867. For many years the Honorary Secretary of the "Hakluyt Society," and Editor of many of its most valuable Publications: as "The Early Voyages to Terra Australis." Writer of a Paper before the Society of Antiquaries on a "Discovery made by him of a MS. document which represented Australia to have been discovered by the Portuguese, with a Discoverer's Name, in 1601." In recognition of the importance of these two publications, Dom Pedro, King of Portugal, conferred on him the *Knighthood of the "Tower and Sword,"* in 1861. Author of "The Life of Prince Henry of Portugal, surnamed the Navigator, and its Results," for which Dom Louis, the present king, conferred on him the additional honour of the "Gold Collar" of that order. *Knight and Officer of the Order of the "Rose of Brazil," 1873. Knight Commander of "the Crown of Italy," 1874, a distinction conferred on him by Vittorio Emanuele, King of Italy, for another work, "The Voyages of the Venetian Brothers, Niccolo and Antonio Zeno, to the Northern Seas in the Fourteenth Century." Corresponding Member of many Foreign Societies.*
- Rev. H. R. HUCKIN, D.D., Andrew's Exhibitioner of St. John's College, Oxford, 1860. 1st Class in Classics and 1st Class in Mathematics at Moderations, Easter, 1862. 2nd Class in Classics and 2nd Class at B.A. Examination, Michaelmas, 1864. One of the Assistant Masters at Haileybury School. *2nd Mathematical Master and 4th Under Master, at Merchant Taylors', 1869. 3rd Under Master, 1870. Head Master of Repton School, 1874.*
- Rev. ALEXANDER FREEMAN, M.A., of St. John's College, Cambridge. Foundation Scholar, 1860. Fifth Wrangler at B.A. Examination, 1861. Chancellor's Medallist for Proficiency in Legal Studies, 1862. Fellow of St. John's, 1862. *Moderator in the Mathematical Tripos, 1874, and Examiner in the same Tripos for 1875.*
- Rev. JOHN SHARPE, M.A., Stuart's Exhibitioner and Scholar of Christ's College, Cambridge, 1865. Bishop Gell's Hebrew Prizeman at Christ's, 1866, 1867, 1868. Bracketed Seventh in the 1st Class in Classics at B.A., 1869. 1st Class in Theological Honours. *Obtained University Hebrew Prize; bracketed for Scholfield Prize; bracketed for the Tyrwhitt Hebrew Scholarship, and mentioned with honour in Examination for Crosse's Theological Scholarship, 1870. Elected Crosse's Theological Scholar, 1871. Examiner in the Theological Tripos for 1875.*



## OBITUARY.

FROM JANUARY, 1862.

JOHN LEYCESTER ADOLPHUS, M.A., Fellow of St. John's College, Oxford, 1811. Newdigate English Verse Prize, 1814. 2nd Class in Classics at B.A. Degree, Easter, 1815. Chancellor's English Essay Prize, 1818. Barrister-at-Law. Bencher of the Inner Temple. Attorney General of the County Palatine of Durham. Joint Editor of Adolphus and Ellis' Reports. Judge of the Marylebone County Court. Editor of "Identification of the Author of Waverley with Sir Walter Scott." Steward of St. John's College. Born, 1794. Died, 1862.

EDWARD STANLEY, F.R.S., Surgeon of St. Bartholemew's Hospital. Surgeon Extraordinary to the Queen. Born 1792. Left School, 1808. Died, 1862.

Rev. WILLIAM BIRKETT ALLEN, D.C.L., Fellow of St. John's College, Oxford, 1808. Rector of Winterbourne, Gloucestershire. Honorary Canon of Bristol. Died, 1863.

Rev. THOMAS HEWITT CAMPBELL, M.A., Fellow of St. John's College, Oxford, 1846. Junior University Mathematical Scholar, 1848. 1st Class in Mathematics, and 3rd Class in Classics at B.A. Degree, Easter, 1851. Arnold Historical Essay Prize, 1852. One of the Under Masters at the Charter-house. Head Master of Wolverhampton Grammar School. Went out as Principal of Otago College, to New Zealand, but drowned when within sight of land, with all his family, July 4th, 1863.

JOHN ALFRED INNES, Andrew's Exhibitioner of St. John's College, Oxford, June, 1860. Died of decline, 1863.

JOHN BERNARD BEHREND, D.C.L., Fellow of St. John's College, Oxford, 1849. Junior University Mathematical Scholar, 1851. 1st Class in Mathematics, and 2nd Class in Classics at Moderations, Easter, 1852. 1st Class in Mathematics, and 3rd Class in Classics at B.A. Degree, Michaelmas, 1853. Died, 1864.

Rev. FRANCIS BADHAM, M.A., Fellow of St. John's College, Oxford, 1856. 1st Class in Classics at Moderations, Easter, 1858. 2nd Class in Classics, at B.A. Examination, Michaelmas, 1860. One of the Under Masters at the Blackheath Proprietary School. Died, 1864, just as he was establishing a very successful School on his own account.

W. A. WILKINSON, some time M.P. for Lambeth. Born, 1795. Left School, 1810. Died, April, 1865.

Rev. W. DEWHURST, M.A., of Trinity College, Dublin. Left School, 1842. An excellent Oriental Scholar. Theological Tutor, and Oriental and Hebrew Lecturer, at Queen's College, Birmingham, and Head Master of the Junior School of Theology. Selected by Bishop H. Browne as one of the Contributors to "The Speaker's Commentary on the Bible." Died, 1865.

Rev. A. J. W. MORRISON, B.A., of Trinity College, Cambridge. Born 1806. Left School 1825. Scholar of Trinity College, Cambridge, 1831. Head Master of Truro Grammar School. A most learned German scholar, and translator of "Ritter's History of Philosophy," and of other works, from the German. Died, 1865.



Ven. EDWARD WIX, M.A., of Trinity College, Oxford. Left School, 1820. Late Archdeacon of Newfoundland, Died, 1866.

Sir JOHN POLLARD WILLOUGHBY, Bart., formerly M.P. for Leominster. Left School 1812. Nominated a Student at the E. I. College, Haileybury, August, 1815, where, during the Four Terms he was required to keep, he gained Three Prizes, and a Gold Medal for Proficiency in Persian; Three Prizes for Proficiency in Hindustani; a Prize and a Gold Medal for Proficiency in Law; and a Gold Medal of Proficiency in Political Economy. On quitting the College he was placed in the First Class of Merit, and assigned the Rank of First on the List of Students then leaving the Institution for Bombay, for which Presidency he was appointed a Writer in July, 1818; having passed through all the different grades of the Service, he took his seat as a Member of Council in April, 1846. After a career of most distinguished services, among which should be enumerated his efforts for putting down Infanticide in India, he retired from the Service, and returned to England in 1851. In April, 1854, he was appointed by Her Majesty's Government a Nominee Director of the East India Company. Member of the Indian Council, 1858. Succeeded his brother, Sir H. Willoughby, in the Baronetcy, 1865. Died 1866.

Rev. FREDERIC VELEY, B.A., School Exhibitioner of St. John's College, Oxford, 1860. Second Class in Classics at Moderations, 1862. Died in his Deacon's Year, 1866.

HENRY STORKS, Serjeant-at-Law. Left School, 1791. Recorder of Cambridge, and last Chief Justice of the Isle of Ely. Judge in the Middlesex County Court. (He was the father of Sir Henry Storks, Governor of Malta, and temporary Governor of Jamaica.) Died, 1866.

Rev. THOMAS CARTERET MAULE, B.D., Fellow of St. John's College, Oxford, 1835. 3rd Class in Classics at B.A. Examination, Michaelmas, 1839. Vicar of St. Giles', Oxford, and, in 1856, Rector of Cheam, Surrey. Died, 1867, after a short but active Incumbency, during the course of which he entirely rebuilt his church, and endeared himself to his Parishioners by his earnest and indefatigable ministerial labours.

Rev. JOHN HENRY HOWLETT, B.D., Parkin's Exhibitioner of Pembroke College, Cambridge, 1800. 14th Wrangler, 1804. Fellow of Pembroke, 1806. Reader at the Chapel Royal, Whitehall. Rector of Foston, Leicestershire, 1834. Founder, and for many years Honorary Secretary, of the Kensington Grammar School. Died, 1868.

Right Rev. WILLIAM COLLINSON SAWYER, D.D., of Oriel College, Oxford. Left School, 1845. Bishop of Grafton and Armidale, 1867. Drowned very shortly after he had joined his Diocese while returning on Sunday night from his duty, in crossing the Clarence River, 1868.

Rev. JOHN GABRIEL RYDE, M.A., Incumbent of Holy Trinity Church, Melrose, and Synod Clerk of the Diocese of Glasgow. He was at Merchant Taylors' School, from June, 1831, to June, 1834, but had the greater part of his early education at King's College, London, (first in the School, and afterwards in the College,) previous to going to St. John's College, Oxford. There he graduated in Michaelmas, 1846, taking a First Class in Classics at B.A. The next year he was ordained by the Bishop of London to the curacy of St. Mary's, Paddington, whence he proceeded in 1849 to Scotland, and after being for four years incumbent of St. Andrew's, Aberdeen, was appointed in 1854 to the incumbency of Holy Trinity Church, Melrose, which he held till his death, from typhoid fever, on the 7th of December, 1868, at the age of forty-five.



- SIR HENRY ELLIS, born November 27th, 1777. Admitted at Merchant Taylors', October 7th, 1788. Fellow of St. John's, 1796. Whilst still an undergraduate, appointed, in 1797, one of the Assistant Librarians of the Bodleian. B.C.L. 1802. Temporary Assistant in the British Museum, 1800. Assistant Librarian, 1805. Keeper of the Department of Printed Books, 1806. Transferred to the Department of MSS. 1812, and 1814 also Secretary. Retained both positions till 1827, when he was appointed Principal Librarian. Retired from this post in 1856. Sir Henry Ellis was, in 1813, one of the Secretaries to the Archaeological Society, and edited many of its publications. A Member of the Camden Society. Fellow of the Society of Antiquaries, 1807. Fellow of the Royal Society, 1811. Fellow of the Geological Society. Hon. Member of the Royal Society of Antiquaries, Copenhagen. Hon. Member of the Royal Irish Academy. Member of the Historical Scandinavian Society at Stockholm. Member of the Royal Academy of Sciences at Brussels. Corresponding Member of the Imperial Society of Antiquaries at France. LL.D. of the University of Jena, and Knight of Hanover. In 1807, he edited several reprints of Old English Chronicles. In 1810, reprints of Robert of Gloucester and Robert de Brunne. In 1812, assisted in editing Strype's "Memorials of Cranmer." In 1813, edited Brande's "Popular Antiquities." Was joint Editor of Dugdale's "Monasticon," commenced 1812. In 1818, edited Dugdale's "History of St. Paul's," besides being engaged in many other literary works, as, for instance, "Original Letters, Illustrative of English History," 3 vols., 1824. Died January 15, 1869.
- Rev. E. PENNY, M.A. Left School, 1827. School Exhibitioner at St. John's College, Oxford. One of the Six Preachers at Canterbury Cathedral. Hon. Canon of Canterbury, 1866. Died 1869.
- Rev. C. W. STOCKER, D.D., Fellow of St. John's College, Oxford, 1812. First Class in Classics and Second Class in Mathematics, Easter, 1816. Tutor of St. John's, Public Examiner, Michaelmas, 1823, to Easter, 1824, and again Michaelmas, 1831, to Easter, 1833. Principal of Elizabeth College, Guernsey, 1824. Select Preacher at Oxford, 1832. White's Reader in Moral Philosophy, Oxford, 1841. (Editor of Herodotus, Juvenal and Persius, &c.) Died, 1870.
- Rev. H. W. MADDOCK, M.A., Andrew's Exhibitioner to St. John's College, Oxford, 1823. Second Class in Classics at B.A., Easter, 1827. Fellow of Brasenose, 1827. Rector of Kington, Herefordshire, and afterwards of All Saints, St. John's Wood. Died, 1869.
- Professor WILLIAM ALLAN MILLER, M.D., LL.D., F.R.S. Born at Ipswich, Dec. 17, 1817. Left Merchant Taylors' about June, 1827. Studied Medicine at Birmingham and King's College, London. Carried off Warneford Theological Medal, 1839. Demonstrator of Chemistry, at King's College, 1840. M.D. of University of London. Author of "Elements of Chemistry, Theoretical and Practical." Professor of Chemistry at King's College, 1845. Died 1870.
- EDWARD NOLAN, School Exhibitioner of St. John's College, Oxford, 1864. First Class in Moderations 1866. Casberd Scholar at St. John's, 1867. Entered as Student of the Inner Temple in 1869. A young man of great promise and varied accomplishments, who endeared himself greatly to all his friends. Died Oct. 4, 1870, after a year's suffering.
- WILLIAM ANDREW REW, D.C.L., Fellow of St. John's College, Oxford, 1823. Second Class in Classics and Second Class in Mathematics at B.A. Examination, Easter, 1827. Tutor of St. John's. Barrister-at-Law of the Inner Temple and the Northern Circuit. Died 1870.
- JAMES HUNTER REID, D.C.L., Fellow of St. John's College, Oxford, 1847. Second Class in Classics at B.A. Examination, Michaelmas, 1851, Arnold Historical Essay Prize, 1853. Some time Lecturer at St. John's in Law and Modern History. Barrister-at-Law. Died 1871.



JESSE ADDAMS, D.C.L., Q.C., Fellow of St. John's College, Oxford, 1804. Second Class in Classics, and Second Class in Mathematics, Michaelmas, 1808. Advocate in Doctors' Commons. Died 1871.

Very Rev. HENRY LONGUEVILLE MANSEL, D.D., Fellow of St. John's College, Oxford, 1839. First Class in Classics and First Class in Mathematics at B.A., Easter, 1843; Tutor of St. John's; Moderator, Easter 1852 to Michaelmas 1852; Public Examiner, Easter 1854 to Michaelmas 1855; Member of the Hebdomadal Council, 1854-1869; Author of "Aldrich's Logic with Notes" and "Prolegomena Logica," and Joint Editor with Professor Veitch of "Sir William Hamilton's Works;" Reader in Moral and Metaphysical Philosophy at Magdalen College, 1855, an office which was continued to him in 1859, under the title of Waynflete Professor; Bampton Lecturer, 1858; Select Preacher, 1859; Hon. LL.D. of the University of Edinburgh. Corresponding Member of the New England Historico-Genealogical Society, 1859; Professor Fellow of St. John's, 1864; Examining Chaplain to the Bishop of Peterborough and Hon. Canon of Peterborough, 1864; Regius Professor of Ecclesiastical History and Canon of Christchurch, 1867; Dean of St. Paul's, 1868; Hon. Fellow of St. John's, 1868; Elected Hon. Member of the American Academy of Arts and Sciences, of Boston and Massachusetts, on the death of M. Cousin, in 1868; Select Preacher, 1870. Died July 30, 1871.

The time has scarcely arrived for forming a due estimate of the influence of the writings of Dean Mansel upon Theology and Metaphysics. The controversies connected with them have not yet sufficiently calmed down, and, even were this the case, these pages would not be the appropriate place for such an attempt. But it may be safely said that rarely, if ever, has a series of Bampton Lectures created so profound an interest, not merely at home, but in the schools of the Continent, and in America, as did that delivered by him at Oxford in 1858. The Dean's Essays, contributed to various periodicals, or written for passing occasions, have been collected since his death. A volume of valuable lectures, delivered by him while he held the Chair of Ecclesiastical History at Christchurch, is about to be published. And "the Speaker's Commentary" will contain his notes upon the Gospel of St. Matthew, (the last of his literary labours,) which were all but completed at the time of his sudden summons. The Dean's reading was wide and miscellaneous, and his mind was able to embrace almost anything. Though, of course, his strongest points were Theology and Mental and Moral Philosophy, he was deeply acquainted with the early Ecclesiastical writers, especially those of the Alexandrine School. He had a most elegant and refined taste in literature, and there were few English poets, from Chaucer to those of the present day, with whom he was not familiar, the older English dramatists being his chief favourites. He was a profound classical and German and Hebrew scholar, as, indeed, the learned references occurring in his works clearly evidence. His memory was amazing, and whatever he had read he seemed able to reproduce at the exact moment when it was required. His public lectures were lucid and well-digested, and contained nothing superfluous or discursive. As an accurate and indefatigable man of business, he was unrivalled. He was everything in the affairs of the University, when resident there, and St. Paul's owes very much to his exertions and skilful negotiations with the ecclesiastical commissioners, during his too short tenure of the office of Dean. In private life and society, he was a man of genial and kindly temperament, and sparkling with irrepressible humour in his conversation. In his friendships he was most warm and earnest, and was ever ready to serve those whom he cherished and valued. Lastly, he was not only a powerful Christian apologist, but "bore his faculties meekly," and was a genuine Christian man. He lies buried in the churchyard of Cosgrove, in



Northamptonshire. On or about his tomb are engraven two sacred texts, one of them indicative of the yearnings of his intellect, and of his consciousness of its finite powers; the other of his hopes and of their One Foundation. "Now we see through a glass darkly, but then face to face: Now I know in part; but then shall I know even as also I am known." "I am the resurrection and the life, saith the Lord." He had loved to dwell on these texts, and a loving thought selected them as characteristic of his habitual tone and temper.

Rev. A. W. DEEY, M.A., Postmaster of Merton College, Oxford, 1856. Third Class in Mathematics at Moderations, 1858. Second Class in Mathematics at B.A. Examination, 1860. Second Master of Crewkerne Grammar School, 1860. Curate of Alton, Hants. Author of "The Christian's Sanctuary." Died, 1871.

Rev. W. P. BAILY, B.D., left School in 1826, having gained a Scholarship at Clare Hall, Cambridge. Thirty-first Wrangler at B.A. Examination, 1830. Fellow of Clare Hall, 1831. Chaplain of the Chapel Royal at Hampton Court, 1849-1858. Rector of Great Waldingfield, Suffolk, 1858-1871. Died, 1871.

Rev. C. L. SWAINSON, B.D., Fellow of St. John's College, Oxford, 1815. Proctor of the University, 1828. Rector of Crick, Northamptonshire. Died, 1871.

Rev. PHILIP WYNTER, D.D., Fellow of St. John's College, Oxford, 1811. 2nd Class in Classics, 1815. Tutor of St. John's. Public Examiner, Michaelmas 1825, to Michaelmas 1826. President of St. John's, 1828. Select Preacher, 1828, and again in 1833. Vice-Chancellor of the University, 1840-44. Member of the Hebdomadal Council, 1855, 1860, 1866. Canon of Worcester, 1868. Master of St. Oswald's Hospital, Worcester, 1869. Died, Nov. 4, 1871.

Sir JOSEPH CAUSTON, Alderman of the City of London for the Ward of Bridge Within. Knighted on the occasion of the opening of the Holborn Viaduct by the Queen. Died, 1871.

Rev. HENRY CARY, M.A. (son of the Rev. Henry Cary, of the British Museum, the translator of "Dante," of "The Bride of Aristophanes," of "Pindar," &c.). He was a Scholar of Worcester College, Oxford, 1821. 2nd Class in Classics at B.A. Examination, 1824. He published various Classical works. Died in Australia, 1871.

Rev. ROBERT COLLEY LAWTON DEAR, M.A. A young man of no ordinary promise. He left School as Head Monitor, in June, 1863, when he was elected a Scholar of St. John's College, Oxford, carrying with him three out of the four chief classical prizes of that year, besides the Gilpin prize, and many other marks of distinction. At the University he obtained a First Class in Classics at Moderations at Easter, 1865, was posted as second for the Ireland Scholarship in 1867, and in Michaelmas of that year came out in the First Class in Classics at B.A. Within fourteen days of the appearance of the Class List he became Fellow of Merton, and in the spring of 1868, Craven Scholar. St. John's engaged him as College Tutor. He had a host of private pupils, and in the spring of 1871 was appointed Moderator in classical honors. He was a man of great industry and deep learning, a good German Scholar, and of most enlightened views as to education, which he pressed with real earnestness. He was ordained a Deacon by the Bishop of Oxford, at Christmas, 1870. Died, August 26, 1871, of typhoid fever, at Innsbruck, in the Tyrol.

GEORGE ROBERT GRAY, F.R.S., F.L.S., Assistant Keeper of the Department of Natural History in the British Museum. Author of the "Genera of Birds," and other works. Died, 1872.



Rev. A. H. BLUNT, M.A., Parkin's Exhibitioner from the School to Pembroke College, Cambridge, 1854. After serving various Curacies he became Principal of Hockerill Training College, in the Diocese of Rochester. Died of decline, 1872.

THOMAS WEEDON COOKE, M.R.C.S. Died, 1872.

JOHN MORTIMER HEPPEL, M. Inst. C. E. Left School in 1833, and went to the London University, where he obtained a Prize for Natural Philosophy. A Civil Engineer of considerable ability and eminence, who was a pupil of Mr. G. P. Bidder, and of the Messrs. Rennie. He was a man known for his professional exertions, not merely in England, but in Switzerland and other parts of the Continent of Europe, and indeed of the world. In 1857 he was appointed Chief Engineer on the Madras Railway. In 1864 he became Consulting Engineer to the International Contract Company. In 1865, Engineer to the Peruvian Railway. In 1866 he was made Consulting Engineer to the Oude and Rohileund Railway, which post he retained to his death. In every position filled by him his services were deeply appreciated, and his merit acknowledged. He joined the Institute of Civil Engineers as an Associate in 1835, was elected a Graduate in 1838, and was transferred to the class of Member in 1857. His published works and inventions were numerous and valuable. Died, March 21, 1872.

Rev. W. SCOTT, M.A. Left School in 1831, having obtained a Michel Exhibition, from which he was advanced to a Scholarship, on the same Foundation, at Queen's College, Oxford. Second Class in Classics at B.A. Examination, 1835. Perpetual Curate of Christ Church, Hoxton, 1839-1863. Vicar of St. Lawrence Jewry, 1863. He was a man of immense Theological learning, and for many years edited the *Christian Remembrancer*. He was also one of the founders and constant contributors to the *Saturday Review*, and few numbers appeared without an article from his vigorous pen. He edited *Archbishop Laud's Works*, in the *Library of Anglo-Catholic Theology*. Died, Jan. 12, 1872.

JAMES ALEXANDER GUTHRIE, M.A., of Wadham College, Oxford. Director of the Bank of England. Died, 1872.

HENRY STERRY, J.P., M.R.C.S.E. Died, 1873.

VINCENT RICE, left School at June, 1847, as Second Prompter. He could not be persuaded, though a promising scholar, and especially elegant in versification, to go to the University. Preferring agriculture, he went to the Agricultural College at Cirencester, and afterwards to the Cape, where he was prosperous and highly respected. He was a member of the House of Assembly of the Cape. His father was the Rev. Dr. Rice, formerly Head Master of Christ's Hospital. He died Jan. 18, 1873, at Claremont, near Cape Town.

Rev. ARTHUR B. CROSS STARKEY, B.D., Fellow of St. John's College, Oxford, 1835. Second Class in Classics at B.A. Examination, 1839. Examiner in the Responsions Schools at Oxford, 1844. Vicar of Bygrave, Herts, 1858. Died, 1873.

Rev. S. H. RUSSELL, B.D., Fellow of St. John's College, Oxford, 1832. Fourth Class in Classics and First Class in Mathematics at Examination for B.A., 1836. Appointed one of the Assistant Masters of Merchant Taylors' School in 1836, and a most able member of the staff, both in Classics and Mathematics, until 1857, when he was presented by his College to the Vicarage of Charlbury in Oxfordshire. He was a man of sterling character, loved and valued by colleagues, pupils, parishioners, and all who came in contact with him. He died, after a very painful illness, on September 10, 1873, and his funeral sermon was preached on September 28, by his friend, Dr. Hessey.



JOHN GOUGH NICHOLS, F.S.A., the well-known antiquary, was the eldest son of John Bowyer Nichols, F.S.A., and grandson of John Nichols, F.S.A., author of the "History of Leicestershire," and other works, was born May 22, 1806. He was educated at Merchant Taylors' School, which he left in June, 1823, in order to carry on the printing business in Parliament-street, which had been previously conducted by his father and grandfather. He contributed many historical essays and reviews to the "Gentleman's Magazine," which for some years he partly edited, and was the author of numerous works on genealogical, archæological, and antiquarian subjects. He was treasurer of the Surtees Society in 1834, and was one of the founders of the Camden Society, for which, as for other similar bodies, he edited several volumes. He was chief editor of the "Collectanea Topographica et Genealogica," and its sequel, and established, in 1862, the series of the "Herald and Genealogist." Mr. Nichols contributed many papers to the transactions of antiquarian societies, and amongst his writings may be mentioned "London Pageants," "The Pilgrimages of Canterbury and Walsingham, translated from Erasmus," and "Literary Remains of King Edward VI." Recently he was engaged on a new edition of Dr. Whitaker's "History of Whalley." Died 1873.

E. A. C. SCHALCH. Left School, 1852. Barrister-at-Law of [Lincoln's Inn. Obtained in 1864 the Competitive Law Studentship of the Four Inns of Court. Was appointed Attorney-General of Jamaica in 1871, and died, after a very short tenure of office, of yellow fever, 1874.

Rev. CHRISTOPHER COOKSON, B.D., elected a Fellow of St. John's College, Oxford, on the Reading Foundation, in 1842, no qualified candidate having appeared from that School. First Class in Classics at B.A. Examination in 1846. For a short time one of the Under Masters at the Charterhouse, afterwards Tutor of St. John's. Examiner in the Responsions Schools at Oxford, 1855. Vicar of Dallington in the Diocese of Peterborough, 1863. Died 1874.

Rev. THOMAS BARRATT POWER, M.A., Scholar of Emmanuel College, Cambridge, 1841. Eleventh Wrangler at B.A., 1845. Fellow of Emmanuel, 1846, and afterwards Tutor. Head Master of the Hereford Cathedral School, 1851-1857. Prebendary of Hereford, 1856. Vicar of Upton Bishop, Herefordshire, 1857. Died 1874.

Rev. JAMES WILLIAM BELLAMY, B.D., some time Head Master of Merchant Taylors' School. Mr. Bellamy was born Nov. 15, 1788, and was educated at Merchant Taylors' School, under the Rev. Thomas Cherry, B.D., whose daughter he eventually married. Among his school-fellows were many well-known men who have now passed away, as Dr. Bliss, the editor of Wood's "Athenæ;" Sir Robert B. Comyn, Chief Justice of Madras; Mr. J. L. Adolphus; Dr. Wynter, late President of St. John's, Oxford; Mr. Stanley, the well-known surgeon; Mr. W. A. Wilkinson, M.P. for Lambeth; Lieutenant-Colonel Dixon Denham, the African Traveller; Sir John Pollard Willoughby, Bart., the exterminator of infanticide in India and M.P. for Leominster, and Dr. Jesse Addams, Q.C. Among those who still survive are Dr. Edward Hawkins, Provost of Oriel College, Oxford, and his brother, Dr. Francis Hawkins; Dr. Close, Dean of Carlisle; Dr. C. L. Meryon, the biographer of Lady Hester Stanhope; Dr. Vivian, of St. Paul's, and Mr. Woodroffe, Canon of Winchester. In 1807, there being only one vacancy to fellowships at St. John's, Oxford, Mr. Bellamy was admitted a Pensioner at Queen's College, Cambridge. Here he applied himself with such vigour to his studies that his health completely broke down, and he was obliged to take an *agrotat* degree. But he showed his ability by gaining in one year, 1815, the prizes both for the Norrisian Essay and for the Seatonian Poem. The latter of these



was published, the subject being "Jonah." After taking holy orders Mr. Bellamy served various curacies, among others that of Bishopsgate, under Bishop Blomfield. In 1819, he was elected Head Master of Merchant Taylors' on the resignation of Mr. Cherry. He held that position till 1845. Mr. Bellamy entered upon his mastership at a time when nothing but Latin and Greek was taught in our great public Schools, and when it was difficult to persuade their governors that it is not an axiomatic truth that "to write and read comes by nature." But he was much too farsighted to acquiesce in such a state of things. He represented his views to the Merchant Taylors' Company with great force and perseverance. At length, after proving his earnestness by teaching mathematics himself to his head form out of hours, for twelve months, he obtained an order that writing, arithmetic, and mathematics should be made an integral part of the school curriculum. This was in 1829, and he was thus in the van of reform of education. He was a strict disciplinarian, but a man of warm and kindly affections; an accurate scholar, and gifted with a refined taste and varied accomplishments; and his memory is yet fresh in the minds of those who passed under him. The following were some of his pupils:—Bishop Nixon, late of Tasmania; the late Bishop Sawyer, of Grafton, in Australia; Bishop Henry Mackenzie, of Nottingham; Bishop Woodford, recently consecrated to Ely; Dr. Hessey, his successor in the mastership, preacher of Grays' Inn; the late Dean Mansel; the late Mr. William Scott, editor of the *Christian Remembrancer*; Mr. John Baily, Q.C.; Dr. Spinks, Q.C.; Mr. Fischer, Q.C.; Dr. A. R. Adams, Q.C.; Dr. Samuel Birch, and Mr. R. H. Major of the British Museum; Mr. Serjeant Pulling; Dr. Robert Dixon, late Principal of King William's College, Isle of Man; Archdeacon Browne, of Bath; Archdeacon H. G. Randall, of Bristol; Dr. Power, Master of Pembroke, and lately Vice-Chancellor of Cambridge; Precentor Venables, of Lincoln; Professor Longmore; Dr. Thornton, late of Glenalmond; Dr. West, of Epsom; Dr. Hayman, late of Rugby; Mr. W. B. Simonds, M.P. for Winchester; the late Mr. John Gough Nichols, F.S.A.; Sir Adam Bittleston, late of the High Court of Madras; the late Albert Smith, of pleasant memories; and his own son, Dr. James Bellamy, now President of St. John's. Mr. Bellamy was incorporated at St. John's College, Oxford, in 1820, when he took the degree of B.D. He held for many years the rectory of Abchurch, in the City of London, but resigned it shortly before he ceased to be Head Master. He was Vicar of Sellindge, in Kent, where he was greatly beloved, from 1822 to his death. In the year 1843, he was appointed by Bishop Blomfield to a Prebend in St. Paul's Cathedral. Died, March 2, 1874.



# DISTINCTIONS IN HEBREW AT THE UNIVERSITIES

FROM 1846 TO JUNE 1ST, 1874.

## GAINED BY SCHOLARS OF MERCHANT TAYLORS'.

1846	Ellison,	of Wadham,	Oxford, elected	Hody's Hebrew Exhibitioner of Wadham, Oxford.
1847	Barwis,	of Univ. of	Durham, obtained	the Hartley Junior Hebrew Prize at Durham.
1848	Barwis,	of Univ. of	Durham, obtained	the Hartley Senior Hebrew Prize.
	Barwis,	of Univ. of	Durham, obtained	Bishop of Durham's Hebrew and Hellenistic Prize. } Durham.
1849	W. Wright,	of St. John's,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
1850	Style,	of St. John's,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
1851	Matheson,	of St. John's,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
	W. Wright,	of St. John's,	Oxford, elected	Kennicott Hebrew Scholar, Oxford.
1852	T. H. Thornton,	of St. John's,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
1853	Pownall,	of St. Cath.,	Camb., elected	Crosse's Theological Scholar, (Hebrew forming a main point in the Examination), Cambridge.
	Gardner,	of Brasenose,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
	Gibson,	of Wadham,	Oxford, elected	Hody's Hebrew Exhibitioner of Wadham, Oxford.
1854	A. I. McCaul,	of St. John's,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
	Hutchins,	of King's Coll.	London, obtained	the First Hebrew Prize for the Year, at King's College, London.
1855	Willson,	of St. John's,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
	Matheson,	of St. John's,	Oxford, elected	Kennicott Hebrew Scholar, Oxford.
	Mew,	of Wadham,	Oxford, elected	Hody's Hebrew Exhibitioner of Wadham, Oxford.
	Pownall,	of St. Cath.,	Camb., elected	Tyrwhitt's Hebrew Scholar, Cambridge.
1856	S. McCaul	of St. John's,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
	Nutt,	of Corpus,	Oxford, elected	Kennicott Hebrew Scholar, Oxford.
1857	Nutt,	of Corpus,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
1858	Mew,	of Wadham,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
	Woodman,	of Wadham,	Oxford, elected	Hody's Hebrew Exhibitioner of Wadham, Oxford.
1859	Watson,	of St. John's,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
	Willson,	of St. John's,	Oxford, elected	Kennicott Hebrew Scholar, Oxford.
1860	Crosthwaite,	of Brasenose,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
	Mew,	of Wadham,	Oxford, elected	Kennicott Hebrew Scholar, Oxford.
1861	Baker,	of St. John's,	Oxford, proxime accessit	for Pusey and Ellerton Hebrew Scholarship, Oxford.
1863	Cheyne,	of Worcester,	Oxford, elected	Kennicott Hebrew Scholar, Oxford.
1864	Cheyne,	of Worcester,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
	Lewin,	of Caius,	Camb., placed	in the Second Class for the Tyrwhitt Hebrew Scholarship, Cambridge.
1865	H. W. Reynolds,	of Wadham,	Oxford, elected	Hody's Hebrew Exhibitioner of Wadham, Oxford.
1866	Baker,	of St. John's,	Oxford, elected	Denyer & Johnson's Theological Scholar, Hebrew forming a main point in the Examination. } Oxford
	Sharpe,	of Christ's,	Camb., obtained	Bp. Gell's Hebrew Prize, Christ's, Cambridge.
1867	Covington,	of St. John's,	Camb., elected	Fry's Hebrew Scholar of St. John's, Cambridge.
	Waters,	of Wadham,	Oxford, elected	Hody's Hebrew Exhibitioner of Wadham, Oxford.
	Covington,	of St. John's,	Camb., bracketed	for the University Hebrew Prize in the Theological Examination } Cambridge
	Covington,	of St. John's,	Camb., mentioned	with honor for the Tyrwhitt Hebrew Scholarship. } Cambridge
	Dermer,	of St. John's,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, } Oxford.
	Dermer,	of St. John's,	Oxford, elected	Kennicott Hebrew Scholar, } Oxford.
	Sharpe,	of Christ's,	Camb., obtained	Bp. Gell's Hebrew Prize, Christ's, Cambridge.
1868	Dermer,	of St. John's,	Oxford, proxime accessit	for Denyer and Johnson's Theological Scholarship. } Oxford.
	Sharpe,	of Christ's,	Camb., obtained	Bishop Gell's Hebrew Prize at Christ's } Cambridge.
	H. W. Reynolds,	of Wadham,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
	Cheyne,	of Worcester,	Oxford, elected	Fellow of Balliol, for proficiency in the Hebrew and other Semitic Languages } Oxford.
1869	C. T. Cruttwell,	of St. John's,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
	Stretton,	of Wadham,	Oxford, elected	Hody's Hebrew Exhibitioner of Wadham, Oxford.
1870	Ommannney,	of Wadham,	Oxford, elected	Hody's Hebrew Exhibitioner of Wadham, Oxford.
	Sharpe,	of Christ's,	Camb., obtained	University Hebrew Prize in Theological Examination, Cambridge
	Sharpe,	of Christ's,	Camb., bracketed	for Tyrwhitt Hebrew Scholarship, Cambridge
	Sharpe,	of Christ's,	Camb., mentioned	with honor for Crosse's Theological Scholarship. } Cambridge.
	Scott,	of Trinity,	Camb., commended	for Hebrew in the Special Theological Exam. for B.A. } Cambridge.
1871	Matthew,	of St. John's,	Oxford, elect-d	Denyer and Johnson's Theol. Scholar, Oxford.
	Shattock,	of St. John's,	Oxford, elected	Pusey and Ellerton Hebrew Scholar, Oxford.
	Shattock,	of St. John's,	Oxford, elected	Kennicott Hebrew Scholar, Oxford.
	H. W. Reynolds,	of Wadham,	Oxford, proxime accessit	for Kennicott Hebrew Scholarship, Oxford.
	Sharpe,	of Christ's,	Camb., elected	Crosse's Theological Scholar, Cambridge.
1872	Shattock,	of St. John's,	Oxford, elected	Denyer and Johnson's Theol. Scholar, Oxford.
	Perry,	of Worcester,	Oxford, elected	Hebrew Exhibitioner of Worcester, Oxford.
	C. T. Cruttwell,	of Merton,	Oxford, elected	Kennicott Hebrew Scholar, Oxford.
1873	Perry,	of Worcester,	Oxford, elected	Hody's Hebrew Exhibitioner of Wadham, Oxford.
1874	T. H. Wright,	of Keble,	Oxford, elected	Hody's Hebrew Exhibitioner of Wadham, Oxford.
	Hare,	of Wadham,	Oxford, elected	Hody's Hebrew Exhibitioner of Wadham, Oxford.



No 23



MEMORIAL TO THE LATE LORD HUNTER

RECEIVED

THE BATTLE OF BATTLE

THE DUKE OF CAMBRIDGE



No 23  
MEMORIAL TO THE LATE LORD HERBERT.

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REPORT

OF THE PROCEEDINGS AT

THE PUBLIC MEETING

HELD AT

WILLIS'S ROOMS, KING STREET, ST. JAMES'S,

On THURSDAY, 28<sup>th</sup> NOVEMBER, 1861.

HIS ROYAL HIGHNESS

THE DUKE OF CAMBRIDGE, K.G.

IN THE CHAIR.

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LONDON :

PRINTED BY R. CLAY, SON, AND TAYLOR.

1862.



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## THE LATE LORD HERBERT.

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THE much lamented death of Lord Herbert occurred on Friday, the 2d August, 1861. He died in the 51st year of his age.

Failing health had obliged him to resign his seat in the Cabinet as Secretary of State for War. He had held that office from the formation of Lord Palmerston's Administration, and had devoted all the energy of his highly gifted and cultivated mind to the moral and physical care of the British soldier. Lord Herbert's successful efforts in his work are well evidenced in the following pages.

On Lord Herbert's decease, his friends and constituents in Wiltshire evinced their regret for his loss, and their sympathy for his family, by holding a public meeting at Salisbury, and agreeing to erect a suitable memorial to him in that county. The subscriptions at Salisbury will be appropriated to the erection of a bronze statue of Lord Herbert in that city, and to the support of the Convalescent Hospital at Charmouth, which is a branch of the Salisbury Hospital, and a local Institution to which Lord Herbert was a liberal benefactor, and in which he took much interest.

There were, however, many beyond the sphere of his own county, who desired to testify their sense of the loss which the NATION had sustained by his untimely death. The Army, Lord Herbert's coadjutors in the Cabinet, and many political and private friends to whom he had endeared himself, expressed their anxiety to perpetuate his memory by some appropriate memorial in the metropolis. Early in the month of November the paper on the next page was circulated, and published in the public journals; and a meeting was held, of which a report is herewith given, and at which it was resolved to appropriate the subscriptions which might be received—

First. To the erection of a statue of Lord Herbert in London.

Second. To apply the surplus to the endowment of Exhibitions or Gold Medals in connexion with the Army Medical School at Chatham, which was founded under Lord Herbert's auspices.



## (ADVERTISEMENT.)

A PUBLIC MEETING will be held at WILLIS'S ROOMS, King Street, St. James's, on THURSDAY, the 28th of November, at which

HIS ROYAL HIGHNESS THE DUKE OF CAMBRIDGE  
will preside, for the purpose of adopting such measures as may  
result in an appropriate MEMORIAL to the late lamented  
L O R D H E R B E R T.

The following Noblemen and Gentlemen have expressed their  
desire to support his Royal Highness on the occasion :—

FIELD MARSHAL THE LORD SEATON, G.C.B. &c.  
GENERAL THE VISCOUNT GOUGH, K.P. G.C.B. K.S.I.  
GENERAL THE LORD CLYDE, G.C.B. K.S.I.  
GENERAL SIR JOHN BURGoyNE, BART. G.C.B.  
LIEUT. GEN. SIR GEORGE BOWLES, K.C.B.  
LIEUT. GEN. SIR J. F. LOVE, K.C.B. K.H.  
LIEUT. GEN. THE RIGHT HON. J. PEEL, M.P.  
LIEUT. GEN. W. T. KNOLLYS.  
LIEUT. GEN. SIR HARRY JONES, G.C.B.  
LIEUT. GEN. SIR J. L. PENNEFATHER, K.C.B.  
LIEUT. GEN. THE EARL OF CARDIGAN, K.C.B.  
MAJOR GEN. THE HON. SIR JAMES YORKE SCARLETT, K.C.B.  
MAJOR GEN. SIR RICHARD I. DACRES, K.C.B.  
MAJOR GEN. SIR HOPE GRANT, G.C.B.  
MAJOR GEN. SIR T. A. LARCOM, K.C.B.  
MAJOR GEN. SIR EDWARD LUGARD, K.C.B.  
MAJOR GEN. EYRE.  
MAJOR GEN. SIR ALEXANDER TULLOCH, K.C.B.  
MAJOR GEN. J. LAWRENSON.  
MAJOR GEN. THE LORD FREDERICK PAULET, C.B.  
MAJOR GEN. SIR ROBERT VIVIAN, K.C.B.  
COLONEL SIR THOMAS TROUBRIDGE, BART. C.B.  
COLONEL THE HON. PERCY HERBERT, C.B.  
JAMES BROWN GIBSON, M.D. C.B. DIRECTOR GENERAL OF MILITARY  
HOSPITALS.  
THE REV. G. R. GLEIG, CHAPLAIN GENERAL.

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THE RIGHT HON. VISCOUNT PALMERSTON, K.G. M.P.  
THE RIGHT HON. THE LORD CHANCELLOR.  
THE RIGHT HON. THE EARL GRANVILLE, K.G.  
HIS GRACE THE DUKE OF ARGYLL, K.T.  
THE RIGHT HON. THE CHANCELLOR OF THE EXCHEQUER.  
THE RIGHT HON. SIR GEORGE GREY, G.C.B. M.P.  
THE RIGHT HON. THE EARL RUSSELL.  
HIS GRACE THE DUKE OF NEWCASTLE, K.G.



THE RIGHT HON. SIR G. C. LEWIS, BART. M.P.  
THE RIGHT HON. SIR CHARLES WOOD, BART. G.C.B. M.P.  
HIS GRACE THE DUKE OF SOMERSET.  
THE RIGHT HON. T. MILNER GIBSON, M.P.  
THE RIGHT HON. EDWARD CARDWELL, M.P.  
THE RIGHT HON. CHARLES PELHAM VILLIERS, M.P.

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THE DUKE OF WELLINGTON, K.G.  
THE DUKE OF SUTHERLAND.  
THE DUKE OF BUCCLEUCH, K.G. K.T.  
THE MARQUIS OF LANSDOWNE, K.G.  
THE MARQUIS OF WESTMINSTER, K.G.  
THE EARL OF DERBY, K.G.  
H.E. THE EARL OF CARLISLE, K.G. K.P.  
THE EARL OF SHAFTESBURY.  
THE EARL OF TANKERVILLE.  
THE EARL STANHOPE.  
THE EARL SPENCER.  
THE EARL OF CLARENDON, K.G. K.P. &c.  
THE EARL OF CARNARVON.  
THE EARL OF MALMESBURY, G.C.B.  
THE EARL OF POWIS.  
THE EARL OF ST. GERMAN, G.C.B.  
THE EARL DE GREY & RIPON.  
THE EARL SOMERS.  
THE EARL OF BESSBOROUGH.  
THE EARL GROSVENOR, M.P.  
THE LORD JOHN MANNERS, M.P.  
THE LORD HARRY VANE, M.P.  
THE VISCOUNT SYDNEY.  
THE VISCOUNT EVERSLEY.  
THE LORD STANLEY, M.P.  
THE VISCOUNT ENFIELD. M.P.  
THE LORD ELCHO, M.P.  
THE VISCOUNT CASTLEROSSE, M.P.  
REAR-ADMIRAL LORD CLARENCE PAGET, C.B. M.P.  
THE LORD BISHOP OF LONDON.  
THE LORD BISHOP OF OXFORD.  
THE LORD BISHOP OF SALISBURY.  
THE LORD LYTTTELTON.  
THE LORD HARRIS, K.S.I.  
THE LORD DE TABLEY.  
THE LORD BROUGHAM & VAUX.  
THE LORD DUFFERIN & CLANEBOYE.  
THE LORD OVERSTONE.  
THE LORD BELPER.  
THE LORD EBURY.  
THE LORD LYVEDEN.



THE SPEAKER OF THE HOUSE OF COMMONS.  
THE RIGHT HON. WILLIAM COWPER, M.P.  
THE HON. ALGERNON EGERTON, M.P.  
THE HON. ARTHUR KINNAIRD, M.P.  
THE RIGHT HON. THE LORD MAYOR.  
THE RIGHT HON. SIR W. G. HAYTER, BART. M.P.  
THE RIGHT HON. SIR JOHN McNEILL, G.C.B.  
THE RIGHT HON. H. U. ADDINGTON.  
THE RIGHT HON. T. E. HEADLAM, M.P.  
THE RIGHT HON. H. A. HERBERT, M.P.  
THE RIGHT HON. SPENCER H. WALPOLE, M.P.  
THE RIGHT HON. J. STUART WORTLEY.  
VICE-CHANCELLOR SIR WILLIAM PAGE WOOD.  
SIR JOHN SHELLEY, BART. M.P.  
SIR STEPHEN GLYNNE, BART.  
SIR WILLIAM ALEXANDER, BART.  
SIR EDMUND ANTROBUS, BART.  
SIR HARRY VERNEY, BART. M.P.  
SIR FRANCIS GOLDSMID, BART. M.P.  
SIR JAMES DUKE, BART. M.P.  
REAR-ADMIRAL SIR FREDERICK GREY, K.C.B.  
THE SOLICITOR-GENERAL.  
SIR BENJAMIN HAWES, K.C.B.  
SIR RODERICK MURCHISON, G.C.St.S.  
SIR THOMAS PHILLIPS.  
T. G. BARING, Esq. M.P.  
CAPT. CRAWFORD CAFFIN, R.N. C.B.  
R. W. CRAWFORD, Esq. M.P.  
RAIKES CURRIE, Esq.  
CAPT. DRUMMOND, R.N. C.B.  
CAPT. DOUGLAS GALTON, R.E.  
HENRY H. GIBBS, Esq.  
G. G. GLYN, Esq. M.P.  
THOMSON HANKEY, Esq. M.P.  
PETER HOARE, Esq.  
KIRKMAN D. HODGSON, Esq. M.P.  
R. S. HOLFORD, Esq. M.P.  
R. MONCKTON MILNES, Esq. M.P.  
W. G. PRESCOTT, Esq.  
HENRY C. ROBARTS, Esq.  
BARON LIONEL DE ROTHSCHILD, M.P.  
DAVID SALOMONS, Esq. ALD. M.P.  
MARTIN T. SMITH, Esq. M.P.  
H. GERARD STURT, Esq. M.P.  
TRAVERS TWISS, Esq. D.C.L.  
WESTERN WOOD, Esq. M.P.  
COUNT P. E. DE STRZELECKI, C.B. D.C.L.

J. STANDISH HALY, *Secretary.*



## REPORT OF THE PROCEEDINGS.

[*Extracted from THE TIMES of November 29, 1861.*]

EVER since the untimely death of Lord Herbert, his friends have desired to perpetuate, by some suitable memorial, the frank, genial, and winning qualities of the man, the patriotism and devotion of the statesman, and the success which crowned his labours for the sanitary improvement and re-organization of the British army. The list of noblemen and gentlemen who expressed their desire to support his Royal Highness the Duke of Cambridge at a public meeting, and to participate in doing honour to Lord Herbert's memory, is of itself a record of which the noblest family and the oldest historic title might be proud, for in it are found the names of men of the highest lineage, statesmen of the greatest influence and most opposite political opinions, and military commanders, who knew what the lamented statesman had achieved for the British soldier. Many of these noblemen and gentlemen were prevented by illness and other causes from being present at a meeting held at Willis's Rooms yesterday, for the purpose of adopting such measures as may result in an appropriate memorial to Lord Herbert; yet seldom has the metropolis witnessed so brilliant and illustrious an assembly to do honour to the memory of a deceased Minister of the Crown as that which met yesterday under the presidency of his Royal Highness the Duke of Cambridge. The large room was crowded to excess.

His Royal Highness took the chair shortly after 1 o'clock, and was accompanied by General Sir John Burgoyne, Bart. G.C.B., General Sir John Aitchison, K.C.B., Lieut. Gen. the Right Hon. J. Peel, M.P., Lieut. Gen. the Earl of Cardigan, K.C.B., Major Gen. the Hon. Sir James Yorke Scarlett, K.C.B., Major Gen. Sir Richard J. Dacres, K.C.B., Major Gen. Eyre, Major Gen. Sir Alexander Tulloch, K.C.B., James Brown Gibson, Esq. M.D. C.B. Director General of Military Hospitals, Rev. G. R. Gleig, Chaplain General, the Viscount Palmerston, K.G. M.P., the Earl Granville, K.G., the Chancellor of the Exchequer, the



Earl Russell, the Duke of Newcastle, K.G., the Right Hon. Sir G. C. Lewis, M.P. (Secretary of State for War), the Earl of Carnarvon, the Earl De Grey and Ripon, the Earl Somers, the Earl of Bessborough, the Earl Grosvenor, M.P., the Lord Bishop of Oxford, the Lord Harris, K.S.I., the Lord Lyveden, the Right Hon. Wm. Cowper, M.P., the Hon. Arthur Kinnaid, M.P., the Right Hon. H. U. Addington, the Right Hon. T. E. Headlam, M.P., the Solicitor-General, Raikes Currie, Esq., Thomson Hankey, Esq. M.P., W. G. Prescott, Esq., David Salomons, Esq. Ald. M.P., Travers Twiss, Esq. D.C.L., Colonel North, M.P., the Right Hon. S. Estcourt, M.P., W. H. Bodkin, Esq., Sir Ranald Martin, Count P. E. De Strzelecki, C.B., J. Standish Haly, Esq. &c. &c.

Several ladies occupied seats in the body of the hall, among whom were the Baroness Brunnov, the Hon. Miss A'Court, Mrs. Gladstone, Lady Lyveden, the Hon. Mrs. and Miss Kinnaid, the Lady Mayoress, Lady Mayne.

His Royal Highness the DUKE OF CAMBRIDGE on taking the chair was loudly cheered.

His Royal Highness spoke as follows :—

My Lords, ladies, and gentlemen, it becomes my duty to open the proceedings of this day, and I must begin by expressing my gratification, valuing as I do the memory of my late lamented and distinguished friend, to see myself surrounded on the present occasion by so large, so respectable, and so influential a meeting.

Some short time after the painful event which has brought us together this day, the friends of the late Lord Herbert came to me, and asked me whether I should object to concur with them in calling such a meeting as that now assembled, with a view to express the tribute of their respect, and that of the public at large, to the memory of him who had so lately passed from among us. I could, of course, have personally no hesitation in complying with their request and cordially entering into that arrangement, but I hesitated to do so till I had conferred with my noble friend who sits on my right, whose judgment I thought on a matter of this sort ought to be consulted before my own. Lord Palmerston at once replied to me in a manner which induced me to go on with the proposal which I was anxious to entertain, and the result has been the assembling of this meeting, which I hope may tend to further the object—the painful, yet grateful object—we have in view, to perpetuate the memory of our dear departed friend.



It would ill become me to detain you with any general observations on the occasion which has called us together. Such observations will come with much better effect from the distinguished statesmen and soldiers I see around me who will be called upon to address you. I would only observe, so far as I am concerned, that this meeting has no political bearing whatever; otherwise, you can easily see that I, as a soldier, could hardly have felt myself justified in presiding on the occasion. I am surrounded by men of all parties, all anxious only to testify their respect, esteem, and regard for one of the most conscientious and able public servants that, I believe, this country has ever seen; one whose private worth and excellence of character we all so highly appreciated, and whose loss we so deeply deplore.

Personally I only became intimately acquainted with the late Lord Herbert during the more recent period of his public career. I knew his merits—I had heard of them ever since I entered public life, but, individually, my connexion dates with him from a comparatively recent period. There are others who sit around me who from a much earlier period are, no doubt, able to speak far more to his merits than I should be able to do; but this I may say, that from the day I first entered into official connexion with the late Lord Herbert to the very last day I may say of his life—for he literally died while he was performing the duties of his situation—I never found other than one anxious feeling to do his duty by his country; to do it in a manner most efficient for the public service, and most agreeable to those whom he had to control, and with whom he was individually connected.

As regards the service with which I am more immediately identified, the late Lord Herbert had the clearest views on military matters of any civilian I ever met with; and I can only say that his anxious desire was, whenever I had to confer with him on such subjects, to promote the interests and welfare of the British army, and in so doing to serve his country, by keeping that army in a state of efficiency, discipline, order, and regularity, such as it is desirable those great bodies should always maintain.

Ladies and gentlemen, I have already said I did not mean to detain you long; I can only say, as far as I am personally concerned, and as far as we military men are concerned, we feel the deepest sorrow at the loss which, as a profession, we have sustained in the severance by death of our connexion with one so amiable, estimable, and valuable; and I am sure anything we can do to testify our esteem, respect, and admiration for the personal worth and public and private character of the late Lord Herbert we shall only be too happy to do, in order to alleviate the pain which so sudden a bereavement has caused to the large circle of his family and immediate friends—thinking it but a due and proper tribute of respect to one whom living we so highly valued, and who was removed so suddenly, so unexpectedly, from among us.



I now leave the Resolutions in hands far more able than I am to do justice to the objects you have in view ; and I have to request my noble friend Viscount Palmerston to present to you the first Resolution.

VISCOUNT PALMERSTON :—

Your Royal Highness, my Lords, ladies, and gentlemen, the Resolution which I take leave to submit for your acceptance is to the following effect :—"That this meeting desires to express its deep sense of the loss which has befallen this country by the untimely death of Lord Herbert, and is anxious to pay a fitting tribute to his eminent public services as a minister and statesman, and to the self-sacrificing zeal with which he discharged his official duties."

Your Royal Highness, I have, perhaps, more claims than you have put forward for presenting myself upon the present occasion, because, not only do I stand in the relation of official colleague to the late lamented Lord Herbert, but I may boast a personal, and, I may say, a hereditary friendship.

It is, your Royal Highness, a wise and useful thing that nations should record by marks of honour their respect for the memory of those who during their lifetime have performed great public services to their country. And this is a custom not only in our own nation, but in almost all civilized nations of the world. The custom has prevailed here even in cases in which the public man to whose memory honour is done, having been engaged in the stern battles of public life, has had to encounter violent antagonism, has made to himself political adversaries, and has excited political enmities which have utterly ceased when the grave has closed over him. Even in these cases, I say, conflicting political parties and men who were engaged in the strife of political warfare have united to bury those hostile recollections in the grave, and to do honour to the zeal, to the patriotism, to the public services of the man whom they had while in life upon details opposed.

But there are other cases, and the present is one of them, in which it has been the happy lot of a public man so to perform his public duty, so to serve his country to the best of his judgment and ability, that while he maintained his opinions, and stood firmly by his principles, he yet contributed to carry on the discussions and the combat in such a manner, that while on the one hand he secured vast numbers of political and personal friends, on the other he has been fortunate enough not to make a single personal enemy. This was the happy fortune of Lord Herbert. He stood prominently forward among the public men of his day. He was endowed by nature with qualities eminently calculated to fit him for the highest public functions. In the House of Commons he was marked out by singular powers and by immense popularity. He possessed that eloquence which persuades and delights. He was able to wield those arguments which



convince every impartial mind. He had the power to wield—though he forbore to do it in any manner to wound unnecessarily the feelings of others—he had the power to wield the keenest sarcasm required for the purposes of debate; but the arrows of his wit, though keen and sharply pointed, never were tinged with gall. His noble bearing bore evidence of the high lineage from which he sprang; and though he felt all that became a descendant of a great and illustrious race, yet he bore his honours with meekness, and showed the same kindness and sympathy for all which might have been shown by a person not endowed by fortune and nature with all the eminent qualities which he possessed. It might, indeed, be said of him—one might apply to him that description of another young man who fell prematurely in the performance of his public duties—

“ His mind each Muse, each Grace adorned his form,  
And grateful Science claimed him for her own.”

But the science to which my late noble friend, in the latter part especially of his life, most devoted his anxious study, was that peculiarly connected with the service which he so ably conducted—I mean the military service of the country. There never was a man who brought to bear upon an interesting and important subject stronger intellect, more anxious desire, more indefatigable, and persevering labour than my noble friend did to everything that concerned the welfare, the comforts, and the health of the army. He would naturally have been led by the kindness and generosity of his nature to take a deep interest in any measures which depended upon him by which the comfort, the health, and the lives of any portion of his fellow-subjects might be affected. But he felt that he had a duty moreover to perform. He felt it of the utmost importance to the country that those brave men who engage in her service should be well cared for while well—should have every comfort and enjoyment compatible with the nature of their duties; and when ill, when unfortunately the labours and exposure connected with their duty might send them to hospital, that they should be treated in the best possible manner to insure their earliest and most complete recovery. He laboured with your Royal Highness in that field of exertion; and those who know the state of our army, and can measure the vast improvements which, under Lord Herbert and the Duke of Cambridge, have of late years been made in everything connected with the comforts of the army, in the field, in barracks, in camp, and in hospital, will duly appreciate the great merit that is due to my noble and departed friend. On this subject I may, perhaps, be permitted to say that they did not labour alone. They were not the only two; there was a third engaged in those honourable exertions, and Miss Nightingale, though a volunteer in the service, acted with all the zeal of a volunteer, and was greatly assisted, as I am sure your Royal Highness will bear witness, to the labours of your Royal Highness and of Lord Herbert.



Well, then, I say that it appears to me that here is a fitting occasion upon which to follow that useful and honourable course of bearing testimony to the merits of a public man gone from us. In the House of Commons his loss was great indeed. We had hoped that he might live many years to take a prominent and leading part in the deliberations of that assembly—to do good service to his country, whether in office or out of office; that his health and strength might have been equal to his great mental powers and attainments, and that he long would have survived to attract the admiration of his fellow-countrymen. These expectations were, unfortunately, disappointed. There were, no doubt, early premonitions of that malady which ultimately took him from us, but his zeal for the performance of his public duties, whether in Parliament or in office, was unconquerable. He shut his eyes to those symptoms which might, in a man less anxious for public duty, have been a warning to retire betimes—a malady which might, perhaps, even then have been subdued; but he went on labouring to the utmost of his physical powers from day to day, and I grieve to say, though it ought undoubtedly to enhance his claims upon the respect and honour of his fellow-countrymen—I grieve to say that by his unparalleled devotion to his public duties he neglected those opportunities which might possibly have saved him to his country, and he fell as much a victim to the performance of a nation's duty as if he had fallen in the field of battle.

I will not, your Royal Highness, and ladies and gentlemen, longer trespass on your attention to induce you to concur in that which I am persuaded you all felt before you entered this room, as being a fitting step to be taken. I can only say I believe the record which we propose to be made to the memory of Lord Herbert will not be less honourable to the nation that makes it, than it will be to the memory of the man to whom the nation, or a portion of the nation, shall award it.

The noble Viscount resumed his seat amid much cheering.

GENERAL PEEL, M.P., in seconding the Resolution, said :—

I feel highly honoured in being requested by the committee to second the Resolution, not that I consider any seconder necessary except as a matter of form, for the Resolution will be cordially agreed to, and the noble lord has so eloquently and so feelingly portrayed the character of Lord Herbert, that anything I could say would only weaken the force of his appeal. But I feel it a privilege to express thus publicly the regard I entertained for Lord Herbert. I had the honour of his friendship from his first appearance in public life. There was something about Lord Herbert that no language can describe, that at once secured for him the attachment



of all who had the honour of his acquaintance. I know nothing which could more correctly describe him than to say he was a perfect specimen of an English gentleman. But it is not on account of his private qualities and virtues that we are assembled here to-day to take such measures as may lead to the erection of some monument to his memory. The special good which entitles him to our recollection was the unwearied exertions he took to improve in every way in his power the condition of the British soldier. He was not actuated herein solely by a sense of official duty or official responsibility. These are influences that govern the conduct of public men in this country, who all act to the best of their ability. But Lord Herbert went far beyond this. Out of office and in office he never failed to take advantage of every opportunity to improve the condition of the British soldier, and he never lost sight of the object he had in view. To this I can bear testimony. When I had the honour of holding the office in which he succeeded me, I was constantly in the habit of consulting him upon everything relating to the sanitary condition of the army. I knew I could not better perform my duty and carry out the recommendation of the Army Sanitary Commission than to take the advice of one who took so prominent a part in the deliberations of that Commission, and on every occasion I received from him the most valuable and ready assistance. Nor were the topics on which I consulted him confined to such matters as barrack accommodation or the sanitary arrangements of the army. Everything connected with the health of the army is, I hold, not only a matter of duty, but is also a matter of economy on the part of every Government. The British soldier has a right to expect from his own Government that they will provide everything that tends to his comfort when he is well, and to his recovery when he is sick. Lord Herbert thought, and thought truly, that these objects were very much promoted by such amusements and recreations as would relieve the dull monotony of barrack life, so as, if possible, to wean the soldier from the temptations of the tap-room and the canteen, and enable him to pass his time in a rational and proper manner, and thereby raise the character of the British soldier. You have all had an opportunity within the last few days of reading an account of the assistance given by Lord Herbert in establishing the Soldier's Institute at Chatham, which has these objects in view. It must be a matter of the greatest interest and pleasure to the soldiers of our army to know the mark of honour which is about to be paid to his memory for those exertions on their behalf, and to know that the record of those efforts is about to be perpetuated in a manner that may induce others to follow Lord Herbert's example. Believing that this effect will be produced by what we are about to do, I have great pleasure in seconding the Resolution.

The Resolution was then put and carried unanimously.



## The CHANCELLOR of the EXCHEQUER :—

The Resolution I am to submit to your notice runs as follows :—“ That a subscription be raised for the purpose of erecting a statue to the late Lord Herbert, and also for the endowment of exhibitions or gold medals in connexion with the Army Medical School at Chatham, to be given, at the end of each course of instruction, to the candidate or candidates for admission who evince the highest proficiency in the knowledge of the art of preserving the health of the troops at home and in the field.”

I trust that this meeting will be of opinion that the terms of this Resolution are well chosen, so as to give a just direction to the feelings we all entertain on the subject that has brought us together. The purpose of erecting a statue is one that appropriately connects itself with the character and personal qualities of Lord Herbert, and the endowment of exhibitions or gold medals for the Army Medical School having for its object to give the utmost possible efficiency and vigour to the medical education of the army—a purpose that will, I hope, be thought eminently appropriate in connexion with one peculiar sphere to which Lord Herbert devoted his unwearied activity.

This is not an occasion on which it is necessary to enter into elaborate details upon the subject, or to relate the almost innumerable efforts and works of Lord Herbert for the improvement of the condition of the army, and, indeed, for every object of public and Christian benevolence. In every sphere in which he moved—and he moved in many—he has left behind him ample evidence, not only of the opulence and means with which he was endowed by Providence, but also of the boundless munificence and remarkable wisdom with which those means were applied to the benefit of his fellow-creatures. I think that his friends and neighbours in Wiltshire have done well in taking care that, besides the objects treated in the present Resolution, there should also be a proposal for contributing to a convalescent hospital, that is to be open without distinction of class ; because, great as were the services of Lord Herbert in connexion with the army, it was not to the army alone that they were devoted, but every one who was in need—every one on whom he conferred his bounty and assistance—was, in his view, entitled to his utmost endeavours in their behalf.

As respects the army, let me endeavour to sum up, not the details, but the leading lines in which the course of his exertions was directed. A time of crisis came, for which no one was responsible, but which was, perhaps, the necessary consequence of so long a period during which the active services of the army had been happily disused. If no one was responsible, certainly no one was less responsible than Lord Herbert, because, from the first moment that his official connexion with the army



began, it was a course of unwearied effort at improvement and reform, and that improvement and reform directed alike, and without distinction, to the physical, the moral, and religious condition of the soldier. But when that time of crisis came, he seems to have felt that it constituted a peculiar call to enter upon a vocation in which he was to earn distinction, and of which his countrymen engaged in the army were to reap the utmost benefit. I am not here to draw invidious distinctions between the comparative claims of those who were his fellow-labourers in the same honourable field. My noble friend who moved the first Resolution directed attention to one name in particular that ought never to be mentioned with any elaborate attempt at eulogy; for the name of Miss Nightingale is indeed a power that has become a talisman to all her fellow-countrymen. The modesty of my right hon. friend (General Peel) who seconded the Resolution prevented him from advertg to the fair claims that may be made on behalf of those who have filled responsible situations, whether it be, Sir, yourself, as the professional head of the army, or whether it be those who, as politicians or advisers of the Crown, have, under that sense of responsibility, gladly co-operated, and who freely accepted from the hands of Lord Herbert those important and salutary changes which he in a great degree matured and prepared for their acceptance. It would be most unjust to exclude others from our view, especially if we were to exclude those numerous members of the medical profession, both within the army and beyond its limits, whose skill, time, and utmost endeavours have been devoted to that sacred cause. It would not be invidious and unjust to any of them, if I say that Lord Herbert was the great standard-bearer in that work—that he devoted himself to it with almost unequalled self-devotion—and that, through the bounty of Providence and the remarkable nature of his personal gifts and qualities, he had a power of helping it forward that hardly any one else, even with equal will, possessed. To him, therefore, in a principal degree, we owe that important Commission for Inquiring into the Sanitary State of the Army, that has produced results, destined, I hope, to endure for many generations. To him, in a principal degree, and with the co-operation of others, we owe the Commission for Inquiring into Barracks and Hospitals. To him we are indebted for the re-organization of the medical department of the army. To him we owe the Commission for Inquiring into and Remodelling the Medical Education of the Army. And, lastly, we owe to him the Commission for presenting to the public the vital statistics of the army in such a form, from time to time, that the great and living facts of the subject are brought to view; for statistics in a case of this kind are not mere matter of form only, nor do they simply afford gratification to an honourable and useful curiosity, but they are the means by which all the realities of the case are kept before the face of the nation and the military authorities, and by which, therefore, we have the



best guarantee in our power against the recurrence of the evils that Lord Herbert struggled to overcome. We see the fruits of these Commissions; for, from year to year, from month to month, and almost from week to week, we have one measure or another carrying these inquiries into practical effect. And it is touching to record, that the very day which removed Lord Herbert from the gaze of his admiring countrymen the General Hospital at Woolwich, organized on the system that he has been the means of introducing, was for the first time opened for the benefit of the army. I think that I speak on the highest authority, upon authority far higher than my own, when I state the significant fact that the mortality of the British army has, in consequence of the measures in which Lord Herbert, at so great a cost to himself, took so commanding a share, been reduced by no less than one-half. That is to say, one-half of the men die now who died in the British army, under the same circumstances, before these measures were adopted. I think this summary is enough to satisfy those who are incredulous, if any such there are, as to the reality of the services that we are here met to commemorate.

And if it be true, as it has been asserted here to-day, that Lord Herbert was untimely in the hour of his death, at least it may be said, with equal truth, that he was happy in the whole course of his life, and in every incident of his character and position. Great as are the works of Lord Herbert, there is something, if possible, of still greater interest to those who enjoyed the privilege of knowing and loving him from his youth upwards, and that was the character of Lord Herbert. On their recollection it will ever remain engraven, in some sort, as a model of imitation; yet hardly for that sort of imitation which aims at reproducing its original, for I do not use the language of exaggeration when I say that characters of that kind and stamp are of rare production, and that seldom indeed is it given to men to exhibit before their fellow-creatures such a combination of every mental and moral as well as social gift. Even more remarkable, I presume to say, in their recollection than his great eloquence, than his administrative power, or than his unequalled social fascination, were those qualities underlying the surface that, even in this assembly, although I tread on tender ground, stamped him not less and not more with the character of an eminent citizen than that of an eminent Christian. In Lord Herbert there were such gifts, and so peculiar, that even here they may be placed on record. He, it must be admitted, was the gentlest man that ever undertook to confront the difficulties of public affairs. It is true, that he was strong as well as gentle. But how rare in the world we inhabit is the genuine union of gentleness with strength. It is difficult for an ardent lover of his country, like Lord Herbert, not to confront abuses, and not to endeavour to remove and mitigate great public evils. But he confronted them, not like others, with perhaps



honest anger and fervid indignation, but he confronted them, in the main, by that winning gentleness that subdued far more than resistance, and he achieved far greater triumphs for the benefit of his country than were ever achieved by the spirit of anger and wrath. That gentleness was combined with a modesty such as I, for one, never knew equalled in any station of life. It would, perhaps, have been intelligible and excusable if so remarkable a combination of personal gifts and outward circumstances had produced on him some degree of intoxication. But, on the contrary, his modesty was such, that I doubt whether there lives the man among all his colleagues, among all his friends—and here, whatever our political differences, we are all friends—I say, I doubt whether there lives the man who ever heard Lord Herbert, I will not say boast, but even recite to any one as his own, one of the services that he performed. Men think it pardonable, if they have achieved great works for their country, if they sometimes refer to one or the other. But the language of Lord Herbert was not, “I did this,” or “I did that.” Eager and enthusiastic as he was in the discharge of his duty, when that duty was performed he cared little for the reward, and less than little to seek that reward by any assertion of self. That modesty of his was deeply founded in the humility of the man. I declare it to be my belief that, in some manner, by the general purity of his nature, and by his high principle and conscience, he contrived to hide from himself the signal character both of his virtue and his works.

We are here for a purpose of great public utility. While we testify to the past, we are also, I believe, making provision for the future. To us common men, it is but in a limited sense that we can be exhorted to imitate men so uncommon; yet to every one of us it is, in some degree, open to profit by these high and noble examples of human excellence. In a country in which its noble and high-minded youth have, in so many instances, exhibited a remarkable combination of gifts and power, let us hope that no small effect will be produced on our countrymen by the scene before us—by this crowded hall, under auspices so high as those of his Royal Highness, and by an assembly where every rank, every class, every political party, is combined with one heart and soul to do honour to departed virtue. I trust that many will thus be hereafter incited to follow Lord Herbert in his career of self-denial and public duty, in which we may all in some degree follow him, by perceiving that it is not only within the conscience, not only within the hopes of an unseen world, but likewise here and now, and amid the applause of a grateful country, that here in England public services and distinguished virtues are remembered.

His Royal Highness the DUKE of CAMBRIDGE said, in the absence of Lord Clyde, who was unfortunately prevented from



attending, the Resolution would be seconded by Sir John Burgoyne.

GENERAL SIR JOHN BURGOYNE:—

Nobody can deplore more than I do the absence of Lord Clyde, but I esteem it a very high honour to be called on to take part with the distinguished individuals here present in the proceedings of this day. I can only attribute it to the fact of my being the oldest military man on this platform.

Notwithstanding the able and brilliant encomiums that have been bestowed on the late Lord Herbert, I cannot reconcile it to my conscience to stand up in this meeting without testifying, in a very few words, to the great respect I entertain for the memory of the late Secretary of State for War. Placed as I am at the head of one of the branches of the War Department, it has fallen to my lot to have frequent intercourse with the late Lord Herbert. It would be needless for me to testify to the high qualities and attributes which he possessed, and which have been so ably described by others; but there was one characteristic he had which struck me particularly as a man of business—indeed, I never left his presence without being sensible of it—that, with a high degree of firmness of purpose, he always united an amount of courtesy in his manner that greatly tended to stimulate the zeal and gain the cordial co-operation of everybody that was under him. Lord Herbert was pre-eminently the soldier's friend. His hobby appeared to be to promote the health and comfort of the soldier, and his pet was Miss Nightingale, who had for many years devoted herself to the same pursuit.

For myself, I will only say I shall be greatly disappointed if the army generally do not largely contribute to the special objects of this Resolution.

The Resolution was carried unanimously.

The BISHOP of OXFORD, who was loudly cheered, said:—

May it please your Royal Highness, ladies and gentlemen, the Resolution which has been committed to me is—"That the following noblemen and gentlemen be requested to act as members of the committee to collect subscriptions." I will not take up your time by reading the list, but will assume it as read. Your Royal Highness, however, will allow me to say, as touching this special Resolution, that it seems to me to bring before our notice one especial feature of the character of Lord Herbert which this meeting may, perhaps, listen to still. That committee, headed by your Royal Highness, begins with a list of the most distinguished men in the British army; it is then followed by a compartment of the great statesmen of the day; and then comes a third class, including clergymen and gentle-



men of every rank and of every pursuit among us; marking the way in which the character of this man addressed itself to every good citizen, to every rank, to every labour of virtue, of gentleness, and of kindness.

It is not for me, Sir, to speak about what he has done as to the British army. Suffer me, however, to say that I do not for one moment consider there is anything in the Christian ministry alien from the best interests of a Christian army. I have no such mawkish feeling in my nature. An unjust war is the greatest of iniquities; but a just and a defensive war is the last and the greatest appeal to the God of Truth.

But, Sir, I will leave that subject to those who have so well handled it, as they were so well entitled to deal with it, and for the few moments I shall occupy your time, I will rather refer to what in some respects is peculiarly fitted to illustrate another part of the character of this man; it is this—the many-sidedness of his character, mixed with its remarkable reality, always struck me as one of the distinguishing features of the man. Its many-sidedness in this way—devoted as he was to that master-subject of reforming many of the arrangements of our army, there never was any one reasonably considered plan for mitigating the sufferings of others which did not meet at once in him a ready response. And there was this peculiarity about it—it was not that general glow of universal benevolence which is anxious to impart great unascertained advantages to masses as masses; but it was a real, trouble-taking, thorough sensibility of sympathy with the individuals that made up the masses. For instance, the exertions of Lord Herbert as to the Charmouth Infirmary may be known to some present; but I doubt whether there be any, certainly they are few, who know that, before joining with others in that undertaking, he had singly founded and maintained at Mudiford, in Hampshire, a hospital for scrofulous children. Yet this was one of the special features of his most lovable character. Human infirmity in its every form, human suffering in its every exhibition, appealed at once to the sympathy of his most humane heart. In man, in woman, or in child, it awoke at once in him the responsive note of unity of sorrow with the sufferer.

Nor was this all. Another feature of his character was here strikingly exhibited. His reality led him to deal unsparingly to himself with all the minutest details of any work of love he had undertaken; and so, having learnt that at the institution at Kaiserwerth, in Germany, great relief had been administered by the use of one particular bath, he rested not till he had himself secured the bringing from the distant asylum the ingredients needful for securing the like healing for these English little ones whom he had made his care.

It was my lot, at his desire, to take some part in that scheme of emigration he was so much engaged in for the benefit of the poor sisters of our race in this great metropolis who were—I will not say driven—but



perilously induced to the very edge of vice by the strong necessity of obtaining the means of living. That same manly heart of his which made him the soldier's friend made him also the woman's protector. And how did he do it, Sir? Not by coming and making an occasional speech, which his ready utterance made no difficulty to him, but by taking into that full hand even the details of administration; and I, for one, can well recollect, when called on to confirm some young persons on board one of the emigrant ships, accompanying him on a pouring day through one of the murkiest purlieus of the Thames, he himself sitting in the cabin, and, just before the sailing of the vessel, writing the last recommendatory letter which was to be in their new land their only introduction.

Yes, it was such sights as this which made one's heart rejoice while we loved the man, which thus lifted us up to communion with the best, the most loving, the most devoted examples of our common race. It ought never to be forgotten that all this labour and all these acts of self-devotion were undertaken by a man who had everything this world could give to withdraw him from these things. It was the simplicity of his nature, so beautifully spoken of by his friend the Chancellor of the Exchequer—the unostentatiousness of his nature, that struck one with so much surprise. However overpowering his work might appear to be, seeing him in the midst of it, if you mingled with him outside the room of business, there was nothing about him that told you how hard-worked he was. There was no allusion to the great amount of labour he had to undergo; and here was the indication of his inner feeling—he was as remarkable for the joyousness of his life as for the depth of his sensibility.

There was a man, who was gifted by a gracious Providence with every mental attribute—gifted, I may say, with every moral gift—gifted with a fine person, which bespoke the man with whom you had to deal—the full, open eye, the noble, manly bearing—a person which seemed to cast off the very physical stains of the atmosphere around him, as if the purity of his inner nature breathed through the outward tabernacle—it was this man, who, instead of yielding himself, I will not say to ignoble and selfish indulgence, for it would have been none to him, but, instead of indulging himself in all that art could give to beautify life, and all that the most refined sensibility could enjoy, spent himself freely for every suffering brother, to mitigate the adverse lot of every tempted sister.

Yes; and he has left among us memorials that will endure for ages. He was the founder of hospitals, he was the builder of churches, he was a maintainer of schools, and his right hand knew not what his left hand gave. Day after day, now there comes the secret witness from most unsuspecting quarters, "My sorrows have been alleviated up to this time by him who has been taken from us; am I to be left to sink because he is gone?" And this has been, to those who stood the closest to him,



the first intimation that that hand of liberality had ever been opened in those quarters.

Truly, truly has it been said, that though taken too early for us, he has not been taken too early for himself; for I do believe that there was the deep under-foundation of a Christian faith, giving its utterance to all these words of gentleness, giving action to all these deeds of kindness, which made that life so beautiful as well as so useful; and these, Sir, I believe, have gone up as a memorial before God for our departed friend.

They who, like myself, were honoured for many years, even from his sweet youth up, with the blessing of his intimate acquaintance, know well that life has lost one of its most blessed lights when he was removed from them—a heart that never failed to feel with you in sorrow, a head that never failed to suggest to you something noble and useful.

And yet we may let him go, anxious, indeed, as we should be, to embalm that grateful memory in a nation's thanks; but knowing that, after all, when we have done our best, there is ever a yet more abiding record, as we venture humbly to believe—a record which shall endure for ever, where works done from love to God and love to man shall never be forgotten.

EARL DE GREY and RIPON, in seconding the Resolution, said:—

I feel that I can add nothing to that which you have already heard addressed to you, but I am glad to have this opportunity of bearing my testimony to the spirit in which my lamented chief laboured in the office with which I had the honour of being connected with him for eighteen months. Day by day, and hour by hour, I was a witness to that zeal which never failed, even before the advancing ravages of that illness which brought him prematurely to his grave—to that energy which was guided by the calmest and strongest judgment—and yet more to that buoyant disposition which enabled him to pass through the arduous duties of an arduous office without those working with him having ever seen a cloud ruffle the surface of his genial nature. It was in such a spirit of untiring and cheerful devotion that he laboured for the benefit of the British army and for his country—it was such a spirit that enabled him to improve the physical and moral condition of the soldier, to organize and raise that volunteer force which has added a new means of defence to the country, to fortify and place in security our forts and arsenals. The right rev. prelate alluded to one characteristic of my noble friend when he told you that there was no trace visible to those who met him outside of the great labours in which he was engaged; but permit me to say that that characteristic he brought into the office itself, and it was by his unvarying courtesy and the equanimity of his temper that he was enabled to do so much in the short space of time he was



permitted to remain here. He had the secret of winning the hearts of all who served under him, and it was by the confidence he placed in those who did their duty well, that he inspired all who came near him with a portion of his own self-sacrificing and devoted spirit. I will only say that it is to me a proud, though a melancholy satisfaction, that my official connexion with Lord Herbert has induced the managers to invite me to take part in this proceeding. I know the spirit with which he was animated. I was acquainted with those qualities which made us love the man and respect and admire the statesman; and I feel confident that though as regards Lord Herbert, his monument is not to be built in stone or bronze, but written on the heart of the British soldier whom he served—of the country in whose service he spent his life, yet it is a wise and judicious act of his countrymen to raise to him a record of their respect and admiration, leaving it to others who come after him to imitate the noble career to which he devoted himself.

The Resolution, which requested the noblemen and gentlemen therein named to collect subscriptions, and devise the best means of carrying into effect the Resolutions of the meeting, was then put from the chair and passed unanimously.

The DUKE of NEWCASTLE, in rising to propose the last Resolution, said:—

He might be allowed to sum up the virtues of one of his oldest and best friends by bearing testimony to the amiability of his disposition, his great social qualities, the geniality of his temperament, his amenity, gentleness, manly frankness, and, above all, the excellence of his private character, which had brought many to that meeting independently of Lord Herbert's public virtues. His right hon. and gallant friend (General Peel) had said that they were not met to commemorate the private virtues but the public character of Lord Herbert. That was true, but no one would more readily recognise that those private virtues added greatly to the estimation in which his public character was held, and by those private virtues the public were very much guided in their estimate of a public career. For proof of this assertion he had only to look at that meeting, and see how the acerbity of political warfare had been softened by Lord Herbert's amiability. Whatever monument might carry his name down to a future generation, no testimony could be more grateful than the aspect of that platform, upon which were seen a Prince in the chair who belonged to no party, the leading men of two rival Administrations, and men of every profession and class. He hoped it would not be indelicate if he drew aside the portals of domestic life, and pointed to one sacrifice, which was the



greatest Lord Herbert had made. The deceased was in his life the centre of a large, loving, and domestic circle. He was beloved, not only by those who were born into his house, but by those whose happiness it was to have formed a connexion with his family. Those domestic affections he had been ready to sacrifice, and on his death-bed he felt that they were one of the greatest sacrifices he had made to the service of his country. He thought a proper discretion had been used in not reading any of the numerous letters that had been received from those who were unable to attend the present meeting. But he would ask permission to read a few lines from one of Lord Herbert's oldest friends—from one who was no longer living, but who had felt the greatest regard and affection for Lord Herbert, and who at the risk of his life had travelled across the length and breadth of the land to be present at his funeral. He referred to Sir James Graham, who, in a letter to his friend Mr. Sotheron Estcourt, speaking of Lord Herbert, said—"He so lived and so truly applied the means that a bountiful Providence placed at his disposal, that he will be long remembered both in his public and private station. I think a statue of him, if by an eminent artist, in Salisbury, will be a most suitable monument, under the shadow of the cathedral spire, which points to that Heaven where his hopes were centred, and where I trust he has received his great reward." This letter was written by one who himself now slept in a country churchyard, and who could no longer agitate the Senate by his eloquence. The noble duke, after apologizing for diverging from the immediate object of his Resolution, proposed that the thanks of the meeting be presented to his Royal Highness the Duke of Cambridge for his cordial co-operation, and for his kindness in taking the chair.

EARL GROSVENOR, in a few appropriate words, seconded the motion.

The Resolution was carried by acclamation.

HIS ROYAL HIGHNESS said, it had afforded him much satisfaction to express publicly his sense of the great ability and good qualities of Lord Herbert, and his own devotion to the memory of one whom he regarded as a sincere and devoted friend. He had thus performed a most painful yet most pleasing duty, and had now only to express his gratitude for the compliment that had been paid to him in the Resolution just agreed to.

The proceedings then terminated.

Several smart members of the corps of Commissionaires were in attendance in the room, who rendered useful service in the preliminary and other arrangements of the meeting.



*From "THE TIMES," November 29th, 1861.*

The service done to the State by the late Lord Herbert has been recognised by a concurrence of testimonies and tributes almost without parallel, but the true value of Lord Herbert's exertions can be measured only by their results. It is a case not so much for panegyric or eulogy as for dry statistics. When we state that at the close of the year 1859 a number of soldiers equal to an entire battalion were living and vigorous who but for Lord Herbert's efforts would have been lying in their graves, and that this is the estimate of a single year, and for England only, we shall have offered, perhaps, the most impressive evidence that could be given of the claims established by the departed statesman to the gratitude of his countrymen.

For many a long year the sanitary condition of the soldier had been utterly neglected. Here and there, it is true, some eminent commander would take the matter into his own hands, and secure, by judicious arrangements, the efficiency of the troops under his care, but, as a general rule, the soldier was left to take his chance, and a very poor chance it was. He was ill-lodged, ill-fed, and exposed to an infinity of avoidable risks. On active service his position was worse still, insomuch that the casualties of war were really created not by the sword of the enemy, but by the ravages of preventible disease. Unhealthy and crowded camps, ill-managed and defective hospitals, insufficient supervision, and ill-ordered establishments were the true causes of military mortality. Fever and dysentery slew their tens of thousands, while even at home the army, instead of containing the healthiest classes of society, was visited by sickness and mortality far exceeding the ordinary or natural rate. Soldiers are men in the prime of life, selected for their unblemished constitutions and vigorous frames, kept much under beneficial control, and assured by State provision against anything like privation or want. Nevertheless, in this class of men, thus favourably situated, 17 out of every 1,000 died annually on their own native soil, whereas the mortality among corresponding classes in civil life was but 8 in 1,000. Of every two soldiers, therefore, who died, one died from causes which it was reasonable to suppose might be removed, and the removal of these causes was the good work to which Lord Herbert devoted himself.

As early as the close of the Revolutionary Wars the subject had forced itself upon the notice of the authorities. In those days a good deal of evil was quietly accepted as unavoidable, but when 30 men out of 100 were found to perish in a year—as was occasionally the case on a West India station—it did seem that something might be done. A little inquiry



showed that if the barracks of the troops were but removed from the plains to the hills the most destructive epidemics might be at once escaped, and that discovery was not left unheeded. How slight, however, and unsubstantial was the progress accomplished in this direction may be inferred from the terrible history of the Crimean War and of the hospitals at Scutari. Those were the events which impelled Lord Herbert to concentrate his efforts on the great task of improving the condition of the soldier; but as the subject expanded under his eye it became evident that much was to be done at home as well as abroad; that barracks as well as hospitals must be re-organized, and that the soldier required to be preserved in health as well as nursed in sickness. The work to be done was not merely medical work. The object, indeed, was not so much to cure invalids as to diminish invaliding. Why should these strong, picked, hearty men, sink in such numbers from fever and consumption? Why should soldiers in barracks die at twice the rate of hard-worked, under-fed, and ill-clothed farm labourers? Those were the questions asked, and inquiry soon furnished answers. The men fell sick and died because their barracks admitted no effectual ventilation; because they were all night breathing foul air, because their diet was so monotonous as to be nauseating, and because all this had a natural tendency to set them drinking. To remove these sources of disease it was necessary to make barracks wholesome, to introduce good sanitary regulations, to improve military cookery, and generally to give the soldier a little more enjoyment of his life. If Lord Herbert did not survive to complete this good work, he lived long enough to promote it so effectually that the record of results is scarcely credible.

As a matter of fact, we can state that the mortality of the British Army has actually been reduced at home and on some foreign stations by 50 per cent. The one death out of two that was held preventible has actually been prevented. At the last meeting of the British Association Dr. Farr read a paper in which the statistics of this subject were most perspicuously given. The mortality prevailing in the Foot Guards had been 20 in 1,000; it fell in 1859 to 9. In the Infantry of the Line at home the rate had been 18 in 1,000; it fell to 8. The number of deaths annually occurring among all arms of the service at home used to be 17 in 1,000; the average number among all the troops at Aldershot and Shorncliffe in the years 1857-8-9 was 5 in 1,000. From the colonies also some striking results are reported. In Newfoundland the military death-rate has fallen from 11 in 1,000 to 4; in Nova Scotia and New Brunswick, from 16 to 7; in Canada, from 17 to 10. At the Cape the deaths have been reduced by about 25 per cent. In Bermuda they have dropped from 34 in 1,000 to 14. In the Mediterranean also improvements have been effected, though not to the same extent. The mortality in Gibraltar has been greatly lessened, and that station no longer figures as an unhealthy



one, but the death-rate in Malta and the Ionian Islands is still higher than it should be. Over the Indian Army the Secretary at War had no direct control, but the sanitary condition of that vast force has been made the subject of formal inquiry, and, as the mortality in Ceylon has been already reduced from 42 in 1,000 to 32, we may reasonably anticipate good results for India.

It must be allowed that such facts as these speak loudly indeed to the value of Lord Herbert's work. Here are results—actual and unmistakable results. The old rates of mortality with which we have compared the rates of 1859 are not obsolete or exceptional returns. They are formed by an average taken from the ten years ending in 1846, and furnish therefore a fair specimen of times just gone by. It is not pretended that the mortality of 1859 expresses a standard permanently established. Circumstances may possibly raise the figures once more, but the contrast between the two periods we have given is so very broad and distinct that there can be no question about the substantial improvement accomplished. To this improvement we may now look with satisfaction and thankfulness. The State can no longer be charged with indifference to the welfare of its defenders. The British soldier is now the object of far greater solicitude than he could have been even in his own home. His health is maintained by judicious regulations, his ailments and liabilities are carefully watched, and all the sympathies of the public attend the efforts of the authorities for the further improvement of his position. The question, indeed, is not one of sentiment. It involves the highest principles of national wisdom and economy. Lord Herbert's last work was the application of these principles to the organization of the Chinese Expedition, and we saw the results in the extraordinary efficiency of the army and the rapid success of the war, no less than in the lightness of the sick-lists and the wonderful preservation of life.

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*From the "STANDARD," November 29th, 1861.*

The meeting at Willis's Rooms on Thursday shows that party feeling in this country is not quite so embittered as some have represented it. At all events, it does not seem that Conservative statesmen are as unforgiving and implacable as they are sometimes painted. It is not long since the Minister at War of Lord Palmerston's Cabinet died. He had once been a Conservative, but was conspicuous in the fatal defection from the ranks of that party which spread like an epidemic disease among the personal followers of the late Sir Robert Peel. In his devotion to the constitutional theory, in his affection for the Church, Sidney Herbert



was still a Conservative, though he took his place among the Whigs. The contemplation of his worth and his talents did not by any means reconcile us to his change of sides. He was an able administrator, a true gentleman, and a thoroughly conscientious man. More was the pity, it was said, that he did not co-operate with those with whom he could best sympathise.

But all this is past. Lord Herbert is dead, and we know that he died prematurely because, from a strong sense of duty, he persisted too long in the arduous labours of his office. He atoned, as it were, by a long penance of work for the good of the soldier, for his part in the responsibility of that terrible calamity of the Crimean winter for which he blamed himself, but from which others now excuse him. For every soldier who perished in those bitter trenches, or died in that ill-fed camp of hunger and disease; for every wounded man who groaned away his soul in those hospitals for the want of lint and linen to cover his wounds, the remorseful Minister of the Government of Lord Aberdeen determined that if he lived to do it he would save the life of at least one British soldier by his earnest attention to the sanitary arrangements of the army. The Government of Lord Palmerston, in offering him again the Ministry of War, held out to him the opportunity he coveted—the chance of usefulness to which he seems to have postponed all political considerations whatever. With a feeble frame, undermined by an insidious disease, he went on till the over-stretched bow snapped at its fullest tension. It was, then, for our army, it was for our country, that he gave his life and lost it. This being so, then, whether he were Whig or Tory, Radical or Conservative, it is all one to us. Detraction cannot touch him now, and political controversies are of little importance to the dead.

It was thus that the leading men of both political parties took their share in Thursday's demonstration. General Peel seconded a resolution proposed by Lord Palmerston. Lord Malmesbury stood on the platform near Lord Russell. Lord Derby approves of the Memorial equally with the present Prime Minister. The amiability and attractive manners of the deceased statesman had doubtless done much to attach to him all who came in contact with him. But even had his character been wanting in its polished refinement—had he been what he was not, a bitter partisan or a rough political gladiator, we are sure that the statesmen on the opposite side of the House would have been just as ready to pay their tribute to the merits and services of the man.

These services consist mainly in his devotion to the work of the re-organization of the army and of providing for the health of the soldiers. The first and most important step which Sidney Herbert took in this latter direction was to procure a parliamentary commission to inquire into the sanitary state of the army. By the labours of this commission a very



grievous fact was elicited. This was that the death-rate among soldiers in the British army was twice, and sometimes three times, as great as that among civilians of the same age. This inquiry was followed by an investigation into the state of barracks and hospitals, and by a provision for the periodical publication of the vital statistics of the army at home and abroad; so that from time to time we may learn what good has been done, and whether there has been any halting in the work of improvement. The Minister also re-organized the medical department of the army, at the same time that he endeavoured to carry out various suggestions as to the health and comfort of the soldier made by high medical authorities. Under his auspices the various military hospitals underwent a complete renovation, and a new hospital, combining all the recent improvements, was, by a singular coincidence, opened at Woolwich the very day he died.

The benefit of Lord Herbert's reforms is proved by the gratifying fact stated by Mr. Gladstone, that the mortality in the army is now just half of what it was. A battalion of troops is thus saved every year to the country! Every one knows that a generous and heroic lady, with whose name all Englishmen are familiar, and whose illness is a national sorrow, had very much to do with the initiation of those reforms with which Lord Herbert's name is now associated. We must not, too, forget to allow to the intelligent members of the medical staff of the army the credit in the great work which falls of right to their share. There are men who have deserved well of their country and of mankind who have never had statues erected to them, or scholarships founded in their name. Such a man was Dr. Thompson, who died in consequence of his attendance on the wounded Russians through the night after the Alma. We are not likely to forget such a man as this. *Exegit monumentum ære perennius.* The friends of heroes in a humbler rank can hardly complain of the tribute which is accorded to those higher in place and station. This recognition is one of the attributes of rank. Before objections can be taken fairly to such a distinction as an injustice, it must be proved that statues and memorials are of some use to the dead.

These latter remarks have been suggested by the grumblings of one of those organs which are supposed to represent the state of feeling in the army. While coldly approving of the Herbert Memorial, it quarrels with each one of the grounds on which it is proposed. It seems inclined to deny all merit to Lord Herbert because he sometimes did what was distasteful, or what seemed unwise and wrong. We are told that his sanitary reforms were pressed upon him by the House of Commons, and against his will. The private soldiers, it is said, owe little thanks to the man who refused to allow any increase of accommodation for the married in barracks or camps, until tents for married soldiers at Aldershot were constructed at the command of the Queen. They bear him a grudge,



too, for having perpetuated the discipline of flogging. The officers in the army are not pleased with him for having resisted the grant of pensions for wounds, by which resistance he exposed the Government to the humiliation of a defeat in the House. The medical officers, too, are chafing under the suspension of the army medical warrant of 1858, the provisions of which should certainly be carried out.

It is scarcely possible that a man in Lord Herbert's position should have avoided giving occasional offence to those placed under his control. The indictment preferred against him is not heavy. Agreeing in much of it, we think it but a trifling set-off against the services which he has rendered. The proposers of the testimonial have laid themselves open to attack by proposing a subscription among all ranks of the army—a proceeding which is contrary to the army regulations, and would render its promoters liable to a court-martial. We trust that it is now placed upon a better footing.

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*From the "MORNING POST," November 30, 1861.*

It has been finely said by the German poet, Aloys Blumauer, that there are two kinds of human greatness, each well becoming the man whom Heaven has gifted with it; but in the greatness which each wears as a royal robe, the aims and attributes are as different as if different threads and dyes were worked and interwoven in the texture. One species of greatness is surrounded by a blaze of light, whilst the eye feels refreshed in resting on the mild, calm tints of the other. One dazzles like the orb of day, but scorches not less surely than it warms; the other, like a soft crescent moon, sheds a mellow hue over darkness. One, rushing like the torrent spray, is dashed in foam over broken rocks; the other pursues its tranquil course almost unobserved by the dwellers in the plain on which it bestows fresh verdure. One rears proud mausoleums to itself, to ambition, and to glory, whilst the favourite trophies and triumphs of the other are the tears of grateful human hearts. The one would fain be praised, be observed, and be renowned; but though its renown often stretches from pole to pole, the mortals whom it truly befriends are possibly but few, and the light encircling it casts a lurid glare; but the other—calm greatness, the self-sustained and self-controlled greatness—ever steadily pursuing its course in the paths of duty, whilst shrinking from the noise of vulgar plaudits, is found to have graven countless benefits and blessings on the hearts of the individuals whom it succoured, or the story of the country which it loved and served.

The meeting held on Thursday, at Willis's Rooms, to take the requisite steps for raising an appropriate Memorial to the late Lord Herbert,



cannot be better described than as the spontaneous tribute of the Prince of the blood royal who presided at that meeting, of the Prime Minister and the eminent statesmen of all political parties who shared in it, and as reflecting and representing public opinion throughout the country, of the whole British nation, to this second kind of greatness, this calm, steady, undazzling virtue, embodied in the private and public life of him whose memory it was designed to honour. Rarely have the choicest boons of nature, and the chief distinctions of fortune and of rank, been lavished with greater abundance on a single individual, and more rarely still have the talents received from Heaven been so faithfully and conscientiously turned to account, and employed under the deep and enduring conviction that he to whom they had been given was ever in his great Master's eye. There was no species of social, or literary, or political distinction to which the late Lord Herbert might not have aspired. He might have played in the world of fashion the brilliant and seductive, but really worthless part performed by the Grammonts of a former age, or the D'Orsays of more recent times. He might have made good the hereditary claims to intellectual distinction which descended to him from one of the most graceful poets and one of the subtlest sceptics of the seventeenth century. Of one respecting whom the Duke of Cambridge observed that he had the clearest view on military matters that he almost ever met with in a civilian, it is not too much to affirm that, had he chosen the profession of arms, he would, if the occasion ever required it, have displayed the administrative resources in conducting a campaign of a Napier or a Soult. He who at his first entrance into public life was marked out by the late Sir Robert Peel as the future Prime Minister of England might by his voice and decision have turned the scale of parties, had he not preferred giving up to mankind the abilities and influence which mere party would too gladly have monopolised. But Lord Herbert was something far better and far greater than a mere leader of fashionable society, or a mere scholar and writer, or a mere military administrator, or a mere party chief. All his gifts and graces were harmoniously blended in the execution of the great task which he had set before himself—the improvement of the military service of his country. Lord Palmerston, whose earliest official duties, more than half a century ago, were connected with our military administration during the last years of the war against the first Napoleon, and who has had the best opportunities of observing the career of every statesman employed in similar functions from that to the present day, summed up the public services of Lord Herbert in the comprehensive sentence—"There never was a man who brought to bear upon an interesting and important subject a stronger intellect, a more anxious desire, and more incessant and indefatigable labour, than did my late noble friend in everything that concerned the welfare, the comfort,



and the health of the army." It is at such a moment as the present, when we are, it may be, on the eve of a great crisis in our country's history, when both our military and naval energies will be invoked and called into action, that we must gratefully appreciate the self-sacrificing toils of him who worked while it was day, for the night cometh when no man can work. This grateful appreciation was not wanting in any of the addresses delivered at the meeting of Thursday. In the words of General Peel, we are told that "there can be no truer description of him than to say that he was the perfect specimen of an English gentleman." In the words of Mr. Gladstone: "Great as are the works of Lord Herbert, his character was greater still;" and amongst the peculiar personal gifts which Mr. Gladstone left on record was his unequalled gentleness, the fact that he was the gentlest man that ever undertook to confront the difficulties of public affairs. In the words of Sir John Fox Burgoyne: "he was pre-eminently the soldier's friend." The Bishop of Oxford says of his benevolence that it had this peculiarity about it—"it was not that general glow of universal benevolence which is anxious to impart great and unascertained advantages to the masses as masses; but it was a real trouble-taking, a thorough sensibility, a sympathy with the individuals that made up the mass." Lord de Grey observed, that "Lord Herbert's monument is not to be made of stone or bronze, but will be written on the heart of the British soldier, whom he served." The last speech made at the meeting, that of the Duke of Newcastle, possessed a double interest, for the speaker, in addition to the tribute of his own veneration for the memory of Lord Herbert, was enabled to unite that of another eminent public man just removed from this life—the late Sir James Graham—than whom, perhaps, there was no more competent judge of administrative capacity and zeal. Indeed, the tone and spirit of all the speeches at this memorable meeting were honourable to the living not less than to the dead, evincing as they did that not merely around Lord Herbert's tomb every feeling of party animosity was extinguished, but that during the hottest party struggles of his life, the purity of his motives, and the uncontested nature of his public services had never ceased to excite the sympathy and command the esteem of his party antagonists quite as much as of his political associates.

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*From the "MORNING CHRONICLE," November 30, 1861.*

Seldom have so many of our public men assembled to pay a tribute of respect to a departed statesman as met together on Thursday, to take the initiative in raising a Memorial to the late Lord Herbert. If that noble-



man was treated with some degree of injustice during his life, every one seems to have resolved that his merits shall now be fully recognised. The First Minister of the Crown connects his name with the warmest eulogiums, the Commander-in-Chief speaks of him in terms of the sincerest admiration, and the Chancellor of the Exchequer bids us regard him as a model for imitation in almost every particular. Never was Sterne's thought, that death opens the gates of fame and shuts the doors of envy, more strikingly illustrated. Even the jealousies and animosities of political life fade in the presence of the grave. The Earl of Malmesbury was one of those present at the recent meeting; and although it was scarcely to be expected that Mr. Disraeli would take any prominent part in the undertaking, yet it is understood that he will participate in it in the way which is open to the general public—that is, by contributing to the common fund.

The addresses delivered by the eminent men who addressed the meeting were, upon the whole, worthy of the occasion, and they curiously bring out the different styles and characteristics of the speakers. Lord Palmerston, as usual, goes straight to his point, and awards praise in the frank and manly manner with which he performs every public act. Mr. Gladstone is more elaborate, more minute, and more polished, but his speech forms a very noble panegyric on a great man. The single-heartedness, the devotion to duty, the unceasing anxiety to serve his country, that distinguished Lord Herbert, are set before us in an impressive, if not a new light; and the Bishop of Oxford does not draw less upon our admiration when he assures us that the late War Minister was a founder of hospitals, a builder of churches, the maintainer of schools, the supporter of numerous poor persons, and that his right hand never knew what his left hand gave. This is testimony which the greatest of the empire might wish could be borne to them; and every one who knew Lord Herbert feels that it is not the language of courtly compliment, but a just and unexaggerated description of the man. Never did England have a servant more disinterestedly attached, and more heartily desirous of promoting her welfare—never was there one who cared less for the ordinary rewards of office, or who was moved so little by the promptings of ambition. This is just such a man as the nation delights to honour. Even in the midst of the excitement occasioned by a probable collision with America, we are sure that the country will respond in a proper spirit to the appeal now made to them. It is very true that all the money required could be raised easily, and in a few days, among those who knew Lord Herbert, or who are engaged in public life; but this would not be to erect a "national" memorial. It is desired that every person who chooses should have an opportunity of testifying respect to the memory of a most excellent man: a dozen statues might be placed in our public



streets without asking the general public for a penny; but Lord Herbert worked, and died through working, for the great body of his countrymen, and not for any particular section of them. Lord Palmerston puts this point before us in so clear and emphatic a manner, that we cannot refrain from asking our readers to ponder over it. Referring to the premature death of Lord Herbert, the Premier says:—"He shut his eyes to those symptoms that might to a man less zealous of his public duty be a warning to retire in time from public life, so that, perhaps, the malady might be subdued, but he went on labouring to the utmost of his physical powers from day to day; and I regret to say—although it undoubtedly enhances his claims to the respect and gratitude of his fellow-countrymen—I regret to say that by his unparalleled devotion to the performance of his public duties, he neglected those opportunities of rest which might have saved him to his country; and he fell as much a victim to the performance of public duty as if he had fallen on the field of battle."

There can be no doubt that this will be the view taken throughout the land. Few, who can allow themselves the pleasure of contributing towards perpetuating the name of an Englishman who reflects honour on his country, will abstain from co-operating in the present design.

The memorial is to be of a twofold form—a statue will be erected to Lord Herbert, and an endowment of exhibitions or gold medals is to be established "in connexion with the Army Medical School, at Chatham, to be given, at the end of each course of instruction, to the candidate or candidates for admission who evince the highest proficiency in the knowledge of the art of preserving the health of the troops at home and in the field." The proposition is an exceedingly judicious one. Lord Herbert himself would undoubtedly have wished the memorial to be confined to the encouragement of the Army Medical School, since he had no object so much at heart as the personal comfort of the soldier. If soldiers only knew how much they are indebted to the late Minister, they would be foremost in coming forward now to pay honour to his name. Most of our readers must be well acquainted with the efforts he made to improve the sanitary condition of the army, and how ardently he was supported in those efforts by Miss Nightingale. Had he lived, he would assuredly have done very much more for the rank and file of our forces; as it is, some of the best institutions for the relief of the sick soldier have their origin in him. It is highly appropriate, therefore, that his name should still be linked with the schools of medicine. But with regard to the statue, we own that we have some misgivings. The reproachful figure of Havelock seems to warn us off any more caricatures of our public men. We are almost inclined to ask whether it would not be better to leave the statue proposal out of the plan. Lord Herbert is not likely to be forgotten; even if such a thing were probable, better so than be stuck up as a target for small jokes, and



as another example of the incompetency of our sculptors. Sir Robert Peel at Cheapside, and Wellington everywhere, Napier and Jenner in Trafalgar-square, and a host of other witnesses, seem to rise up protestingly against the first part of the suggested memorial. On the other hand, we cannot deny the fact that if ever man deserved a statue as a mark of national respect it was Lord Herbert. Surely there must be some one of our English sculptors adequate to produce such a work without discrediting his countrymen. It would be ignominious, indeed, to be compelled to seek assistance from abroad—let us have no foreigner's hand in this thoroughly English undertaking. We may consider it absolutely certain that money enough and to spare will very soon be forthcoming—the names on the committee give us confidence that it will be expended with care and judgment. And if the statue can be placed in the Houses of Parliament or in Westminster Abbey, the site would be a fitting and appropriate one. It is an instructive commentary on the vicissitudes of a public life, that the services this memorial is designed to commemorate were rendered at the very time when Lord Herbert lay under some degree of unpopularity, and was exposed to severe animadversions from a portion of the press.

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*From the "MORNING HERALD," November 30, 1861.*

It is not always that "the good that men do is interred with their bones." The brilliant meeting held on Thursday, at Willis's Rooms, to do honour to the memory of Lord Herbert could hardly have been gathered together in honour of any living statesman. Not perhaps that the merits of the living men would have been less, or have won abstractedly a less just recognition, but that the circumstances under which they would make their appeal would fail to be seconded by considerations so hallowed and exalting. Just as Mr. Gladstone suggested the happiest characteristic of the deceased peer when he said, "that by the genuine purity of his nature, by his high principle and conscience, he covered and hid from himself the signal character both of his virtues and his works," we are willing to believe that it may be alleged of many of that distinguished audience, that the chief feeling which had stimulated them to concur in a tribute so pre-eminent was the consciousness that "honour's voice" could not "provoke the silent dust," nor "flattery soothe the dull, cold ear of earth," and that when the higher feelings were brought into play, living worth was found to have a less claim on their homage than that whose gratitude was for ever silenced by the most solemn of all eventualities.

Yet it may not be said that Lord Herbert was one of those to whom



*post-obit* justice strives with tardy step to atone for a neglect and wrong wreaked during his life. We have unfortunately in our history had too many instances of great men the victims still more than the benefactors of their age, who have been claimed, like Homer, after their death, by the enthusiastic rivalry of parties who, while they were living, were content to see them begging bread through their cities. We may proudly claim, as regards the late lord, that in every sense he was made "to see good in his day." The warm appreciation of his many excellencies which always characterised those who knew him in private life, where, as the Duke of Newcastle said, "he was the centre of a large, loving, and sensitive domestic circle, comprising not only those who were born in his house, but those who had the good fortune to form connexions with his family;" that appreciation had long before his death extended to the nation, and to all the political parties that divided it. Though the most unobtrusive of politicians, the public had come by degrees to acquire confidence in that character and those qualifications as a statesman which had early won the sagacious regard of Sir Robert Peel. Like Bishop Atterbury, though honoured by one party, he was not the less esteemed by the other. It has been said by one who was himself a great statesman, that a few feathers of ostentation are essential to all public men, and that he who is content to be only real needs the highest qualities of genius and attainment. The late Lord Herbert had less about him of the adventitious and the assumed than Lord Bacon would have thought wise. The estimate of himself suggested by his manner would have given a very erroneous cue to his real deserts. Though there be scarcely any exaggeration in the glowing panegyric in which Lord Palmerston, Mr. Gladstone, and General Peel claimed for him at the meeting, "every gift under heaven"—though his character was indeed "of that kind and stamp that are of very rare production"—though it be seldom that it is given to man to "exhibit such a combination of moral and intellectual excellence," and though his administrative powers were almost beyond comparison, and helped by so high an order of eloquence that he was able, as Lord Palmerston tells us, "to wield the keenest sarcasm required for the purposes of debate," and to be one of the most effective speakers in the House, he was, nevertheless, we are told, the gentlest man that ever undertook to confront the difficulties of public affairs. "That gentleness," continues Mr. Gladstone, "was combined with modesty such as I, for one, have never known to be equalled, I think I may almost say, in any station of life." But this almost poetic tenderness of disposition, set off by the sterling strength of his intellectual ability, was not without its advantages. "Corruption wins not more than poverty," says Shakspeare; and Lord Herbert's character enabled him to confront the public evils that stood in his way "with a winning gentleness," says one of his colleagues, "which subdued far more of resistance, and



achieved far greater triumphs for the benefit of his country, than could a spirit of anger and wrath."

In entering the War Office it became his business and first duty—for it was, indeed, the first necessity of his country—to evoke order out of chaos, and intelligent action out of confusion and antiquated routine. During the first seven months of the Crimean campaign our soldiers died at the rate of sixty per cent., and even at home, in a state of peace, it was found that though the army was composed of picked young men, the weak being rejected as recruits, the sickly or disabled being invalided, the mortality was still double that of any other equal portion of the English population. The late peer made it his mission to reform this frightful anomaly, and it is his high merit that in a great measure he achieved his aim, the glory being enhanced by the consideration that he deliberately died in the attempt. The four commissions he set afoot, on the state of the barracks and hospitals, on the re-organisation of the medical department, on the education of the army, and on the annual preparation of the vital statistics of the army, have already achieved infinite service, and the exposures they have made of evils, and the suggestions they have given of improvements, are daily operating in changes which are affecting the well-being of the soldier in every department of the service. The mortality of the army has been reduced to almost normal proportions. On the day on which he was buried the General Military Hospital of Woolwich, organised on the principles he had settled upon, was opened to the army. Thanks to his initiative, we have just now finished at Chatham the important institution which opens to all soldiers in that garrison a club under their own management, where, at very moderate charges, they may unite all the comforts of a home with all the advantages of a mechanics' institute; and it may be said generally, whether as regards the intellectual, the military, the moral, or social well-being of the soldier, that through his labours, if the army be not on the precise footing its enlightened friends wish, it is at all events placed in circumstances where none of its well-attested grievances can long be unredressed.

It is not to be concealed that the meeting of Thursday had its interest not a little heightened by the recent news which make it not impossible that the soldier may be soon again in active request, and that we may be early reaping, in his increased comforts and lessened risks, some of the advantages of the reforms introduced by the late Minister of War. As the Bishop of Oxford reminded the audience, that "while an unjust war was the greatest of evils, a just war was the last and best appeal to the God of truth," there can be no doubt that his hearers recognised much of the importance of the moment in the aptness of the memento. We believe that we were never better prepared for such an emergency, and this chiefly through Lord Herbert's reforms. But we earnestly pray that we



may be spared the necessity of putting them to so cruel a test as of being forced to make this most terrible of all a nation's appeals; praying, however, still more earnestly, to be spared those dishonours of a tame submission to reiterated wrongs, which may be even worse for a nation than the calamity by which we seek to avoid them.

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*From the "DAILY NEWS," Dec. 2, 1861.*

It would seem impossible that any description of a man's character could be fuller, or any appreciation of his gifts and virtues more thorough, than that which we read in the speeches in honour of Lord Herbert at the meeting at Willis's Rooms, last Thursday. Yet we miss in those collective addresses any accurate estimate of the precise service to which he proposed to devote his life. All that was said of his powers, his devotedness, and the charm of his character and manners is true, and was grateful to the feelings of those who knew him; but the public, who regarded him in connexion with public affairs, have not found in the words of his eulogists any clear representation of Lord Herbert's aims and proposed services as a minister and a citizen.

With him began military administration in England. We need not go back beyond the Crimean War to show that there was then nothing worthy the name of administration at the War-office. We used to hear of the great services of the Duke of York in the military department; but there never was a time, nor an occasion, when the British army was not at the mercy of accidents in some direction or other; when its forces were not wasted by mismanagement; when its precious lives were not extinguished by thousands by disease and misadventure in barrack, camp, and field; when its affairs were not conducted in a desultory way, or left to chance; when, in short, military administration in England was not a chapter of accidents, and found to be so on occasion of any unforeseen trial.

The last time this was discovered by the people of England was when they had to call a coroner's inquest on their first Crimean army. Lord Panmure tided over the crisis by the most lavish use of the most lavish means ever afforded to a broken-down department. He brought our second army through; but the military department remained what it had been. It must be re-created. It was Sidney Herbert who saw most clearly what had to be done; and to him we owe, in the first place, whatever has been done towards instituting a real military administration.

It is but little that has been done towards that particular object; but whose fault is that? Much has been done towards saving the life and health of our soldiery, elevating their character, and ameliorating their



lives; but in other directions, much has been proposed that has never been accomplished—much promised that has been withdrawn; and the main object—the re-organization of the War-office—seems to be no nearer than when Sidney Herbert first meditated the method of it. Perhaps some of those who on Thursday spoke his praises may be unaware of what he desired and strove to accomplish, but there were others who must have known how and why he was baffled, and even dishonoured in the eyes of Parliament and the country, by having engaged for more than he was permitted to effect. There must have been some present who were, or ought to have been, conscious that the labours so lauded had been held vexatious, troublesome, inconvenient to the department; that the devotedness so extolled over his grave had been rebuked or mortified when he was in life; that the zeal for which the people were called on to praise him had survived so many attempts to quench it as to prove itself unquenchable but by death—the death which follows upon over work when the work is mixed up with anxieties and failures. There must be some who at this hour know how it is that Sidney Herbert's intentions and promises about the purchase system remain unfulfilled; and by what gallantry of spirit it was that he took on himself the blame of failures which disappointed him more than any of us.

Looking in somewhat of an orderly way at what he achieved, we are better able to understand what he failed to effect, and why; and, as it is of importance to the country that the case should be understood, in order to its being effectually dealt with, we may just glance at the list of Sidney Herbert's effective services in the military department.

Lord Panmure's Sanitary Commission, on the return of the army from the Crimea, was conducted by Sidney Herbert. His Report was the beginning of the internal reform of the army. Out of it arose, at his suggestion, four commissions, which occasioned reforms in as many departments of the military service. One undertook the subject of barrack and hospital reform; one the re-organisation of the medical department; one the reform of the medical statistics of the army; and the other the organization of a School of Army Hygiene at Chatham. Sidney Herbert conducted all these commissions while waiting for his proper office as War Minister. These four commissions were worth more than might be supposed by persons who regard them as working merely towards the health of the army. They have reduced the mortality of our soldiery one-half; but that is only a part of their value. They established the essential principles of administrative reform, and thus half achieved other reforms which appear to have no connexion with the life and health of our army.

The new Warrant for the Army Medical Service, which gave new virtue, capacity, and dignity to our army physicians and surgeons in a body, was the work of Sidney Herbert. He proposed it, and drew it up,



and got it issued by General Peel. Who it was that afterwards tampered with it, and succeeded for a time in undoing a work of singular importance and benefit, will be known some day, perhaps soon. Meantime, the medical statistics of the army have become the best in Europe, and will save hosts of lives, and advance medical science for all time to come. The regulations by which the medical and sanitary re-organization was made effective in our whole military department were issued by him two years since, in a model code, of which foreign governments are eager to obtain possession. The school at Chatham was opened by him in October, 1860. Last January he completed the new arrangement of the Purveyor's Department, by which the sick and wounded are made secure of all needful provision in all situations. Later still he completed his reforms of the hospital service, so that the scandals of Scutari can never recur. The General Hospital at Woolwich will properly bear his name, in memory of this signal service. It is his doing that there are already two hundred camp cooks trained at Aldershot, and that there will be wholesome and economical cookery in the army henceforth. Whatever exists, and will exist, in the form of soldiers' institutes, soldiers' homes, day rooms, reading rooms, is his work; and whatever sobriety, cultivation of intellect, and improvement in manners which may result from such institutions must be attributed to him. The unheard-of lowness of the mortality and sickness of our army in China, and the reforms in the health, temper, and spirits of our troops in India, were his work. Instead of sixty dying in the hundred, as in the Crimea in 1854, only three per cent. died in China; and if we can keep up an army of requisite strength in India, it will be by his having shown us how to deal with the causes of mortality there.

What he did in re-organizing our national defences—the Militia, the Volunteers, and the Indian Army—the people of England are more aware of than of his services in the War-office. What they have chiefly to attend to, in justice to his memory, is that every step he took in his office was in the direction of reform, in a department in which it is singularly difficult to achieve reforms.

What he did *not* do was to re-organize the War-office. Hence his failures, hence his mortifications, hence such censures as he incurred, hence the anxieties, which are worse to bear than any amount of labour. Why he did not achieve this central work, why he had to account for promises unfulfilled, why he was baffled and humbled, and beset by difficulties, will have to be explained. His nature was modest; his spirit was generous; his temper was above the reach of irritation; and he was therefore a safe subject for thwarting. He was one who might be trusted to uphold dignities, and take censures upon himself. But the people of England must now look to these things for themselves; and they will choose to know the precise operation of the Horse Guards upon the War-



office; and why engagements of vital importance to the character of our military service remain unfulfilled; and how much the breath of praise over the dead is worth when it comes from those who contravened the efforts, and played fast and loose with the honour, of the statesman who rests from his labours. When the true history of Sidney Herbert's life becomes known, it will disclose some passages of some other men's lives which it concerns Englishmen to be acquainted with. Meantime the more he has done for us the more resolute we must be to obtain what he desired, but failed to achieve. His best monument will be the carrying out of his work in a thoroughly honest, just, and able administration of military affairs.

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*From the "COURT CIRCULAR," Nov. 30th. 1861.*

We rejoice to see the very enthusiastic and praiseworthy efforts that are making to pay some appropriate tribute to the memory of the much-lamented and revered statesman, the late Lord Herbert. Under the auspices of his Royal Highness the Duke of Cambridge, a very numerous public meeting was held on Thursday last, at Willis's Rooms, and in addition to His Royal Highness, who presided, were Lord Palmerston, Earl Russell, Earl de Grey and Ripon, the Duke of Newcastle, the Earl of Carnarvon, the Chancellor of the Exchequer, and numerous members of the nobility and aristocracy, including several ladies, all of whom manifested the warmest interest in the proceedings. The speech of the Duke of Cambridge was indeed a truthful and eloquent panegyric, and breathed a spirit of affection at remembrance of the many estimable virtues which adorned the private and public career of the departed nobleman, when he alluded to the gratifying object for which they were assembled—that of perpetuating the memory of a dear departed friend. No statesman ever endeared himself to all more than did Lord Herbert; in the performance of his official duties he showed the most profound regard to all that contributed to the well-being of the army, and at the same time tended to uphold the honour and dignity of the country. To satisfactorily perform the important duties of the position he so worthily occupied was his constant aim, and he succeeded in winning for himself by his kind, courteous, and agreeable manners, the esteem, respect, and admiration of all those over whom he had control. In discharging his arduous duties he ever exhibited great clearness of views, and the British army, through every grade, lament the untimely death of one who was justly entitled to the proud distinction of being designated the "Soldiers' Friend." Well might his Royal Highness express the sorrow felt by all classes of the army; for, in his capacity as Commander-in-Chief, he not only frequently came in contact with Lord



Herbert, but he also well knew the great regard in which he was held throughout every branch of the British service. His concluding remarks bear ample testimony to Lord Herbert's personal worth, when he said, as regards "the military men whom I represent on this occasion, I am sure anything we can do to testify our admiration, and respect for his personal, public, and private character we are ready to do, hoping that by so doing we may alleviate the pain which his sudden bereavement has caused, not only to his family and immediate friends, but the grief and sorrow which all have felt in seeing one so beloved pass so soon and so unexpectedly from the world." All the speakers united in expressing the deep admiration they felt towards Lord Herbert, and the remarks made by the Duke of Newcastle were very touching, particularly when he read a letter penned by the late Sir James Graham, in reference to the Herbert Memorial, in which he said: "He so lived and so applied the means with which a bountiful Providence had blessed him, that he will be remembered both in his public and in his private station. A statue of him at Salisbury would be the most suitable monument to his memory, under the shade of that cathedral whose spire points to those mansions where his hopes are centred, and where he now enjoys his reward."

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The following Memoir of Lord Herbert is extracted from the *Times* of August 3d, 1861.

Death yesterday cut off in Lord Herbert one whom nature had intended for a Prime Minister. It is quite certain that, had he lived, he would before long have attained that honour, if not by virtue of extraordinary intellectual qualities, yet by force of character, by charm of manner, and by aptitude for business. He was one of the most winning statesmen of his time, and, by aid of a great social faculty, rose above men who were on other grounds superior to him. What was most remarkable in him was his anxiety to do everything well. His labours were unceasing; he never spared himself; he gave up life and luxury for toil and trouble; and if he did not die in harness, it was in harness that he earned his death. It was not merely in the fulfilment of duty that he was thus self-sacrificing; he was equally unsparing of himself in the discharge of those social observances which men usually bend to the convenience or humour of the moment. With great manliness of character there was curiously intermingled an extraordinary desire to please. He studied and strove to please, and heightened by all the arts of style the natural



attractiveness of his character. He had in his favour every social advantage—high birth, a great estate, a happy home, a handsome person, irresistible manners, many accomplishments, a ready address. He made the most of all this, so that his good nature seemed to be always overflowing, his frankness to be always unbounded, and his power of pleasing to be always undivided. So he won upon all comers, and won most upon those who knew him best. Men would give up to Sidney Herbert what they would grant to no one else. He inspired no jealousy; for his superiority was less the result of brilliant parts than of that indefinable charm from which there is no appeal. Add his power of work and of public speaking to his rare power of making friends, and you have the possible Prime Minister. That power and love of work, we grieve to say, has killed him, as it has killed many another statesman, before his time. He gave up the enjoyments of wealth and a brilliant home for the great game of politics, and has been known to pass a whole summer and autumn in London, with only perhaps a day and a night at Wilton. He drove a good constitution too hard, and at Christmas last began to feel that sentence of death had been passed upon him. There is some reason to think that even then, had he given up all work, he might have recovered. All that he did was to leave the House of Commons, and to try the comparative repose of the peerage, still retaining his office as Minister for War. The consequence has been fatal. He dies of overwork at the age of fifty-one—a great loss to society, a still greater loss to his party.

Sidney Herbert was born at Richmond in 1810, the second son of the eleventh Earl of Pembroke, whose title he would have inherited had he lived. His mother was the only daughter of Simon, Count Woronzow, so that in blood he was half Russian. He was educated at Harrow and at Oriel College, Oxford, where he took his degree with honours in 1831. In the following year he entered the House of Commons as member for South Wilts, which constituency he represented from the date of the Reform Bill to the present session, when he passed to the Upper House. He began as a Conservative, and his maiden speech was delivered in 1834, against the second reading of a bill to admit Dissenters to the universities. Four years later we find him take the lead in opposing Mr. Grote and the ballot; and from this period to 1841, he took an active part, under Sir Robert Peel, in battering the lame government of the Whigs. When Peel entered upon office, Mr. Herbert was appointed Secretary to the Admiralty, and so remained until, in 1845, he was made Secretary for War, with a seat in the Cabinet. Thus it was under Peel that he had the first training as a minister in military affairs. But his connexion with Sir Robert Peel's cabinet was chiefly interesting for its influence on his conduct as a disciple of Free Trade. The doctrine of Free Trade was the Peelite bond of union. They opposed it hand-in-



hand, and they were converted in a lump. Theoretically, indeed, the principles of Free Trade had long been accepted by our statesmen, and Mr. Sidney Herbert, even before Peel's rise to power, could taunt the Whigs for their presumption in claiming to be the original discoverers and owners of Free Trade principles—"those principles having been enunciated years ago by a cabinet of which Mr. Huskisson and Mr. Peel were prominent members." But the policy which was allowed in theory was in practice qualified with exceptions; Mr. Herbert refused to accept Free Trade as an inflexible mathematical rule, and, practically, Protection was the order of the day. Towards the close of 1845, came the new order of things. Slowly, but surely, the light had been breaking in upon Peel. The commercial reforms which he had introduced forced him on, during a season of great distress, to the total abandonment of Protection. The point is worth notice in this article, because, in the spring of 1845, Mr. Herbert was put forward by Sir Robert Peel to oppose Mr. Cobden's motion for a select committee to inquire into the effects of the corn laws on the farmers. When that motion was made, the usual speakers of the Treasury bench were silent. Peel never opened his mouth, but laid the burden of reply on the Secretary for War. The doubt had then entered into Peel's mind, and instead of taking the responsibility of reply upon himself, he laid it on a young minister—a member of his cabinet—whom he had not yet admitted into his innermost confidence. Some ten months afterwards Mr. Sidney Herbert had to eat his own words, to declare that Mr. Cobden was right, that he himself was wrong, and that Free Trade in corn is the only wise policy. Nor did he find any reason to repent the course he then took. When taunted long afterwards with the suddenness of his conversion, he said,—“To the latest day of my life I shall feel a pride in the course I then took. It is true that we were exposed to much obloquy; it is true that we were exposed to much misrepresentation, and that we had to make a choice—a difficult one at any time, and a bitter option to take—a choice between party ties and the feelings of personal honour, as wrapped up in party ties, on the one hand, and the welfare of the country on the other; and if those principles for which we then sacrificed office, and have undergone since, what I admit to have been a necessary political ostracism, are to be attacked, no effort shall be wanting on my part to do my utmost to maintain those principles, and to preserve unimpaired, unreversed, unrevised, and unmodified the blessings which I believe to have been given by those measures to the great body of my fellow-countrymen.”

The ostracism of the Peelites ceased when Lord Aberdeen's Government was formed. In that Administration, Mr. Sidney Herbert returned to his old post as Secretary for War. How the War Department broke down under the pressure of the Russian campaign is an old story which



need not now be revived. Mr. Sidney Herbert's reputation has survived that disaster. Whatever his faults or the faults of the system which he administered, no one has ever accused him of deficient industry or a lack of sympathy. While the Crimean disaster was still the subject of controversy, Mr. Herbert was for a few weeks Colonial Secretary in Lord Palmerston's first Administration; but when two years ago Lord Palmerston had to construct a Cabinet for the second time, the War Department was handed over to undoubtedly the best man for the post, the Minister whose loss we are deploring, and whose conduct as Secretary for War, a few years back, gave rise to much angry criticism. It is an unwieldy, half-organized department, but Lord Herbert, so far as his health would permit, was getting it into a little order. His term of office has been signalized by three great events—by the creation of an imposing Volunteer force, which he has had to organize and control; by the amalgamation of the Indian with the Royal army, which he has also had to superintend; and by the ascertained pre-eminence in the field of our rifled cannon. It is not likely that, for years to come, another Secretary for War will, in time of peace, have to deal with any changes that can be compared to these. He was fully alive to the magnitude of the questions which he had to decide, and no minister could have brought to bear upon them more intelligence or more zeal. Lord Herbert married, on the 12th of August, 1846, Elizabeth, daughter of the late Lieutenant-General Charles Ashe a'Court, by whom he leaves six children, four sons and two daughters, his eldest son, George Robert Charles (now Lord Herbert), having completed his eleventh year last month.

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ADVERTISEMENT *of the* COMMITTEE.

## MEMORIAL TO THE LATE LORD HERBERT.

## President.

HIS ROYAL HIGHNESS THE DUKE OF CAMBRIDGE.

## Trustees.

THE RIGHT HON. THE CHANCELLOR OF THE EXCHEQUER.

THE HON. ARTHUR KINNAIRD, M.P.

PETER HOARE, Esq.

W. G. PRESCOTT, Esq.

AT a PUBLIC MEETING held at WILLIS'S ROOMS, King Street,  
St. James's, on THURSDAY, the 28th instant,

HIS ROYAL HIGHNESS THE DUKE OF CAMBRIDGE

IN THE CHAIR,

It was Moved by THE VISCOUNT PALMERSTON, K.G. M.P.;

Seconded by LIEUT.-GEN. THE RIGHT HON. J. PEEL, M.P.; and  
carried unanimously—

“That this Meeting desires to express its deep sense of the loss which has  
befallen this country by the untimely death of Lord Herbert; and is  
anxious to pay a fitting tribute to his eminent public services as a Minister  
and Statesman, and to the self-sacrificing zeal with which he discharged  
his official duties.”

It was Moved by THE RIGHT HONOURABLE THE CHANCELLOR OF THE  
EXCHEQUER;

Seconded by GENERAL SIR JOHN BURGOWNE, BART. G.C.B.; and  
Carried unanimously—

“That a Subscription be raised for the purpose of erecting a Statue to the late  
Lord Herbert;—and also for the Endowment of Exhibitions or Gold  
Medals, in connexion with the Army Medical School at Chatham, to be  
given at the end of each course of instruction to the Candidate or Candi-  
dates for Commission, who evince the highest proficiency in the knowledge  
of the art of preserving the health of Troops at Home and in the Field.”

It was Moved by THE RIGHT REV. THE LORD BISHOP OF OXFORD;

Seconded by THE EARL DE GREY AND RIPON; and Carried unani-  
mously—

“That the following Noblemen and Gentlemen be requested to act as Members  
of the Committee, to collect Subscriptions, and to devise the best means  
of carrying into execution the Resolutions of this Meeting.”

President.—HIS ROYAL HIGHNESS THE DUKE OF CAMBRIDGE.

FIELD MARSHAL, THE LORD SEATON, G.C.B.  
GENERAL THE VISCOUNT GOUGH, K.P. G.C.B. K.S.I.  
GENERAL THE LORD CLYDE, G.C.B. K.S.I.  
GENERAL SIR JOHN BURGOWNE, BART. G.C.B.  
LIEUT. GEN. SIR GEORGE BOWLES, K.C.B.  
LIEUT. GEN. SIR J. F. LOVE, K.C.B. K.H.  
LIEUT. GEN. THE RIGHT HON. J. PEEL, M.P.

LIEUT. GEN. W. T. KNOLLYS.  
LIEUT. GEN. SIR HARRY JONES, G.C.B.  
LIEUT. GEN. SIR J. L. PENNEFATHER, K.C.B.  
LIEUT. GEN. THE EARL OF CARDIGAN, K.C.B.  
MAJOR GEN. THE HON. SIR JAMES YORKE SCAR-  
LETT, K.C.B.  
MAJOR GEN. SIR RICHARD I. DACRES, K.C.B.



MAJOR GEN. SIR HOPE GRANT, G.C.B.  
 MAJOR GEN. SIR T. A. LARCOM, K.C.B.  
 MAJOR GEN. SIR EDWARD LUGARD, K.C.B.  
 MAJOR GEN. EYRE.  
 MAJOR GEN. SIR ALEXANDER TULLOCH, K.C.B.  
 MAJOR GEN. J. LAWRENSON.  
 MAJOR GEN. THE LORD FREDERICK PAULET, C.B.

MAJOR GEN. SIR ROBERT VIVIAN, K.C.B.  
 COLONEL SIR THOMAS TROUBRIDGE, BART. C.B.  
 COLONEL THE HON. PERCY HERBERT, C.B.  
 JAMES BROWN GIBSON, M.D. C.B. DIRECTOR GENERAL OF MILITARY HOSPITALS.  
 THE REV. G. R. GLEIG, CHAPLAIN GENERAL.

THE RIGHT HON. VISCOUNT PALMERSTON, K.G. M.P.  
 THE RIGHT HON. THE LORD CHANCELLOR.  
 THE RIGHT HON. THE EARL GRANVILLE, K.G.  
 HIS GRACE THE DUKE OF ARGYLL, K.T.  
 THE RIGHT HON. THE CHANCELLOR OF THE EXCHEQUER.  
 THE RIGHT HON. SIR GEORGE GREY, G.C.B. M.P.  
 THE RIGHT HON. THE EARL RUSSELL.

HIS GRACE THE DUKE OF NEWCASTLE, K.G.  
 THE RIGHT HON. SIR G. C. LEWIS, BART. M.P.  
 THE RIGHT HON. SIR CHARLES WOOD, BART. G.C.B. M.P.  
 HIS GRACE THE DUKE OF SOMERSET.  
 THE RIGHT HON. T. MILNER GIBSON, M.P.  
 THE RIGHT HON. EDWARD CARDWELL, M.P.  
 THE RIGHT HON. CHARLES PELHAM VILLIERS, M.P.

THE DUKE OF WELLINGTON, K.G.  
 THE DUKE OF SUTHERLAND.  
 THE DUKE OF BUCCLEUCH, K.G. K.T.  
 THE MARQUIS OF LANSDOWNE, K.G.  
 THE MARQUIS OF WESTMINSTER, K.G.  
 THE EARL OF DERBY, K.G.  
 H.E. THE EARL OF CARLISLE, K.G. K.P.  
 THE EARL OF SHAFTESBURY.  
 THE EARL OF TANKERVILLE.  
 THE EARL STANHOPE.  
 THE EARL SPENCER.  
 THE EARL OF CLARENDON, K.G. K.P. &c.  
 THE EARL OF CARNARVON.  
 THE EARL OF MALMESBURY, G.C.B.  
 THE EARL OF POWIS.  
 THE EARL OF ST. GERMAN, G.C.B.  
 THE EARL DE GREY AND RIPPON.  
 THE EARL SOMERS.  
 THE EARL OF BESSBOROUGH.  
 THE EARL GROSVENOR, M.P.  
 THE LORD JOHN MANNERS, M.P.  
 THE LORD HARRY VANE, M.P.  
 THE VISCOUNT SYDNEY.  
 THE VISCOUNT EVERSLEY.  
 THE LORD STANLEY, M.P.  
 THE VISCOUNT ENFIELD, M.P.  
 THE LORD ELCHO, M.P.  
 THE VISCOUNT CASTLEROSSE, M.P.  
 REAR-ADMIRAL LORD CLARENCE PAGET, C.B. M.P.  
 THE LORD BISHOP OF LONDON.  
 THE LORD BISHOP OF OXFORD.  
 THE LORD BISHOP OF SALISBURY.  
 THE LORD LYTTLETON.  
 THE LORD HARRIS, K.S.I.  
 THE LORD DE TABLEY.  
 THE LORD BROUGHAM AND VAUX.  
 THE LORD DUFFERIN AND CLANEBOYE.  
 THE LORD OVERSTONE.  
 THE LORD BELPER.  
 THE LORD EBURY.  
 THE LORD LYVEDEN.  
 THE SPEAKER OF THE HOUSE OF COMMONS.  
 THE RIGHT HON. WILLIAM COWPER, M.P.  
 THE HON. ALGERNON EGERTON, M.P.

THE HON. ARTHUR KINNAIRD, M.P.  
 THE RIGHT HON. THE LORD MAYOR.  
 THE RIGHT HON. SIR W.G. HAYTER, BART. M.P.  
 THE RIGHT HON. SIR JOHN McNEILL, G.C.B.  
 THE RIGHT HON. H. U. ADDINGTON.  
 THE RIGHT HON. T. E. HEADLAM, M.P.  
 THE RIGHT HON. H. A. HERBERT, M.P.  
 THE RIGHT HON. SPENCER H. WALPOLE, M.P.  
 THE RIGHT HON. J. STUART WORTLEY.  
 VICE-CHANCELLOR SIR WILLIAM PAGE WOOD.  
 SIR JOHN SHELLEY, BART. M.P.  
 SIR STEPHEN GLYNNE, BART.  
 SIR WILLIAM ALEXANDER, BART.  
 SIR EDMUND ANTROBUS, BART. M.P.  
 SIR HARRY VERNEY, BART.  
 SIR FRANCIS GOLDSMID, BART. M.P.  
 SIR JAMES DUKE, BART. M.P.  
 REAR-ADMIRAL SIR FREDERICK GREY, K.C.B.  
 THE SOLICITOR-GENERAL.  
 SIR BENJAMIN HAWES, K.C.B.  
 SIR RODERICK MURCHISON, G.C.St.S.  
 SIR THOMAS PHILLIPS.  
 T. G. BARING, ESQ. M.P.  
 CAPT. CRAWFORD CAFFIN, R.N. C.B.  
 R. W. CRAWFORD, ESQ. M.P.  
 RAIKES CURRIE, ESQ.  
 CAPT. DRUMMOND, R.N. C.B.  
 CAPT. DOUGLAS GALTON, R.E.  
 HENRY H. GIBBS, ESQ.  
 G. G. GLYN, ESQ. M.P.  
 THOMSON HANKEY, ESQ. M.P.  
 PETER HOARE, ESQ.  
 KIRKMAN D. HODGSON, ESQ. M.P.  
 R. S. HOLFORD, ESQ. M.P.  
 R. MONCKTON MILNES, ESQ. M.P.  
 W. G. PRESCOTT, ESQ.  
 HENRY C. ROBERTS, ESQ.  
 BARON LIONEL DE ROTHSCHILD, M.P.  
 DAVID SALOMONS, ESQ. ALD. M.P.  
 MARTIN T. SMITH, ESQ. M.P.  
 H. GERARD STURT, ESQ. M.P.  
 TRAVERS TWISS, ESQ. D.C.L.  
 WESTERN WOOD, ESQ. M.P.  
 COUNT P. E. DE STRZELECKI, C.B. D.C.L.

It was Moved by HIS GRACE THE DUKE OF NEWCASTLE, K.G. ;  
 Seconded by THE EARL GROSVENOR, M.P. ; and Carried unanimously—

“That the thanks of this Meeting be presented to his Royal Highness the Duke of Cambridge for his cordial co-operation in promoting the objects of this day's proceeding, and for his kindness and valuable aid in taking the Chair.”



The Committee have to acknowledge the following Subscriptions:—

HIS ROYAL HIGHNESS THE DUKE OF CAMBRIDGE, K.G. . . £100 0 0

	£	s.	d.		£	s.	d.
The Viscount Palmerston, K.G. M.P.	100	0	0	Col. the Hon. Percy Herbert, C.B.	10	0	0
The Right Hon. the Lord Chancellor	21	0	0	Col. the Hon. W. P. Talbot . . . . .	5	0	0
The Right Hon. the Earl Granville, K.G.	50	0	0	Col. Wilbraham, C.B. . . . .	5	0	0
His Grace the Duke of Argyll . . . . .	20	0	0	Col. J. H. Lefroy, R.A. . . . .	5	0	0
The Right Hon. the Chancellor of the Exchequer (in addition to £50 sent to the Salisbury Fund)	50	0	0	Col. G. A. Maude . . . . .	5	0	0
The Right Hon. Sir George Grey, G.C.B. M.P. . . . .	50	0	0	Col. W. M. S. Macmurdo . . . . .	1	0	0
The Right Hon. the Earl Russell . . . . .	20	0	0	Captain Crawford Caffin, R.N. C.B.	5	0	0
His Grace the Duke of Newcastle, K.G. . . . .	100	0	0	Col. Sir Thomas Troubridge, Bart. C.B. . . . .	5	0	0
The Right Hon. Sir Geo. Cornwall Lewis, Bart. M.P. . . . .	50	0	0	Col. Sidney North, M.P. . . . .	10	10	0
The Right Hon. Sir Charles Wood, Bart. G.C.B. M.P. . . . .	50	0	0	Col. W. B. Higgins . . . . .	2	2	0
His Grace the Duke of Somerset . . . . .	25	0	0	Lieut. Col. the Hon. C. H. Lindsay.	1	1	0
The Right Hon. T. M. Gibson, M.P.	20	0	0	Lieut. Col. Heaton . . . . .	1	0	0
The Right Hon. E. Cardwell, M.P. . . . .	50	0	0	Major Deshon . . . . .	1	0	0
Gen. the Lord Clyde, G.C.B. . . . .	50	0	0	Rev. G. R. Gleig, Chaplain General	10	0	0
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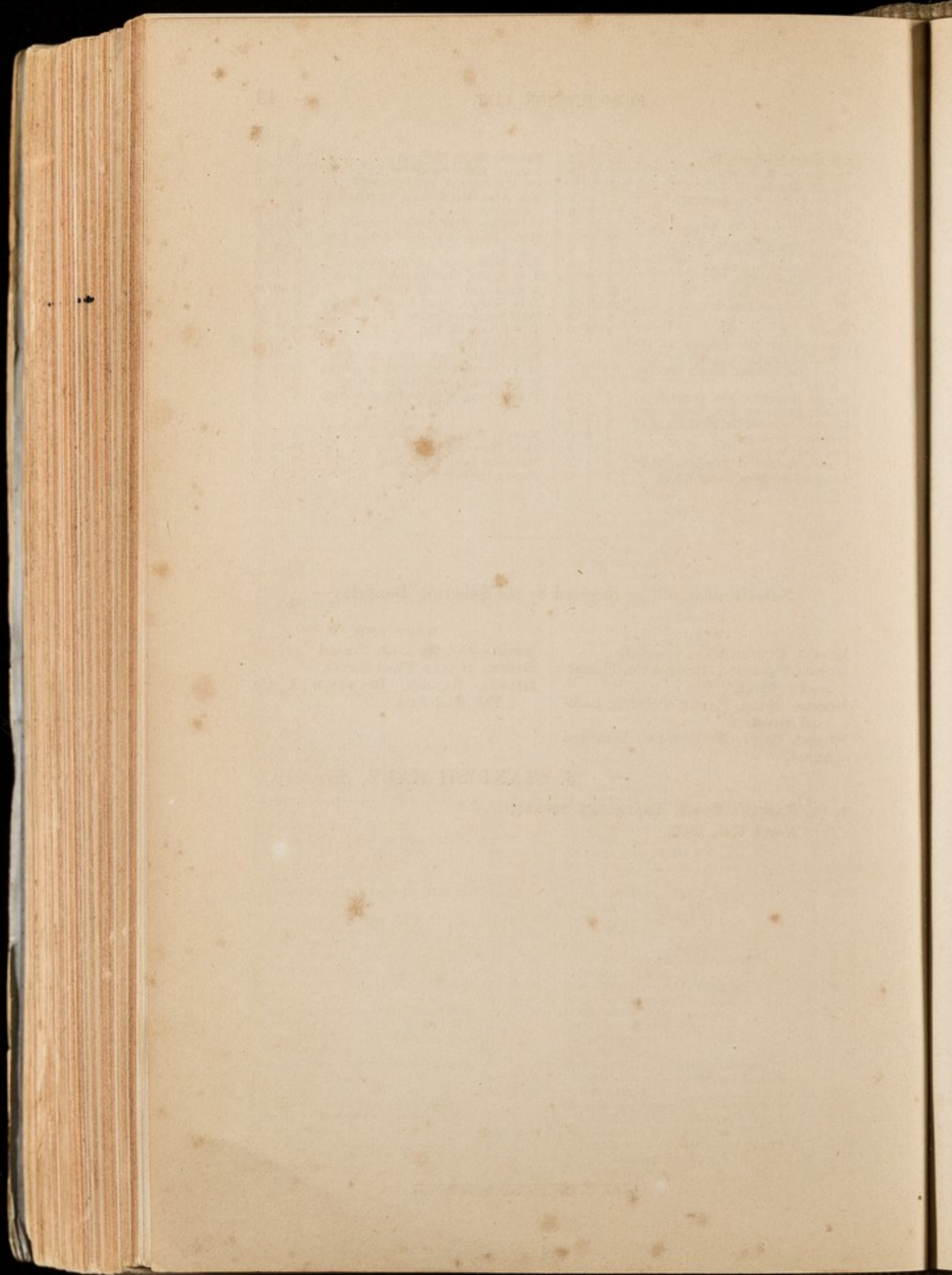
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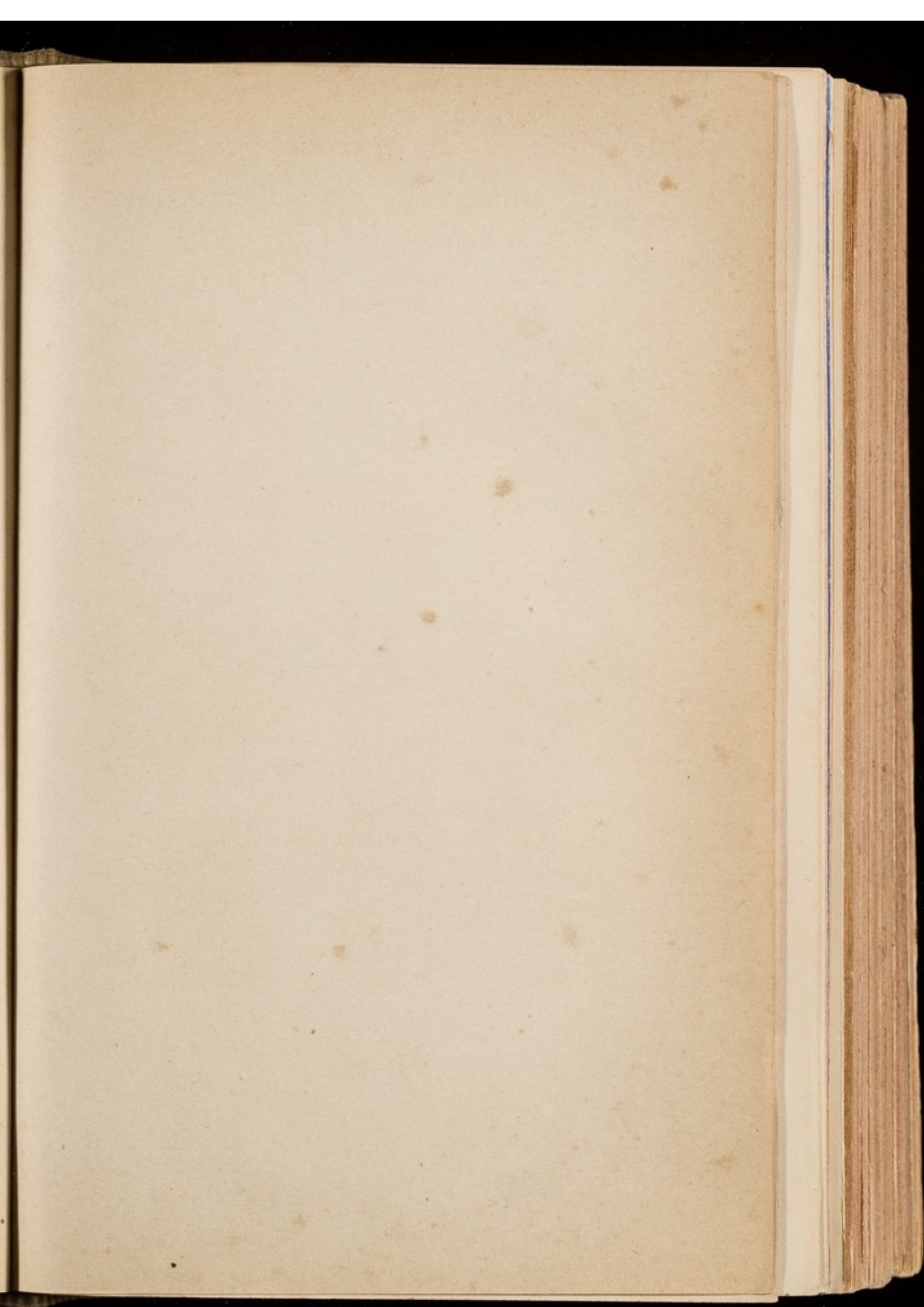
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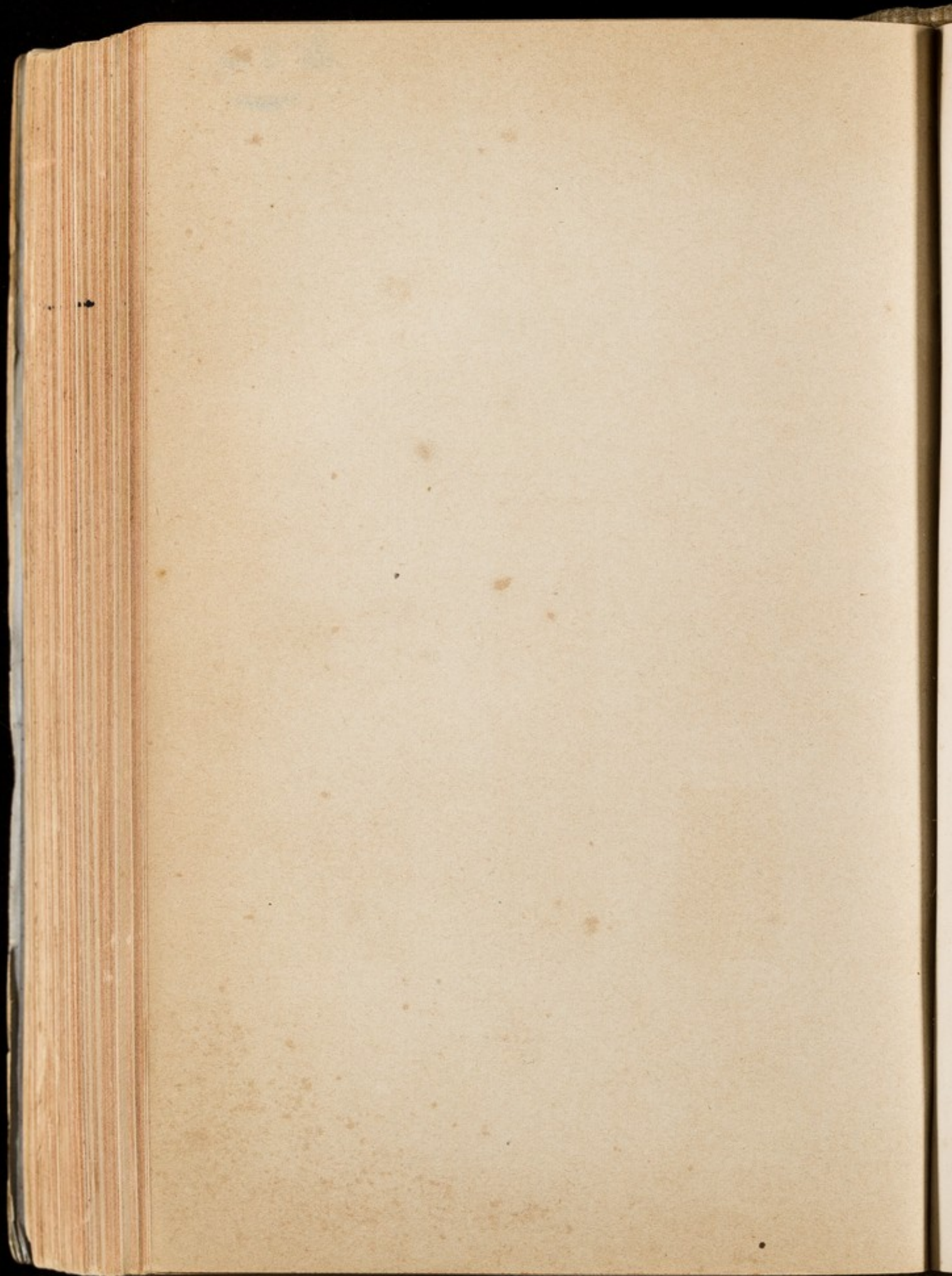














No 24



# D I A G R A M

representing the relative Annual Mortality from ZYMOTIC DISEASES, CHEST & TUBERCULAR DISEASES, & OTHER DISEASES in the ENGLISH MALE POPULATION aged 15-45, and in the INFANTRY of the LINE, serving at Home, before & since Lord Herbert's Administration.

Zymotic Diseases 2.0 to 1000 living	Chest & Tubercular Diseases 4.5 to 1000 living	All other Diseases 3.3 to 1000 living
Deaths Annually to 1000 living from All Causes 9.8		

ENGLISH MALE POPULATION  
AGED 15-45.  
1848-54.

THIS IS HOW LORD HERBERT FOUND THE ARMY.

Zymotic Diseases 4.1 to 1000 living	Chest & Tubercular Diseases 10.1 to 1000 living	All other Diseases 3.7 to 1000 living
Deaths Annually to 1000 living from All Causes 17.9		

INFANTRY OF THE LINE  
(SERVING AT HOME)  
1837-46.

THIS IS HOW LORD HERBERT LEFT THE ARMY.

Zymotic Diseases 0.96 to 1000 living	Chest & Tubercular Diseases 4.2 to 1000 living	All other Diseases 3.4 to 1000 living
Deaths Annually to 1000 living from all causes 8.56		

INFANTRY OF THE LINE  
(SERVING AT HOME)  
1859-60-61.



ARMY

(No 24)

SANITARY ADMINISTRATION,

AND

ITS REFORM

UNDER THE LATE LORD HERBERT.

BY

FLORENCE NIGHTINGALE.

*(Read at the London Meeting of the "Congrès de Bienfaisance,"  
June, 1862.)*

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LONDON :

PRINTED BY M<sup>C</sup>CORQUODALE & CO., CARDINGTON STREET.  
WORKS, NEWTON.



A NEW

STATISTICAL

REPORT

ON THE

INDUSTRY

OF THE

UNITED STATES

IN

1890

AND

1891

BY

THE

COMMISSIONERS

OF THE

LAND OFFICE



ARMY SANITARY ADMINISTRATION,  
AND  
ITS REFORM UNDER THE LATE LORD HERBERT.  
BY FLORENCE NIGHTINGALE.

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It has been well and truly said that, in long wars, the real arbiter of the destinies of nations is not the sword, but pestilence.

It is this destroying angel which, following on the march of armies, exacts of every man to the full whatever penalties follow on the infraction of natural law.

In times past, war has been conducted in more or less forgetfulness, sometimes in total oblivion, of the fact, that the soldier is a mortal man, subject to all the ills following on wet and cold, want of shelter, bad food, excessive fatigue, bad water, intemperate habits, and foul air.

And so the waste of human life, and the destruction of human health and happiness, have been, in all ages, many times greater from disease than from actual encounter in the field.

If peace has its victories as well as war, it has also its unnecessary losses from disease and death. Only the losses of peace are greater than those of war; because they are daily and constant, while war occurs at intervals of time.

To endeavour to prevent this destruction of life is by no means to encourage war, no more than to attend on the sick and wounded in a field hospital is to encourage war.

The object is primarily one of humanity. It is to save life, and to diminish suffering. And all who engage in this work are, in the best sense, savers of men.

Highest among such must be ranked Sidney Herbert.

As years pass on, so will the work, which he was a main agent in accomplishing, become better known and followed up.

And who can tell how much systematic attempts, made by all nations to diminish the horrors of this great curse, war, may not lead the way to its total disappearance from the earth?

The faithful records of all wars are records of preventible suffering, disease, and death. It is needless to illustrate this truth, for we all



know it. But it is only from our latest sorrow, the Crimean catastrophe, that dates the rise of army sanitary administration in this country.

Royal Commission on the Sanitary State of the Army, 1857.

The losses then incurred, and the experience derived from these, induced her Majesty to issue the now famous royal commission on the "Sanitary State of the Army," composed of men qualified to grapple with the whole subject, and to suggest the necessary remedies. Sidney Herbert presided over that commission, and embodied its results in a masterly report, showing, for the first time, the great and unnecessary mortality to which the army was at all times subject, the diseases occasioning it, their removable causes, and the administrative reforms required to arrest this awful loss of life and efficiency. At that time, the death rate among soldiers from consumption and tubercular diseases *alone* (the monstrous products of breathing foul air), exceeded the *total* death rate *from all causes* among the civil population of the corresponding ages. The total mortality in the army was nearly double—in the Guards more than double—that of the civil population. It is now actually *less* than in civil life.

Sidney Herbert's report laid the foundation of army sanitary reform. Lord Panmure, aware of its price, issued, under Sidney Herbert's advice, four sub-commissions for giving effect to its recommendations:—

Barrack and Hospital Improvement Commission, 1857.

One, the Barrack and Hospital Improvement Commission, examined the barracks and military hospitals of the united kingdom, and found their sanitary condition as to overcrowding, want of ventilation, want of drainage, imperfect water supply, &c., sufficient to account for most of the excessive death rate from which the troops occupying them had suffered. These establishments have, under the direction of the commission, been provided with combined ventilation and warming, without machinery of any kind. Drainage has been introduced, or improved. Water supply has been extended, baths introduced both for barracks and hospitals, and the lavatory arrangements generally improved. The barrack kitchens have been completely remodelled; the wasteful cooking apparatus, only fit for boiling, has been replaced by improved and economical cooking ranges for roasting, &c., so that the men may now have the change of cookery required for health, instead of the eternal soup and boiled beef. Gas has been introduced into many barracks, instead of the couple of "dips," which only made the barrack-room look darker still, and by the light of which it was impossible for the men to read, or to pursue any occupation except smoking. Many important structural alterations for increasing window light, circulating fresh air by removing useless partitions, for ventilating stables, abolishing ash-pits, &c., have been carried out. More simple and healthy principles for the construction of future barracks and hospitals, for ensuring better drainage, efficient ventilation, more cubic space for both sick and well, and greater facilities for administration and discipline, have been laid down, and applied in several new structures;—amongst others, in the great "Herbert Hospital" at Woolwich.



The labours of the same commission have since been extended to Mediterranean stations, where they were greatly required; and, it is to be hoped, will be farther extended to the West Indies and Canada.

The result of the improvements, already made, is that just one half of the Englishmen that enter the army die (at home stations) as formerly died.

The *total mortality* at home stations, *from all diseases*, is now actually *less* (by above one per thousand per annum) than was formerly the mortality from consumption and chest diseases *alone*. The reduction in deaths from consumption has been as remarkable: in some arms one-half, in others two-thirds of the mortality from this fatal disease has disappeared.

To shew what has already been done, I have transferred, from the Report of the Royal Commission, a diagram, shewing the death statistics of the English male population, between the ages of fifteen and forty-five, and the death statistics of the infantry of the line, serving at home, from 1837 to 1846. This is how Sidney Herbert found the army. I have added a third division, shewing the death rate of the same infantry for the three years following the introduction of sanitary improvement, 1859-60-61. This is how Sidney Herbert left the army.

As a supplement to the improvements in barrack cook-houses (already referred to), Lord Herbert directed a school for practical cookery to be established at Aldershot, for the training of regimental and hospital cooks; instead of taking it for granted, as was the practice, that any man could cook just as he could mount guard. This school is gradually supplying both regiments and hospitals with cooks capable of giving men a wholesome meal.

School in  
Military  
Cooking.

The second sub-commission was appointed for re-organizing the army medical department, and for framing a code of regulations for the hospital and sanitary service of the army. This commission found that, according to existing practice, no provision was made for systematically caring for the soldier's *health*, but only for his *sickness*. The chief recognised function of the army medical officer was attending men in hospital; but in no way was it considered his duty to render it unnecessary for men to come into hospital at all.

New Code of  
Regulations  
for Sanitary  
Service of  
Army, 1857-9.

To supply this great want, the commission drew up a code for introducing the sanitary element (for the first time) into the army, defining the positions of commanding and medical officers, and their relative duties and responsibilities regarding the soldier's health, constituting the regimental surgeon the sanitary adviser of his commanding officer, who is now bound to give effect to all sanitary recommendations made by his medical officer, unless he can assign satisfactory reasons *in writing* to the superior authority for non-compliance.

The same code contains regulations for organizing general hospitals, and for improving the administration of regimental hospitals, both in peace and during war. Formerly, general hospitals in the field had



to be improvised, on no defined principles, and on no defined personal responsibility. The wonder is, not that they broke down, as they did in all our wars, but that they could be made to stand at all. In all our wars our general hospitals have been signal failures, fatal examples of how to kill, not to cure. All this is now changed; and, with the most ordinary administrative capacity, the sick during war may now have every necessary care and comfort.

This code is the best ever framed; and, in practice, has been found to succeed in every climate, whether at home, in garrison, or in the field. It has been successfully tested in two expeditions, since issued by Lord Herbert in 1859. On the day which took him from us, its general hospital system was realized in the hospital at Woolwich, including its governor, principal medical officer, captain of orderlies, female nurses, and their female superintendent, &c., which system will be transferred to the magnificent hospital, now being built there, of which Lord Herbert was the founder, and which will bear his name. He also directed a plan to be drawn up for the organization of a second general hospital at Devonport, on the same principles, which will shortly be carried into effect.

Army Medical  
School at  
Chatham,  
1857-60.

The third sub-commission was charged with organizing a practical school at Chatham, for instructing candidates for army medical service in military hygiene and other specialties.

Formerly young men were sent to attend sick and wounded soldiers, who *perhaps* had never dressed a serious wound, or never attended a bedside, except in the midst of a crowd of students, following in the wake of some eminent lecturer—who *certainly* had never been instructed in the most ordinary sanitary knowledge; although one of their most important functions was hereafter to be the prevention of disease in climates, and under circumstances where *prevention* is everything, and medical treatment often little or nothing.

The sub-commission drew up an admirable scheme; and the school at Chatham was opened by Sidney Herbert in person, in 1860. Already its results have been most satisfactory. A large number of men of high attainments have been sent from it into the army; and we may confidently expect a lower sick rate and death rate (especially on foreign stations and on field service) as one of its results, as well as higher hospital efficiency.

Army Medical  
Statistics,  
1857-61.

The fourth sub-commission was charged with the duty of re-organizing the army medical statistics, which were then in such a condition as to afford very incomplete data, especially during war. These statistics have been reformed, and are now by far the best and most useful in Europe. They can be reduced with much less labour, and with much greater promptitude than formerly; because the manner of recording cases is now much more precise, and there is a special division in the army medical department for reducing them to obtain the results; while they enable the exact state of health, of every regiment and station, to be ascertained, and any unusual amount of disease, *with its removable causes*, to be brought at once to the cognizance of the authorities.



In the course of years they will add immensely to our knowledge of army diseases, as well as of those incident to particular climates and seasons.

Although the first annual report under the new system, being a *first* report, does not give all the data, regimental and stational, required by the instructions, yet every succeeding year's experience will render these annual reports more complete and more valuable.

Of all these commissions Sidney Herbert was head and centre. He superintended himself carefully every step of their procedure, and took his share of the work, as well as the responsibility attaching to it in his public capacity, by identifying himself with the reforms. In England it is so much the custom to look upon statesmen merely in their political, and not in their administrative capacity, that it is almost forgotten that they have an administrative function at all. No one thinks of a secretary of state, *e. g.*, as the head of an office which has in its hands the lives and morals of men. But Sidney Herbert, although his passion, his hereditary occupation, to which he was born and bred, was politics, yet made his administrative labours greater, set his administrative object higher, recoiled from none of its dry fatigues, and attained its highest usefulness. What has been well-advised to a rising statesman, he performed. He did not sink in politics the powers which were meant for mankind.

Army medical officers had felt much and just dissatisfaction with their position in the army. The royal commission advised therefore the preparation of another warrant, ensuring to these officers the rank and emolument to which their services entitled them. It was framed by Sidney Herbert, and issued by General Peel in 1858.

Sidney Herbert.  
Army Medical Officers' Warrant, 1858.

Another great reform was introduced into the Purveying Department, which, like many others, had no well-defined position, duties, or responsibilities. It was efficient or inefficient almost by chance. Like other departments, it broke down when tried by war; and all its defects were visited on the sick and wounded men, for whose special benefit it professed to exist.

Purveyor's Warrant and Regulations, 1860.

To put an end to this, and to introduce method into the service, Lord Herbert issued in 1861 a new purveyor's code and regulations, re-organizing the department in accordance with the views expressed by himself, as Chairman of the Royal Commission. The regulations now define with precision the duties of each class of purveyor's officers, together with their relation to the army medical department. They provide all necessaries and comforts for men in hospital (both in the field and at home) on fixed scales; instead of requiring sick and wounded men (even in the field) to bring with them into hospital articles for their own use, and which they had lost before reaching it. These regulations have been already tried, both for home and field service, and have been found to answer every purpose.

Lord Herbert also named a committee to re-organize the army hospital corps. In former times there were no proper attendants on the sick. For regimental hospitals a steady man was appointed hospital sergeant, and two or three soldiers, fit for nothing else, were sent into the hos-

Army Hospital Corps, 1860.



pital, to be under the orders of the medical officer; who, if he were fortunate enough to find one man fit to nurse a patient, was sure to lose him by his being recalled "to duty;" sometimes, indeed, men were mounted in rotation over sick in hospital as they would mount guard over a store. And this is still done in India, and in some regiments at home.

No special training was considered necessary; no one, except the medical officer, who was helpless, had the least idea that attendance on the sick is as much a special business as medical treatment.

Unsuccessful attempts had been made to organize a corps of orderlies, unconnected with regiments: the result was most unsatisfactory. Lord Herbert's committee proposed to constitute a corps—the members of which, for regimental purposes, are to be carefully selected by the commanding and medical officers—specially trained for their duties, and then attached permanently to the regimental hospital, from which they cannot be removed to the ranks, except for proved incapacity or breach of discipline. This was carried into effect shortly after his death.

Success of all  
these mea-  
sures in re-  
ducing Army  
Death rate.

The crowning testimony of the great national importance of the new system of sanitary administration, inaugurated by Lord Herbert, is to be found in the last Chinese expedition, where his reforms were first practically tested. An expeditionary force was sent to the opposite side of the world, into a hostile country, notorious for its epidemic diseases. Every required arrangement for the preservation of health was made, with the result that the mortality of this force, including wounded, was little more than three per cent. per annum, while the "constantly sick" in hospital were about the same as at home. Let us contrast with this great success what happened during a former war in China. The 26th Cameronians, a "total abstinence" regiment, and one of the finest and most healthy in the British service, was landed at Chusan, 900 strong, and left to its fate without any sanitary care. In two months only twenty men could be got together.

To take another contrast upon a larger scale. During the first months of the Crimean war, from September 1854 to March 1855, the death rate among the British troops was sixty per cent. per annum, until means were taken to prevent this fearful sweep of death. During the same months, the "constantly sick" in the hospitals were sevenfold those in the war hospitals in China.

Indian Army  
Sanitary  
Commission,  
1859.

Impressed with the enormous death rate and loss of efficiency in the Indian army, Lord Herbert undertook in 1859 the presidency of the Royal Commission on the "sanitary state" of that army, called together to devise means for reducing these great losses. He was obliged to relinquish this to Lord Stanley in 1861, on account of official business, and, alas! of failing health. But by that time the evidence received from Indian stations had been sufficient to convince him that removable causes, of far greater importance and intensity than any which have been discovered in our home stations, were destroying the lives of our soldiers, and the physical efficiency of the Indian army.



Among other reforms initiated during Lord Herbert's life, but incomplete at his death, were the following :—

He had seen that the sanitary defects in barracks and hospitals had arisen from the unsatisfactory manner in which these buildings had been planned and constructed. No one engaged on them had had any knowledge of the requirements for health. If they had been made to put guns and stores in, and not men at all, or horses, they could not, in fact, have been worse. There was no-recognition of the necessity even of space, or of fresh air, or of drainage, either for sick or well. To prevent this in future, Lord Herbert called together a committee, to inquire into the present system of executing barrack works, and to suggest administrative improvements.

Committee on  
Barrack  
Works, 1861.

The department, charged with spending money on buildings to keep men healthy, knew little about the principles of healthy construction, such knowledge not having been required of them.

The result of the labours of the committee, it is expected, will be a better and more economical organization, a proper training in the principles of sanitary works, and a total change in the sanitary construction of our future military buildings.

Another very important commission was also called, to consider the question how best to provide soldiers' day-rooms and institutes, in order to struggle with the great moral evil supposed to be inseparable from garrisons and camps.

Commission  
for Soldiers'  
Day-Rooms  
and Institutes,  
1861.

Lord Herbert saw that, at present, the soldier was hardly thought of as a man at all. The effect of moral agencies upon him was practically ignored. He (Lord Herbert) had taught every one, by this time, the results of treating the soldier physically as if he were not a human being, subject to the laws of physical health. And, in the moral tone of garrisons and camps, he recognised the legitimate results of treating the soldier morally, as if he were not under the laws of moral health. Placed, as he is, under strict restraint, lodged in a crowded, uncomfortable, barrack-room—without privacy, without social intercourse, except that afforded by the canteen or by some much worse place; without home ties; without occupation or amusement, except such as is provided for him by those (and they are everywhere) who pander to his passions—the soldier has a position most unfavourable to his moral nature. And just as the soldier was formerly accused of dying unnecessarily, or because it could not be helped, the real causes being all the while ignored; so now, the consequences of overlooking moral causes go by the name of “camp vices.” Not that nothing has been done in the way of direct teaching to counteract the evil; but, all the while, the immoral agencies or temptations by which the man is surrounded, have been left untouched; while no counteracting agencies of a moral kind have been provided to cope with these.

In civil life at home, it is supposed inconsistent with individual liberty to put down bad places of resort, and to prevent open temptations to profligacy; while, in certain continental states, it is *not* supposed against liberty or morals to make prostitution as little dis-



agreeable as possible—viz., by “regulating” it, to avert the consequences of this vice, leaving all the temptations just as they were.

Lately, the remedy alluded to has been repeatedly urged for Aldershot, in the face of the notorious fact that, while no proper places of resort or occupation have been created for the men, the remedy would leave the abominations of the town to go on untouched.

In dealing with this question, there are obvious principles. Governments *can* prevent this open infamous trading, as they do other open infamous trading. They *can* prevent open temptations to vice, as they can prevent open temptations to crime. They can do these things both for the civilian and the soldier. But for the soldier they can do more; and it is this which the committee on soldiers’ day-rooms was called to consider by Lord Herbert.

They have shown that the men’s barracks can be made more of a home—can be better provided with libraries and reading-rooms; that separate rooms can be attached to barracks where men can meet their comrades, sit with them, talk with them, have their newspaper and their coffee, if they want it, play innocent games, and write letters; that every barrack, in short, may easily be provided with a kind of soldiers’ club, to which the men can resort when off duty, instead of to the everlasting barrack-room or the demoralizing dram-shop; and that, in large camps or garrisons, such as Aldershot and Portsmouth, the men may easily have a club of their own out of barracks.

The committee also recommended increased means of occupation, in the way of soldiers’ workshops, outdoor games and amusements, and rational recreation by lectures and other means.

The plan has been tried with great success at Gibraltar, Chatham, Montreal. There is no reason why it should not succeed elsewhere. At all events, let it be tried.

Lord Herbert’s latest act was directing an inquiry at Aldershot, as to the best means of introducing the system there. The country will support the cherished scheme of its dead statesman.

This is a short sketch of the labours and successes of Lord Herbert’s last brief administration. The lesson which these reforms teach is, that the real foundation of War Office efficiency is to be laid in the efficient working of each department—in simplifying procedure, abolishing all divided responsibility, clearly defining the duties of each officer—in giving direct responsibility to each head of a department—and, lastly, in placing all the departmental heads in direct communication with the Secretary of State. It is by this procedure that the spirit which was breathed into Lord Herbert’s reforms, may be expected to accomplish what *he* constantly kept before him as the great object of his official life—viz., to increase the efficiency, improve the position, and preserve the health of the British soldier.

There were indeed other important reforms made by Lord Herbert during this his last short tenure of office. But not for these, or so much for these as for the rest, will he be remembered. He will be remembered chiefly as the first war minister who ever seriously set



himself to the task of saving life—who ever took the trouble to master a difficult subject so wisely and so well, as to be able himself, and to show the way to others, to husband the resources of this country, in which human life is of more value than in any other—of more value than any thing else.

To the army, in the person of Sir John Pringle, is due the credit of first having recognised the real, ever-operating effects of physical laws on human health and life. To the army, Sidney Herbert has, a century later, bequeathed the administrative means of applying those laws, so as to mitigate or to prevent the very diseases which previous administrators ignorantly supposed inseparable from the soldier's occupations.

The results cannot fail to re-act on the whole progress of sanitary reform in civil life. Let us hope that the great lesson which has been taught, will have its weight with those charged with the duty of protecting the public health.







Mr. Longmore

(25)

F.N.

April / 74

# LIFE OR DEATH IN INDIA

BY

FLORENCE NIGHTINGALE

*A Paper read at the Meeting of the National Association for the  
Promotion of Social Science, Norwich, 1873*

WITH AN APPENDIX

ON

LIFE OR DEATH BY IRRIGATION

1874

Printed by

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## HOW SOME PEOPLE HAVE LIVED, AND NOT DIED, IN INDIA.

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By FLORENCE NIGHTINGALE.

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ON a former occasion I ventured imperfectly—for India is immense, while a paper is small—to bring before the Association how people have died, and not lived, in India; how people may live, and not die, in India.

I used some of that great body of information brought together by the 'Royal Commission on the Sanitary State of the Indian Army,' which was at work during four years, 1859–1863, and was presided over, first by Sidney Herbert—whose statue still stands before the War Office as a witness in favour of progress—then by Lord Stanley, now Lord Derby.

Ten years have elapsed, during which most of the sanitary proceedings which have been initiated, and their results, have passed (on paper) through our hands. And we may now reckon up our gains.

2. I must begin by guarding myself and others. A caution. We *have* made an impression on the sanitary state of



that vast country ; but 'impression,' so far as this : only to show us the immense work that remains to be done ; the immense success that *can* attend it—we cannot yet say the immense work that has been done.

But how much this is ; what progress since the time we were taught to lament the 'hopeless Indian climate' !

What is the epidemic state.

The caution is this : as in all epidemic countries, more than in most—the death-rates of the Indian Army had shown two characteristics : they fell and they varied according to the nature of the season and the prevailing 'epidemic state.'

(1) E.g., in past, and, alas ! in present years, we can say approximately what districts will be visited by fever or by cholera in 'epidemic' times : 'if the drainage and water supply, and neighbouring ground are left in *that* bad state'—when comes the 'epidemic,' those dwellings may expect it. If air, earth, and water continue to be fouled, if foul damp ground be not drained, if the public ways be not better kept, when comes the 'fever,' when comes the 'cholera,' those districts will have it.

But why does not cholera come every year to those dwellings ? Their state is the same. And why is fever not always in those districts ?

We do not know.

All we can say is, we know into what dwellings cholera and fever will *not* come, however 'epidemic' the year ; we can put towns and districts into such a state that the *epidemic*, like the mediæval witch, is exorcised, so that it cannot come near them.



More than this we do not know.

(2) In past years—not so long past—in a great town of England, 47 children out of every 100 used to die before they were five years old. But why those 47?

We do know how this infant mortality, or rather massacre of the innocents, can be mitigated or prevented; namely, by cleanliness of house and child, by fresh air, care as to food and clothes, whitewashing, by ‘minding baby’ in short, and by avoiding all ‘soothing syrups’ whatever.

But we do not know which babies will be taken and which not.

All this is pre-eminently true of India. From the great Sunderbunds, where cholera seems to have had its birth-place, and had not been born some centuries ago [great towns, shown in old Portuguese maps, now no longer to be found, seem to attest that the Sunderbunds were not then the home and hearth of epidemics], cholera sets forth on its terrible march over Asia, so reaching Europe; but why in one year and not in another we know not.

If the Sunderbunds were drained, cultivated, and again rendered fit for human habitation, would cholera disappear?

3. Now, after this caution, to proceed: The results we find, in the last Report\* of the ‘Sanitary Commissioner with the Government of India,’ and in other District Reports, have been so striking, that they

Satisfactory  
Sanitary  
results in  
1871.

\* Dr. Cuninghams Report, No. 8.



may be fairly accepted as showing, not that India has become 'healthy for ever' (the year 1871 was a non-epidemic year), but that we can grapple with—that we may one day finally subdue, if we will—spite of the bugbear 'climate'—those local conditions which in former days decimated the strength of the Army, and which, unless preventable and prevented, make up a terrible prospect—that only at such a price could India be held by a British force. And this when man's life was becoming every year more valuable.

1. X In the first part of this century the Death-rate among British troops serving in India had revolved round 69 per 1,000 per annum; that is, 69 men out of every 1,000 died on an average every year.

The 'constantly sick'\* in hospital amounted in old times to ten per cent. of the strength; that is, out of every 1,000 men 100 were always ill in bed.

Or, in round numbers, the whole British Army went three times into hospital every year. The Royal Commission of 1863 gave a Table showing, as they state, 'that on an average in the stations of Bengal 84 men in a battalion of 1,000 were constantly in hospital, where 69 die annually.'

But men invalided 'are a total loss to the service as much as the men who die;'—indeed more so, as far as the country is concerned, for they have to be supported.

And the loss by invaliding was, as may be supposed, high in proportion:—in Bengal, as high as between 80 and 90 per 1,000 per annum, including all such casualties. X

\* On the authority of Mr. Annesley.



Steps had been taken before,\* steps were being taken during the inquiries in India of the Royal Commission, for removing some existing sanitary defects, with corresponding improvement of the health of troops.

The Report and evidence were printed, with an abstract of evidence from the Stations, by Parliament in August 1863.

In December, Sir John Lawrence was sent out as Governor-General (Lord Elgin's death impending), and almost immediately on beginning his vice-reign he formed an organisation for grappling with the evils, with this hundred-headed Hydra, in the localities themselves—in the home of the beast.

In this way of late years a vast amount of simple, inexpensive sanitary work has been done in respect of cleansing, draining, improving the water supply. In many of the cities and towns of the North-West Provinces this cleansing, the better making and keeping of public ways, the straightening and widening of streets, are now looked after.

In the North-West Provinces and in Oudh the civil stations have been improving their drainage, and the whole subject is marching on.

In the Central Provinces, we are told, improvements of various kinds are going on.

In Berar the people are thinking about it—thinking

\* In Bombay, sanitary reform began with Sir Robert Grant forty years ago, according to *then* lights; and subsequent Governors carried the work on, in advance of the *then* Indian ideas. The first scheme for an ample supply of good water to a city was matured in Bombay thirty years ago by Lord Elphinstone, and begun five years later—long before any such plans were believed to be possible in any other Indian city.



how bad is their water-supply. One trusts that they will go farther—though thinking is a good thing—and not only think but act.

In the Punjaub a good deal, we are told, is being quietly done in the towns.

In Bengal Proper, where most is wanted, least seems to be doing.

Many stations all over India—e.g., Barrackpore, Umballa, Murree, Meean Meer—are supplying themselves with better water.

Many have had their barracks improved or reconstructed—not before it was wanted—and sometimes, it must be admitted, not in the most economical way.

Still the work has been done, and is being done, very zealously, as is shown by the Reports of Sanitary Commissioners, which give as striking instances of results to health from sanitary improvements as could well be imagined, were it even a Hercules who was working for us [these are real miracles of the present day] or as have been realised at home. And this has been done without burning down the city, which, it seems, was the only way of saving London from another great plague.

Army: Death-  
rate and Sick-  
rate in 1871.

4. And first, as regards the Death-rate of the Army:

For on this subject Dr. Cunningham gives some most important facts, especially as regards Bengal, formerly, as we know, the most unhealthy province—if province it can be called—a country of nearly 69,000,000—the most densely populated in the world.

✕ Formerly the Death-rate for all India revolved



round 69 per 1,000. In 1871 the Death-rate, including deaths among invalids *after* their arrival in England, was 18·69 per 1000. [The strength was 56,806 non-commissioned officers and men]; that is, 18 men died where 69 died before. Of the invalids sent home to England, 16·02 per 1,000 on a similar strength were discharged the service.

From these facts we arrive at this result: namely, leaving out the loss from invaliding in the old Indian Army altogether, the total loss to the present Indian Army in 1871 by deaths *and discharges* was 34·7 per 1,000, or just one-half of the loss occasioned by the old death-rate alone. In other words, we lost, in 1871, 18 men only by death—in India and England both—out of every 1,000 of the British Indian army; and 16 more were discharged as unfit for further service; that is, there was a saving of 51 men in every 1,000 in 1871 (a healthy year), or 2,858 men in an army of 56,806 were the savings of that year: one year's results: as compared with the average losses of old. X

Let us remember, with the mercantile Briton's spirit, that every man costs with his arms 100*l.* set down in India: hence £285,800 was the money saving on recruits in that year.

But what is the value of a man otherwise?

To *us* these are not figures, but men.

Returning to the Bengal Presidency, we find in 1871 the deaths 17·83 per 1,000, where formerly the Bengal death-rate lay between 70 and 80 per 1,000, and annual losses from other casualties actually rose



to between 80 and 90 per 1,000. In other words, 17 men only die instead of 70.

A few results for 1871, from different groups of formerly most unhealthy Bengal stations, tend to show that the improvement in health is going on ; thus :

In Bengal Proper the death-rate for the ten years preceding 1870, including a time of sanitary improvement, was  $29\frac{1}{2}$  per 1,000 ; and the daily sick nearly 7 per cent., or 70 per 1,000. In 1871 the death-rate was 18.72 per 1,000, and the daily sick-rate 5 per cent., or 50 per 1,000.

General Sick  
Rate.

Let us here add, that in round numbers the whole Indian Army went once-and-a-half times into hospital, and about  $5\frac{1}{2}$  per cent. of the force was always in hospital, during the year 1871, instead of nearly double the number.

Fort William.

We all remember the frightful sickness and mortality of Fort William. Its sick-rate continues rather high, but its death-rate in 1871 was only 10 per 1,000, less than a tenth part of its former death-rate : and  $2\frac{1}{2}$  per 1,000 less than the death-rate of 1870.

Oudh.

In Oudh the death-rate from 1860 to 1869 was  $28\frac{1}{2}$  per 1,000. In 1871 it was under 23. The constantly sick had also fallen from 69 to 61 per 1,000.

At Cawnpore much has been done to improve the site, and the station shows a death-rate of only 13 ; while Benares and Allahabad, in which less has been done, and Dinapore, in which we do not hear of much done, show quite double this rate of death.

Meerut.

Meerut and Rohilcund, in the ten years before 1870, were sick at the rate of 72 per 1,000, and sick



unto death at the rate of  $26\frac{1}{2}$  per 1,000. In 1870 these fell to 69 and  $18\frac{1}{2}$  respectively; and in 1871 to 65 and  $16\frac{1}{2}$ . But in this group Roorkee, which has always distinguished itself, and Moradabad died at the rate of only 8 and  $5\frac{1}{2}$ .

In Agra and Central India, for the ten years before Agra. 1870, the sick-rate was 74, and the death-rate  $38\frac{1}{2}$  per 1,000. In 1870, though the sick-rate was 77, of these there died only 22 per 1,000; and in 1871 there were sick only 64, and there died under  $18\frac{1}{2}$  per 1,000.

In the Punjaub, there has been apparently some Punjaub. progress in improving the heavy sick-list. The ten-year period shows sick at the rate of 56, and dead at 25; but 1870 gives daily sick at 69, and deaths at under  $24\frac{1}{2}$  per 1,000; and 1871, sick at 54, and dead at little more than 18 per 1,000.

Now the Hill stations come in. During the ten Hill Stations. years before 1870 the daily sick were 49, and the dead nearly 15 per 1,000. In 1870 the sick were 40, and the dead 11. In 1871, 48 and 9. But at one Hill station, Raneekhet, the death-rate was as high as 24; while at another, Chukrata, it was under  $6\frac{1}{2}$ ; and at Dugshai  $5\frac{1}{2}$ .

Now for the convalescent depôts: These gave a Convalescent  
Depôts. death-rate of nearly 31 per 1,000, during the ten-year period; for the men seem to have died rather than convalesced—whereas in 1870 it was little over  $22\frac{1}{2}$ , and in 1871 under 13 per 1,000.

The Army Sanitary Commission concludes its notice of this part of Dr. Cuninghame's statistics by 'congratulation at the improvements already effected



in the sanitary condition of stations and troops serving in the Bengal Presidency;’ especially, it says, when the former history of the old Bengal European Army is considered, with its annual death-rate ‘of from 70 to 80 per 1,000;’ and ‘its annual losses from other casualties of between 80 and 90 per 1,000.’ But it warns us not to delay measures for making the statistics of 1871—‘an avowedly healthy year’—the real representative statistics of every year in India.

For it must not be assumed that the work of improvement is done.

Far from it.

The general result only indicates progress towards realization : not realization.

As yet *what is* BEING *done* is all we have to show.

The Royal Commission pointed out that the death-rate, when we have *prevented preventable* diseases, ought not to be more than ten in the thousand.

The importance of the present results consists in showing that India is not necessarily fatal to European lives, and that the Government of India, the India Office at home, and the British public, have not only a common interest in the results already attained, but that they have a right to expect, and do expect, that their officers’ hands shall not be stayed in this good work; that they shall be assisted in every possible way. Expense has been incurred—somewhat more perhaps in certain directions than was necessary. But has there been no gain?

It has been shown that we are in the way of regaining every year a large part of the outlay.



5. Had time permitted, some account should have been given of the success of sanitary work in India in cities, and even in country districts.

But we must be content with a few illustrations.

Ten years ago I reported to the Royal Commission that no one of those three large and populous cities—seats of Presidencies—Calcutta, Bombay, Madras—  
Calcutta,  
Bombay,  
Madras.  
had as yet arrived at the degree of civilisation in their sanitary arrangements at which the worst parts of our worst towns had arrived before sanitary reform sprang up in England at all.

Yet all the fault of the inevitable results was laid to the 'climate.'

Bombay, the second city of our Empire, had, it is true, a better water-supply, but no drainage.

Calcutta was being drained, but had no water supply.

Two of the seats of Government had thus each one-half of a sanitary improvement, which halves ought never to be separated.

Madras had neither.

This was ten years ago.

Now (and I cannot but name the name of the Calcutta municipality engineer, Mr. Clark, with this great improvement—let us give him a cheer), Calcutta has its water-supply complete: all classes, all castes, use it; and find, indeed, the fabled virtues of the Ganges in the pure water-tap.  
Calcutta.

Draining has been going on, subsoil and surface: the subsoil water-level effectually lowered; and not only this, but a fine current of water runs through the subsoil from the river on one side to drainage out-



lets on the other, carrying with it old sewage out of the subsoil. The main drainage of most of the town is complete, and native owners of houses are already applying for private drainage—a fact of great importance.

Still there remain to be provided for—to make the Sewerage perfect—connections between the main sewers and the houses (and especially in large districts of the poorer population, and in the Bustees—‘temporary’ villages, of mat and thatch and mud).

Many miles of ditches have been filled up, to the great detriment of mosquitoes and great comfort of the inhabitants.

Then, also, the sewage is being applied to agriculture.

And what has been the result of all this sanitary engineering?

From 1866, when the deaths from cholera in Calcutta were little short of 7,000, they have decreased to 800 in 1871, the lowest number of deaths on record. Calcutta in 1871 was more salubrious than Manchester or Liverpool, and may be considered soon a sanitarium compared with Vienna, or even with Berlin, where the city canals are still fouled with sewage.

Still we must not ‘sing before we are out of the wood.’ Much, as Mr. Clark and Sir George Campbell would tell us, remains to be done.

And before the inhabitants of Calcutta can hope to be free from finding themselves any morning in the claws of some epidemic disease, they must have done



a great deal more to the *houses* of the *people*, crowded as they are on small unhealthy space, and to the undrained districts surrounding, and especially below Calcutta.

Caste prejudices have been alleged as insuperable stumbling-blocks in the way to sanitary improvement, but a curious and cheerful instance of caste prejudice being overcome is this: when the water-supply was first introduced into Calcutta, the high-caste Hindoos still desired their water-carriers to bring them the *sacred* water from the *river*; but these functionaries, finding it much easier to take the water from the new taps, just rubbed in a little (vulgar, not sacred) mud, and presented it as Ganges water.

When at last the healthy fraud was discovered, public opinion, founded on experience, had already gone too far to return to dirty water. And the new water-supply was, at public meetings, adjudged to be theologically as well as physically safe.

Besides its water-supply, then, the drainage of Calcutta bids fair to be a wonder of the world, when we remember what has been loudly said, even in this our day, that Calcutta at least was hopeless, because it lies close to the level of the river; and its public health has equally defied the prophets of irremediable evil, and will yet improve still further its powers of defiance, while the active—not prophets of evil, but performers of good—Mr. Clark,\* and the energetic Lieut.-Governor of Bengal, and other such authorities live.

\* Unhappily, since this was written, Mr. Clark has been obliged to come home invalided.



Bombay.

Now for Bombay—Bombay, hitherto the pioneer : Bombay the active, not to say restless, the energetic Bombay. Bombay has for years done everything to drain itself, except doing it : it has had the best engineer, Major H. Tulloch, to look at it, to plan for it ; it has had surveys, plans, reports, paper, and print enough to drain all India—writing and talking enough for a thousand years. The only thing it has *not* done is *to do it*.

In the meantime it has had to thank its able Dr. Hewlett, the most vigorous of health officers—now alas ! no longer at that post—for having, at a quite incredible cost of time and energy, in organising, personally superintending, and being as it were the constantly present head of an immense and most expensive system of hand-labour, saved them from cholera epidemics, and done that for them, single-handed, or rather single-headed, which should have been better and more cheaply done by the civilised hand of engineering and machinery. He has been a sanitarily engineered city in himself—his own Reports are his best witnesses.

As for the water-supply, much the same may be said. The increased water-supply needed by the city is still on paper, some small portion only having been obtained.

And what has Madras done—Madras which had neither—neither water-supply nor drainage ?

Madras.

Madras has obtained a water-supply, and has just improved it, and is applying part of her sewage to agriculture with success. In other respects she



appears to be pretty much as she was, with her filthy Cooum estuary, and her foul, undrained area.

She has recently had the census taken, with the advantage of discovering that Madras is a very unhealthy city.

6. These illustrations would be incomplete if taken only from the large cities. Here, however, are a few experimental results described by the Sanitary Commissioner for Madras in his report on cholera of 1870. Cuddalore town had forty-two deaths from cholera out of a population of 28,421. Cuddalore jail with 301 prisoners escaped. The jail had those two indispensable requisites—good water and perfect cleanliness—which were absent in the town. Madura town contains 39,872 people, of whom 376 died of cholera, which, on arriving there, found bad conservancy, foul privy arrangements, foul subsoil, contaminated water. There are two jails at Madura, one old, the other new. The old jail had bad water and other insanitary conditions, and lost four out of fifty prisoners by cholera. The new jail contained 180 prisoners ; these were the only persons not exposed to sanitary defects, and they all escaped cholera.

Madras  
Presidency.

Rajahmundry town, where the population live under the usual Indian insanitary conditions, lost 147 people from cholera out of a population of 17,498. The district jail, situated within the town, and under similar conditions, lost 16 prisoners out of 89 by cholera. The new central jail, where the sanitary conditions were good, had not a single case of cholera among



845 prisoners, although the disease prevailed 'violently in all the country round.'

Vellore town lost 67 people out of 30,529 from cholera. It has two jails, one old, the other new. The sanitary condition of the old jail was rigidly attended to, and there was no cholera among its 152 prisoners. The new jail had 576 prisoners, but no cholera. It occupies a healthy site, and its sanitary arrangements were good.

More sanitary experiments of this kind could be cited, but here is one of special interest regarding villages :—

Mr. Kearns, a Church Missionary in Southern India, states that on his arrival at Puthian Puttur, in 1853, few villages had suffered more from cholera and fever. The place was wretched and foul, and had bad water. To remedy this state of things, wells were dug and properly protected ; surface drainage was improved, rigid cleanliness enforced, trees planted, and other improvements introduced. Similar improvements were carried out in other villages.

And they escaped cholera.

It is worthy of remark that the facts were brought out, in reply to a statement made by the Madras Government, that this village was exempt from cholera, 'cause unknown.' Mr. Kearns replied to this by showing that he was perfectly well aware of the 'cause.' Quite recently, improvements of a similar kind, including reconstruction of houses, in the foulest and most unwholesome parts of the city of Madras, have been



attended not only by an enormous diminution in the district death-rate, but the people have improved in civilisation as well as in health.

7. But one more word about country districts.

And let us remember that Bengal is the most thickly populated country in the world—a country of villages.

Bengal.  
Country  
Districts and  
Villages.

Till country drainage is introduced, till agriculture is improved, till irrigation and drainage are combined—both better when together, the first dangerous when apart—no great improvement in health, civilisation, or vigour of the people can be expected.

The 'drain' in another sense, the drain upon human life and happiness, of *fever* in India is literally untold. But as far as *can* be told—in 1871, a peculiarly healthy year, about one-and-a-half millions of people died in India from fever, or nearly 12 in every 1,000, or 23 times as many as cholera destroyed.

But this is a mere trifle compared with the ravage fever commits in sapping the strength and vigour of the country, in making the young old, the healthy infirm for life, the industrious helpless invalids, the rich poor, the thriving country a waste.

The deaths must first be multiplied by 50 or 60 to give us the attacks.

Then, a man who has once had a bad attack of malaria has it for life.

And almost all this fever is malarial.

Cholera destroys life, but does no more.



Fever destroys the life of the country; saps the world in which it is.

Look at the Burdwan fever; look at the Dengue fever.

'Dengue' is rarely fatal, but in its districts 'Dengue' is master, and 60 or 70 out of every 100 are 'down' with it!

Irrigation.

Irrigation is essential in many parts of India, but irrigation with stagnant water is almost as injurious to crops as to health. Irrigation should be accompanied by improving the natural drainages of the country, so as to keep the water moving, however slowly.\*

Let me tell a curious history told me by one of the members of the first Bengal Sanitary Commission. In 1857 nine miles of country, with twenty-five villages, were laid waste by fever; death came sometimes in three hours; of 600 in a village only a few in the centre houses lived. All the others died or fled. All the other houses were unroofed and tenantless. In the other villages nothing was left but pariah dogs. The crops were uncut. The dead lay about in the hollows, unburied and unburnt, for there was nobody left to bury them.

Where the people did live they degenerated mentally and physically.

The cause of all this was a screw turned by a coolie, which flooded the low lands from the Ganges canal

\* As the meagrest discussion of the vital question of irrigation would occupy too much time here, it has been placed in an Appendix.



faster than the water could be carried off. The man at the screw (at four rupees a month) ruled the destinies of a large population, not only as to health and life, but as to soul and mind, according as the screw turned to the right or to the left.

This, the cause, was found out—only a few months before my informant gave me the account, through an inquiry made by Sir John Lawrence.

And all the time the people were going on degenerating, except those who were dead.

This melancholy history is given here (merely as an illustration; did time permit, hundreds such might be told), not for our discouragement, but for our encouragement; not because it is so hopeless, but because it is so hopeful. If the screw turned too much brings fever, the screw turned just right brings plenty and health.

Let the people only see how much they can do for themselves in improving their surface drainage, in keeping their water supply free from pollution, in cleansing inside and out.

Let the Government see how much they can do for the people in introducing and stimulating better agriculture; irrigation, combined with drainage works in water-logged districts; for the two must never be separated there.

There is not a country in the world for which so much might be done as for India.

There is not a country in the world for which there is so much hope.

Only let us do it.



Drink.

X 8. Unfortunately there is one disease-cause in the British Army quite beyond the influence of engineering works, for every man is his own disease-cause, and must be his own remedy.

And this is: drink.

The quart of porter and quarter of a pint of spirit per day are still procurable at the canteen, and as much more as the men like (and as will destroy them) at the bazaar—and will always send to the graveyard and invaliding dépôt a large number of men every year, until they are made to understand their own interest, and are furnished with employment.\*X

Caution again.

9. I might have ended here by repeating the caution with which I began: not to stay our hand, because the year 1871 gave a death-rate of only 18 per 1,000; but the experience of 1872, just coming in, justifies, unhappily, but too well, all the caution that can be used.

The disease death-rate of 1872, minus the super-added epidemic death-rate, was as low as that of 1871. But cholera intervened, and raised the death-rate materially in Bengal, though very little in Bombay and Madras.

\* Is there no possibility of checking drunkenness by a system like that of 'equivalents' in the Navy? so that a man might drink his ration of spirits, or have its equivalent in coffee, beer, meat, &c., or in money.

Would it not pay Government to give men 5 per cent. compound interest on the price of drams so foregone, either paying in a lump on discharge, or, better still, giving an additional pension?



This is no reason for discouragement, but the reverse.

It is not a defeat, but an attempt of the enemy to turn our flank.

We know enough of his strength and his arms to turn the check into a victory, if we are only wise.

But is not the following an example of action quite other than wise ?

The report by the 'Sanitary Commissioner with Quarantine. the Government of India' on this same cholera of 1872 tells that people have been trusting much to quarantine for safety, and that quarantine has been fully tried, with results such as the following: 'In a question so intimately connected with the happiness of the human race, it cannot be too widely known that quarantine was tried in the hope of protecting a number of the cantonments of Upper India; that in many of them it signally failed, and that in no single instance is there the smallest reason to believe that it was productive of any good. The direct evils of quarantine are great enough, but . . . by no means the least indirect evil is this, that so long as men believe that they can escape from cholera by such means, they will never be fully alive to the importance of the greatest safeguard, sanitary improvements.'

Forced removals of sick, especially of women, for quarantine purposes, and other restrictions 'set the people against everything that is done under the plea of the public health,' and the sanitary reformer is regarded 'as the greatest destroyer of their domestic comfort and happiness.'



As a consequence, cholera cases were concealed.

The troops also had to bear their share of this mediæval infliction. The evils are described as 'very great.' 'The troops are exposed to form cordons at the very time that exposure, and especially exposure to the night-air, is calculated to prove most mischievous.' Two stations, Meean Meer and Umballa, appear to have suffered from this. Both supplied complete cordons, and both suffered severely from cholera. No better *reductio ad absurdum* of the whole practice could be given than the fact that the fear of spreading cholera interfered with the more decisive moves of troops which were their best chance of safety from cholera.

And then, to crown the whole, there does not appear to have been a single instance in which quarantine could be rigidly enforced.

The Government of the Punjaub has taken the common-sense course of prohibiting quarantine except by special orders; and in the case of organised bands of pilgrims.

Sanitary reformers, like other reformers, have more to fear from their friends than their enemies—

Da chi non mi fido, mi guarderò io,  
Da chi mi fido, mi guardi Iddio.

Conclusion.

But we must stop; only, however, to bear emphatic witness how great are the sanitary deeds already achieved, or in the course of being achieved, by the gallant Anglo-Indian, as formerly we bore emphatic witness against the then existing neglects.



Let but the Government of India continue to sustain the energetic efforts of their officers, and at the same time insist on the municipalities and local authorities prosecuting the good work. This was of importance for the Central Government to do ten years ago, seeing that there was no local self-government at all; it is, if possible, of still more importance now, when there *is* some local self-government; but it wants guidance: which does not mean that the Governor is to *do* municipality himself, even though a very good municipality he would make.

The natives are always ready to be taxed, as far as obtaining, at least, a purer and more plentiful water-supply goes. There is never any 'discontent' about this. What they do not like is paying the tax and receiving no water; and in this they are not so far wrong.

The Lieut.-Governor of Bengal has invited, by proclamation, the payers of some of *his* rates [this as regards roads] to claim the benefits (or their share of them) of what they pay for.\*

Thus it will be rendered not only an easy matter to hold the great Indian Empire by a British force, but benefits untold will be conferred on the vast populations of our fellow subjects of whom we have undertaken the charge.

\* 'Every taxpayer is encouraged and invited to claim that the tax shall be fairly applied to the village roads or water channels in which he is interested. The Government will use every effort to see that such local claims are fairly met, and that every taxpayer derives a fair benefit from the tax which he pays.'—*Proclamation of Bengal Government*, August 1873.







## APPENDIX.

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### HOW TO MAKE IRRIGATION HEALTHY.

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THE cause of irrigation has received a frightful significance from this Bengal famine, irrigation being literally a matter of life and death. Not whether we will have irrigation or not; but how to make it healthy, and how to pay for it, are our questions. Wherever water for irrigation and navigation exists, famine is effectually met.

The paramount necessity of combining drainage with irrigation was never forced upon the attention in Southern India, as it has of late years been in Bengal and the North-West Provinces.

In the great irrigated districts of the Godavery and Kistna in the northern part of Madras, and of the north-west provinces and Punjab, drainage is now being taken in hand on a great scale, as outbreaks of fever have shown the results of its neglect.

In Tanjore, south of Madras, where there are above 1,000,000 acres of irrigated rice, without a weed to be seen, the drainage is said to be of the rudest



description, yet the health of the people good. The population is more than 700 per square mile in the Delta. But the climate is a dry one; not moist like that of Bengal.

In this part of India the thermometer never falls so low in the cold months as it does farther north; and there appears to be some relation between the range of temperature at that time of the year and the prevalence of fever.

The Hooghly drainage investigation was taken up by the able Col. Haig, then chief engineer of the Irrigation Department, under the orders of the Lieut.-Governor, Sir G. Campbell, though there are no irrigation works there, in hopes of contributing towards the clearing up of the fever question, which has of late years assumed such enormous importance, or rather its enormous importance has only now come to be known. The fever seems partly owing to entire want of drainage, partly to foul drinking-water in the dry season.

Much more information than what Col. Haig managed, with all his super-eminent ability and energy, to collect in the course of a six months' enquiry, is said to be needed; and there is at least one point, the relative levels of sub-soil water, about which we as yet know far too little.

Col. Haig's 'Note' embodies certain facts in regard to the rainfall, surface levels, and drainage discharges of the district; but, as he states, he has no pretension to having exhausted the subject.

It is not, however, more enquiry that is most



needed. Enquiry and investigation are the curse of India, as of any country where we do not act up to the light we have: where evils are investigated and re-investigated fifty times over, simply as an excuse for *doing* nothing.

Everybody has known for half a century that, if the water of Bengal were regulated, the superabundance carried off during the monsoon, and plenty of water, fresh from the rivers, carried through every village in the dry season for irrigation, drinking, and carriage, the whole condition of the people would be immeasurably improved. All that is wanted is that the works should be executed; but this is the one thing that will *not* be done.

We shall have the country levelled and surveyed, the works planned and approved, report upon report called for, and commission upon commission appointed: anything that can be done as a reason for *doing nothing*.

1. One question is whether an area of ground, covered to such a depth with water as not to give off malaria from decomposition of dead organic matter, is necessarily unwholesome. This would be very much the condition of an ordinary tank, or of a lake in which the surface of the water is retained permanently at a fixed, or nearly fixed, level.

Shallow  
water un-  
healthy.

In the dry climate of Southern India such masses of water are said to be perfectly healthy; but in the warm, moist climate of Bengal the growth of aquatic plants is so prodigious that unless tanks are periodically cleared of the weeds and mosses, which form



in time a dense mat of vegetation on the surface, the water, it is said, becomes unfit to drink, and gives out deleterious gases.

But, in point of fact, such cases are extremely rare. As a rule the surface of every tank or collection of water falls several feet during the dry months, and exposes a margin of damp soil more or less saturated with organic matter, which is, of course, unhealthy.

Lower Bengal is one mass of tanks, mostly very small, in which every kind of pollution collects all through the dry season; and from these in many places the people drink. All are natural hollows or formed by excavation—not, as in South and Central India, by damming up the outlets of valleys and hollows. But very few are dug out to such a depth as to leave, during the hot months, a sufficient depth of water to prevent decomposition, and fewer still are properly cleansed and protected from defilement by organic impurities.

Even in Bengal it is the poverty, not the will, of the people that consents to drink bad water. Whenever they have the means, they are glad to fence and line their tanks and wells with masonry. A sure sign of a thriving landowner is: masonry tanks and wells on his property. The rich often bring their water from immense distances, in sealed jars, on men's heads; and there is no such popular application of taxation as in improved water-supply.

Sub-soil  
water level.

2. Observations of the level of sub-soil water are doubtless most important.\* It is stated, however,

\* The precise relation between the level of the subsoil-water and



that in tracts in Lower Bengal where the fever has been most deadly the water-level in the dry months

the prevalence and intensity of fever has not yet been traced in Lower Bengal.

Both irrigation and drainage are there new things. The first irrigation work was not begun until 1862, and that by a private company: the Government expended nothing upon works of this class until 1868 or 1869.

The Dancienic Drainage Works, in the Hooghly district, carried out last year, are the first of their kind.

But in N.W. India—i.e. the N.W. Provinces and Punjab—some important facts have been established. In the districts on the upper part of the Ganges Canal, which were, of course, the first and the most copiously irrigated, there has been for many years a terrible increase of fever. By many it was asserted that the fever owed its origin to the canal; that the Mozuffernuggur District, e.g., which is now said to be so unhealthy that it is in general avoided by officials, was formerly one of the healthiest and most popular.

This, however, appears to have been clearly disproved. There is abundant proof of the existence of fever long before the canal was heard of. But this also seems to be certain that, wherever irrigation has been excessive, and stagnant pools and swamps have been formed, by carrying the minor distributary channels (as was formerly frequently done in the hurry of construction or from a faulty system) across the natural drainages, there has been a marked increase in the prevalence and virulence of fever.

Wherever the subsoil levels (which are usually termed the 'spring levels' in the N.W. Provinces and Punjab Reports) have been raised by supersaturation of soil from their original depth of twenty-five to forty feet to *twelve feet or less*, there there has been a terrible increase in the mortality from fever. Though still disputed, this fact is now pretty generally admitted by the best authorities, and in some official 'Resolution' of the N.-W. Provinces Government, it is distinctly laid down as the basis of remedial measures. Sir W. Muir is a hearty friend to irrigation.

How far this 'water-logged' state of the soil in the districts referred to is due to excessive irrigation, and how far to the faulty alignments of distributaries and neglect of drainage above alluded to is not decided.

But misuse of water is often made an excuse for not draining.



is at an unobjectionable depth below the surface, say sixteen feet. But it does not follow from this that, during and immediately after the rains, the sub-soil may not give out fatal malaria.

If the water rises too high during the rainy season, the difficulty in a rice-growing district is how to lower it.

The moment you cut a drain the ryots complain of it as injuring their crops by drawing off the water in which they always keep the rice standing to a depth of three to six inches, if they can get enough.

This is, of course, the consequence of partial work. What is wanted is a general *regulation* of the water, so that everywhere water shall be kept at the level required: some inches over the surface for rice: some feet under the surface, where irrigation is not needed.

Where the laws of drainage have palpably been violated, of course the remedy is plain and will be certain.

And much may be done by selecting new sites for villages on higher ground.

Rice cultivation, which consumes an enormous quantity of water, has greatly increased in the upper part of the Ganges Canal, and no doubt has been one cause of supersaturation. It is said that it has been determined to check this by raising the water rates! In the case of one large town where the fever had been severe, a committee recommended that the rice cultivation, which had crept right up to one town, should be prohibited within a certain distance of all dwellings.

Scientific sanitary irrigation is in its infancy. The danger is lest the abuse, or ignorant use, of irrigation should lead to its undue restriction, and cause the Government to hesitate in carrying out works on the scale required, at least, to secure the food supply of the country. Possibly, Sir G. Campbell, for one, was unduly influenced in this way; but his Government is so imperial that he never had time to think properly of the subject.



3. The ryots always, and justly, prefer *running* to stagnant water. Irrigation with stagnant water is injurious to health and also to vegetation. Irrigation should be accompanied by improving the natural drainages of the country, so as to keep the water moving, however slowly.

Moving water best for crops as for health.

But the difficulty is said to be, how to supply moving water, and make the works *pay* at the same time, for the whole surface of the country. Everywhere, however, water can be supplied for irrigation at a *cost* enormously below its *value*—the average *cost* of water in works on a large scale being about £2 per acre of rice.

Irrigation works are planned generally to supply one cubic foot per second to every 133 acres, which is the same as one cubic yard per acre per hour, or  $\frac{1}{2}$  inch in depth on the surface per day. Two-thirds of a cubic yard per hour for 100 days are given for wheat or other 'dry grain,' and two cubic yards per hour for 120 days for rice, including rain—i.e.  $\frac{1}{8}$  inch per day for dry grains and  $\frac{3}{8}$  for rice.

To this extent, even if every cultivable acre in the country were irrigated, we can change the water; but, as only a certain proportion of the area commanded by the canals is irrigated, and of this all is not receiving water at the same time, we do, in fact, supply a greater depth, and in that degree renew the water lying on the surface.

In the rice districts in Madras the whole area is irrigated: in the wheat country out of the tropics in



the dry-season cultivation a portion only of the area is irrigated.

There is no doubt that the more water that is passed through the rice-fields in a running stream, the better the yield, both because stagnant water is more or less injurious, and because more water means more *silt*, which renews and fertilises the soil, and leaves, together with matter in chemical combination, behind it food for the plant.

It is certain that if the ground were thoroughly and sufficiently intersected by deep drains, and water enough supplied to meet the increased consumption which this would involve, rice cultivation might be a healthy employment. There is rarely fever in a village surrounded by rice swamp as long as the water is moving—'living,' as the natives say; the fever time begins when the water falls and stagnates.

*Expense* is the sole thing that stands in the way of all these improvements. As it is, our irrigation works in N. India are said barely to pay the interest on the outlay. Is this because we persist in debiting the works with the cost of all our blunders? Do we make a canal on a bad plan—twice as costly (say) as need be, and only half as useful—excluding navigation and cheap transit; and then, because it only pays 5 per cent., do we say, 'irrigation won't pay'? If we kept our turnpike road or bridge accounts in the same way, without reckoning consequences, should we not find that road-making and bridge-building was of all things the most fruitless application of



public money, and that it was better finance to build houses and let them as gin-shops?

The management of the works may be so wrong that, as in Orissa, the people refuse to use the water; and this is the case in only one out of the seven vast works which the Government have executed. The actual results are these; the cost of irrigation on these great works has been from £1 to £3. 10s. per acre, including the navigation; and the actual increased value of crop is from £1. 10s. to £2. 10s. in grain only, besides straw.

Is it not only because we are in such a hurry for results that the people seem slow to take water? Irrigation, unless it come from great rivers in flood season, when it renews the soil, requires manure; and manure costs money; and the people have to get a little money or credit before they can use their greatest boon.

Of the value of the canals for transit, the following may give some idea: Up the valley of the Ganges at least a million tons a year are carried at present prices, a small quantity by the rail at  $1\frac{1}{2}d.$ , besides half as much more paid out of taxes, and the main portion at about  $\frac{1}{2}d.$  by the rivers; by the canals this would cost about  $\frac{1}{20}d.$ , or £200 a mile for a million tons, against £6,000 by rail, or £2,000 by river; a perfect steam-boat canal, 40 yards broad, on that line costing about £3,000 a mile.

The irrigation works in the north-west yield an enormous profit in all, about £1. 10s. in *grain* only, on an expenditure of £2. 5s. per acre, or 60 per cent.,



besides the straw and navigation (on the Ganges Canal).

And the area of irrigation is still extending. About 7 per cent. net of this now comes into the treasury. In the Jumna Canals, in the same part of the country, the returns into the treasury are 25 per cent., and in all the Madras districts double and treble that. The question of returns to Government,\* though a point of importance, is of much smaller consequence than that of total benefits to the community. Besides its being a question of life or death, of health or disease, of civilisation, comfort, and cleanliness, or dirt and barbarism and misery, the average total benefits are at least 100 per cent. The Godavery district used to export £60,000 a year; it now exports, by sea only, £800,000 or £900,000 a year, besides the whole population being well fed and well clothed and housed; so that their home consumption is probably doubled. The 560,000 acres irrigated, then, now yield about £1,100,000 a year more in grain, besides straw and navigation, by an expenditure of about £600,000.

The results of the irrigation and navigation works in the Godavery Delta have been so conspicuous that I cannot but give the following short account: In 1843, when the first sketch of them was made by Sir Arthur Cotton, he and Lady Cotton took up their abode in tents and rough sheds on the bank of the

\* Official papers are written as though the Government were simply a trading Company to whom the sole question was: What direct profit can be obtained?



river, or rather on the side of the river-bed ; for only a narrow thread of water was flowing down the middle of that bed, and on each side of that thread was a mile and a half, at least, of hot, deep sand. The want and filth and need of every kind around were a continual, pressing sorrow. The weary faces of the women, toiling through the dry river-bed with their waterpots, creeping out of their huts after the exhausting heat of the day to bring the family supply of water between one and two miles, their naked feet sinking at every step in burning sand, were most distressing ; and the thought how insufficient the supply after all the labour, painful to look back upon even now.

Sir Arthur and Lady Cotton remained in that district some years, till the works were fairly set on foot.

In 1861, they visited the Godavery Delta again, and describe the happiness of that visit. Instead of dry sand, the river-bed was covered full with abundant water ; instead of parched, perishing attempts at cultivation, there were rich crops of many kinds, and trees which seemed to have sprung up as by magic ; instead of filthy, *waterless* villages, there were channels, well filled, flowing everywhere ; and instead of the weary, over-worked women, almost all looked well fed, well washed, and comfortable. One great obstacle to religious civilisation thus removed, the time and strength of mind and body need no longer be solely taken up with the daily drudgery which before absorbed every power. But, in this as in



other cases, the occurrence of Fever has warned us to look to our drainages.

Irrigation to  
be combined  
with  
drainage.

4. No one, now-a-days, would think of proposing irrigation without drainage.

There is no danger in the one provided the other goes with it.

The engineer's problem is to apportion the one to the other, so as to increase production without injuring health.

Degeneration  
due to  
malaria and  
rack-renting.

5. Whether the physical degeneration of the people in and over Bengal is due solely or chiefly to malaria, or to malaria and rack-renting combined, is just the point which a commission might be appointed to investigate. But the drainage and irrigation works should be executed first. About these there is no doubt. This is as well known as St. Paul's. And the investigation may be carried on afterwards.

Under the permanent settlement the share of the produce of the soil left to the cultivator is often too little for health. A process of slow starvation may thus go on, which so enfeebles the great mass of the people, that when any epidemic sets in they are swept off wholesale. Land is let and sublet to a degree unknown anywhere else. The Zemindar will let his land to a Patnidar, the Patnidar to a Durpatnidar, the Durpatnidar again to a Seypatnidar, and he again may farm it out to an Izaridar.

Under such a system what portion of the produce do we suppose falls to the share of the ryot who tills the soil?



Then, population has increased to a degree that has raised the fear lest it may have outstripped the productive powers of the soil.

After at least half a million souls had (in the estimate of the present collector) been swept off by the fever in the Hooghly district, the population was still at the rate of 1,000 to the square mile.

But the productive powers of the soil under irrigation are enormous. *One* crop of rice without any manure at all will produce sufficient to feed a population of 2,000 per square mile.

The poor people are glad to go long distances for work and food, if they know where they are to be found. They go readily as coolies to the West Indies and Mauritius. But if Bengal were properly furnished with roads and canals of irrigation, navigation, and drainage, might not a population half as large again as the present be maintained in health and comfort? Are not the vast tracts of jungle—fertile land, but without population—quite as striking a feature in Bengal as the dense masses of rural population in the cleared parts?

6. If a complete system of drainage were carried out, periodical inspection by specially appointed officers would be essential to prevent the destruction of the smaller channels and consequent outbursts of fever. It is astonishing how evils are unseen by eyes accustomed to them.

Periodical  
inspection  
necessary.

7. Every village should have its pure water supply.

Village  
water supply.



The present state of the supply in Bengal is shocking beyond description. The water drunk by a large portion of India is utterly unfit for men's use, and is often brought from miles distant. Much might be done by the people themselves, under proper supervision, in the way of clearing out and deepening existing tanks. But this should be combined with a fresh water-supply from the great rivers by means of the subsidiary irrigation channels.

Wherever we have irrigation the people have this, and appreciate it highly.

But, if we are to have all these things, there *must* be, we are told, some tax of the nature of a water-rate (as in towns), to be levied on the whole community.

It is impossible to regulate the drainage and water supply of vast tracts, like those in Bengal, except at an expense which cannot be met, it is said, by the mere receipts from *irrigation*, which (with navigation tolls in the canals) have hitherto been our sole source of profit. There is no question about returns, however, *if the water is used*; and, if it is not, it can only be from mismanagement, as in Orissa. Col. Haig remarks upon the 'far stronger feeling of confidence and security which prevails under a Ryotwari settlement' (speaking of the Godavery) 'than under a Zemindari.' When a Cuttack ryot is asked why he does not use the water, which he acknowledges is so profitable, he says, 'What is the use of it, when half the profit goes to the Zemindar and half to the money-lender?' While the water has been generally



refused this year, a considerable extent has been irrigated surreptitiously; and when one of the engineers was reporting about it, a Native Revenue official told him he had had his predecessor turned out, and he would have him turned out too if he reported it. Such is the confusion in these districts. Such the relation between the State and the 'creatures of its own creation,' the Zemindars. Such the difference between the Ryotwari and Zemindari tenures.

8. It is here, however, that the Government hesitate, or rather that they have drawn back.

Lord Mayo's Government was in favour of a compulsory rate in all irrigated districts.

Lord Northbrook and Sir G. Campbell are against it.

But, without it, it is said that irrigation and drainage (if the works are to be constructed by Government) can never be carried out on a scale commensurate with the wants of the country.

Is there much diversity of opinion, however, where the water is *actually given*? But then no compulsion is needed. Are not the people only too glad to get and pay for the water, as fast as they can prepare their fields and get manure? But are we not always in a hurry? and, after shutting our eyes for years to the truth as to the value of irrigation, always trying to force the poor cultivators to take the water the very instant we ourselves are converted to a sense of its value, and charging them for all the blunders we have made in supplying it?

Nay: do we not even go further and make laws



enabling Government to charge for the water, even if it is not supplied: if we only intended or promised to supply it?

Was not Lord Mayo's proposed law of this character?

Had he lived, he would have modified it, so as to charge for water only where actually given. But really no *law* is needed. If we only make the works, bring the water, and sell it at reasonable rates, the people are only too glad to buy it for their fields.

Was not Lord Mayo misled, for the time, by a policy—better at drawing up symmetrical laws which looked well on paper, than in carrying the people with it to *do* what was needed?

The Duke of Argyll's final decision against such a rate is said to have stopped two or three immense irrigation schemes (one for five millions of acres in Oudh) in the very part of the country which is either now threatened with famine; or, not threatened—the famine is upon us.

But was it so much the 'Duke of Argyll's final decision,' as the mistakes of Lord Mayo's unfinished policy which stopped the irrigation schemes?

Did not Lord Mayo fall, for the time, into the hands of the Fisherman's wife, who never would make the best of what the Enchanted Fish gave her, but always wanted something better? She, after somewhat violently opposing Canalisation for years, went far beyond its demands, and would do nothing till an Act was passed to enable her to tax every Ryot in India for water, as soon as she



had good intentions of irrigating his fields. And when she was told she must tax only after she had given the water, she sulked, and would not amend her Act.

So with Loans: there was no end of writing and planning, but it never got beyond paper.

They never borrowed the money, because they were always following some new butterfly of Finance.

And so they never had it to spend.

Nothing can be more just than a partial compulsory water-rate in the irrigated tracts, because, whether the people irrigate or not, they have the enormous benefits of navigation, drainage, drinking-water, forage, &c. Under the Orissa Works, at £3. 10s. per irrigable acre in cost of works,  $2\frac{3}{4}$  rupees an acre would pay 8 per cent., leaving the transit free, and the increase of produce 15 rupees an acre at least.

The water-rate paid in Godavery on about 500,000 acres, at 4 rupees, is £200,000; but the increase of Revenue has been above £300,000.

If no water-rate at all were levied, it would be impossible to prevent the works paying, from the increased revenue due to the increased wealth of the people. As a native gentleman wisely said, the Government of a rich population can never be poor.

But at this moment, including all mistakes in projection from want of experience, and the temporary failure from refusal of water in Orissa, all the new works would show a direct net return of some 20 per cent. into the treasury, and at least 100 per cent. in all.



If the Canal is completed up the valley of the Ganges it will carry two million tons a year at  $\frac{1}{10}d.$  per mile, and at all speeds, from that of the Railway downwards, against 200,000 tons carried by the Railway at  $1\frac{1}{2}d.$  a mile, though supported by half a million a year paid out of the treasury as interest of its debt.

But Railways are wanted as well as Canals. And as matters now stand, must they not be made before Canals? Must we not do what comes to our hand to promote communication, without limiting ourselves to what is abstractedly best? It has been truly said that, while 'we want waggons to carry hay, we provide phaetons.' But, if we want to get across country, do we not take what the country affords—jaunting car or broken-down gig? People here will give their money and labour to make Railways and not to make Canals. Shall India wait till they get wiser, or let internal improvement, which depends so much on easy intercommunication, stand still till she has made them wiser?

If all the Canals which the great artist has devised, and which he could give men to execute, were made, the works would then convert the world.

Meantime, we should get all the Railroads and common roads made which we could find money or men for; certain that, if not the best and cheapest, they are the next best, next cheapest appliances we can give the country.

Is it not the fact: that we want both Railway and Canal?

And must not the Canal, which will supersede Rail-



ways, be very different from any Canal we have yet seen?

But we may believe in its coming—that is, a Canal workable by steam as well as by animal power ;—and able to carry at 10 miles an hour.

That we shall see this in India before it appears in Europe is likely.

But will anything save example convert the world?

Meantime, even if we give India only Railways, the people will neither starve nor stagnate.

9. *There is no great new irrigation work in India that is not paying ample direct net profits*, excepting that of Orissa; and that not at all on account of any real failure in the project, but only from the non-use of the water, which will of course be got over before long, and there is not the least probability of its occurring anywhere else.

Indeed, the so-called failure of the Orissa works is mainly due to the tardy and incomplete execution of the original scheme. Government no sooner saw that the works *must* be a financial success than they bought them—and then starved them—waiting for more plans, estimates, and paper, before the money to complete them was given. We saw the ‘Hay-waggon,’ in fact, and were charmed with it, and bought it as it stood, half-finished ; and have since been doubting whether we can afford to complete the wheels, and whether the tyres should be broad or narrow.

10. The question will now be *forced* on public



attention. It is no longer a question. The famine looms large and terrible upon us, as an awful fact.

What has  
been done in  
irrigation.

It must not, however, be supposed that little is being done in the way of irrigation.

In Bengal alone we have been spending, for some years past, half a million annually; and that is only one province.

There is said to be a practical limit to the rate at which such extensive works can be carried on—viz. available labour supply. If this is pressed upon unduly, wages rise (Oh, would they should!), and with them the price of all materials of construction. In Southern Behar and Orissa we are said to have quite reached this limit, for there has been a considerable increase in rates since the works were begun. But is not one of the most important effects of these works that they help to release the labouring population from their bondage to the high castes and wealthy, and in all ways improve their condition and raise wages? \* Every district could easily provide labourers for an expenditure of £100,000 a year, requiring about 20,000 people; and £30,000,000 could easily be spent in three or four years.

There is said to have been much, too, in our recent

\* The works in the Godavery essentially altered the condition of the whole body of labourers almost immediately. The employers found that their most energetic men would leave them for the works, if not better treated. And thus the employment of 30,000 people at good wages, with thoroughly good treatment, affected the welfare of a million. The state of the agricultural labourer was low enough in England; it may be supposed what it is under Indian landowners of *high caste*.



experience of irrigation in Bengal—chiefly the unwillingness of the people to take our canal water, except when driven to it by the failure of the rains—to cause the Government to pause before beginning new schemes, without some such guarantee for the repayment of the interest on the outlay as a compulsory rate would afford. The works are all carried out with loan funds, and the interest must be met from some source. But, as above said, our expenditure has been, and continues to be, £500,000 per annum.

As far as has been seen in India, however, 'the unwillingness of the people to take canal water' really means 'our own bad management' in some way or another.

One can hardly conceive now but that, even had famine been averted, the great drought would not have given a vigorous impulse to this most important class of land improvements.

But famine *has* come.

In Lower Bengal the field for *drainage* is boundless.

There, however, the one question which stops the way is whether Government will make the Zemindars, who are the possessors of the soil, pay for the works or not. Here there is great hesitation. *Are* the Zemindars so selfish and worthless a class as to exercise their considerable influence over the Government in this way? And *would* they resist, as is said, with all their might?

Who is to pay?

The drainage, however, of about eighty square miles of swamps on the banks of the Hooghly is now

Drainage experiment on the Hooghly.



being carried out at the expense of the landowners, under a special Act ; and Government would probably have awaited the result of this experiment before extending the Act to greater schemes.

But if the famine interrupts everything it must also urge forward everything.

May it not also force the authorities to look in the face the terrible evils of the whole Zemindarry system? Is not the case something similar to that of the old Bengal army; and, if it is still ignored, may not a similar terrible convulsion ensue?

The subject is so vast that it is impossible to do more than just touch upon the principal points here.

## II.

Crops  
improved.

1. Irrigation and drainage improve the crop, and give crop when and where there would be none. Consequently—

Who is to  
profit?

2. These combined works improve the entire value of the land: and the question is, Who is to reap the increase?

The  
Zemindar?

3. This must be either the Zemindar and his subordinates, who have spent nothing, or the Government which finds the money, or the ryot who cultivates. In England we should force the Zemindar to bear his part by a Poor Law to compel him to feed the suffering people, in the hope that he would find it cheaper to irrigate and drain than to feed.



Or we should pass a law calling on all proprietors to improve the drainage, irrigation, and roads over their property, on pain of being taxed for the support of their people every time that famine comes—something as we did in Ireland, where we charged for famine and where the landlords had to pay over and above what other landlords had to pay, because the people were dying. *Should not the fixed land-tax rest only on the basis that the people can live and not die?*

This was, in fact, Lord Cornwallis' principle. People blame his 'Permanent Settlement,' but they forget that the best half of his plan was never carried out by his successors. He clearly intended to make the Zemindars maintain a police, make roads, and do all other things that a landowner should do. But when he died his successors went to sleep.

4. Drainage and irrigation will improve the stamina of the entire working population; but of this improvement the Zemindar, if untaxed for the work, will reap the whole profit.

'The husbandman that labourereth must be first partaker of the fruits.'

In Godavery there is no comparison between the present condition of the people and that before the works. But the extraordinary effect these works have had in the improvement of the people's bodily strength and spirit is one that is not generally observed. In Godavery the difference between a people under-fed and working utterly without hope, and the same people as they now are, is most striking. There is, perhaps, nearly three times the amount of work done by the same population, now that they are well



fed and more sure of fair treatment than they were before. When we began the works, we used to find in cutting the canals, that large gangs would average one cubic yard per day; and this rapidly increased to three under exactly the same circumstances. Well-to-do, the people have now no look of poverty.

Value in-  
creased.

5. Hence sanitary work, such as this, creates a great surplus value over and above the present value; and, when we consider the millions of acres to be improved, the addition will be very great.

Conjoint  
liability.

6. Would not the best course be in India to take a lesson from the present distress, so as to plan for the future some conjoint liability for the drainage and irrigation works?

The Hooghly scheme will afford valuable indications on this point, because the increase can be used as a standard.

But the difficulties in the way are said to be enormous, arising from the extremely complicated state of property and innumerable interests in the land in permanently settled Bengal, and from the engagements made with the landholders under existing settlements elsewhere. Some idea of what these are in temporarily settled districts may be gathered from the Orissa irrigation scheme: they are far greater in the permanently settled.

Also, is it right that the revenue for the whole of India should bear the cost of improving the revenue of the Bengal Zemindars?

Would they wish it themselves?



We cannot believe this of a noble body of Indian gentlemen.

Should not the local revenue be augmented to pay for this?

Also, if money is borrowed, it must be repaid with interest, although it is applied to the improvement of private estates.

Clearly, in some way or other, justice requires that men who own these lands, on which so many thousands die from preventable fevers—and now and then from a famine, which counts its deaths by hundreds of thousands—should either pay, or the Government should remove the people (one of our alternatives), in which case the value of land will cease to exist.

7. Should not the landowner be made liable by law to pay for all that is really *done* to improve the land or to save the lives of the people on it? Is not the real practical solution of the financial problem a scheme like that applied to Lancashire after the cotton famine—a fund administered by trustees who lend from it, on security of local revenues, for works of permanent value to the reproductive powers of the locality, the advances to be repaid by instalments from local revenue at such rates as shall extinguish the debt in a reasonable term of years?

Practical  
solutions.

Or should not the Government do as they did in Ireland—advance money to the landlords, and send to the Encumbered Estates Courts all who could not repay them?



Such plans have been often laid before the Government of India; and, no doubt, *some time* will be adopted.

One effect of the famine may be predicted, and that is, that it will lead to a revolution in the Zemindarry system in Bengal; which, in its effects on the mass of the population, can be compared to one thing only, namely, the slavery system as it was in the United States.

Pecuniary  
loss in  
labourers'  
deaths ex-  
ceeds cost of  
works.

8. The wealth of an agricultural country is the result of labour; and, in a properly governed country, labour ought always to be producing wealth.

Every efficient labourer is a wealth-producing agent; and every efficient labourer, lost by death, is a pecuniary loss to the country.

These are truisms.

The people pay  $2\frac{1}{2}$  rupees per head in taxes—the interest of 50 rupees, sufficient to irrigate 2 acres, which would support 5 people: and in actual famine 10 rupees would certainly provide food per head through the famine.

Scarcity and famine act in two ways; they reduce the wealth-producing power of survivors, and destroy the wealth-producing power of those who die.

When labourers die by thousands on account of famine and epidemics, because the ground on which they existed was left without irrigation and drainage, it may be affirmed with certainty that the pecuniary loss to the country exceeds what would have been the cost of works.



May not this be safely assumed as a law of the universe from which there is no escape? We may cry back on account of the cost of doing what Nature says must be done: but this will not prevent her from presenting her bill at the due time; and when presented it must be honoured, whether we will or no.

A large part of India is occupied on these conditions, and an awful bill it is.

9. But the people are not the only sufferers. Our Army. noble Indian army, although it may be saved from famine, is doomed to the inheritance of epidemics which always begin among the people.

We know all this now. The sanitary history of the British army in India begins with the sanitary history of the Indian people.

### III. *A few Facts about Canals.*

Colonel Rundall, the Inspector-General of Irriga- Irrigation. tion, projected, and for the most part worked out, the plans and estimates for the following schemes:—

The Sone scheme, for the irrigation of the Sone. Shahabad, Patna, and part of the Gya districts south of the Ganges, included in the great tract now in danger of being laid waste with this dread famine. This work is in hand.

The canal, from Monghyr to Mirzapore, will be 180' wide at bottom, with a depth of 8 feet, and a length of about 180 miles, of which 30 miles have been excavated to one-half of the full section. This



canal will be used not only for irrigation, but for connecting the Lower Ganges with the Great Ganges Canal. Its great size renders it well adapted as a relief work, as large numbers can be massed upon it, which has already been done; and the railway, at no great distance, will enable food for the labourers to be supplied at different points along the line.

There are other smaller canals (40 to 50 miles in length each) forming parts of the same scheme.

The execution of some of these, it is understood, has been ordered.

The Sone works irrigate South Behar, south of the Ganges. Their value, as part of the grand line of communication up the valley of the Ganges, will be even greater than for irrigation. From Allahabad to Monghyr is 300 miles, and on this part two million tons would be carried per annum; saving, even compared with the river, about  $\frac{1}{2}d.$  a ton a mile, or £4,000 a mile—£1,200,000 a year in all. This is besides many hundred miles of branch canals. If the works cost four millions this alone would be 30 per cent.

Gunduck.

There are two proposed canals on the Gunduck, a tributary of the Ganges on the north, to supply the Chumparun and Tirhoot districts on the one side, and Sarun on the other—through the middle of one district of the famine-stricken country.

A fight was certainly made to start one, at least, of these at once.

Damoodah.

The Damoodah Canal project was brought forward in Lord Mayo's time, and a beginning made; but



Government afterwards stopped the works, on the ground, it is said, that as coal had been found at Midnapoor, it *might* not be necessary to carry the coal from Raneegunj. Shortly after, on the convict in charge of the boring at Midnapoor being relieved, his successor asked whether any more coal had been found, and was told by the native in charge that they had not put any into the bore lately. But on this discovery Government did not re-order the Damoodah Canal.

Under this pressure of famine, however, it is likely to be resumed, with two or three other stopped works. Two modifications of it, though poor substitutes indeed, were wisely suggested, in hopes of getting some irrigation started, and of them the little canal from the Damoodah in the Hooghly district has been ordered to be carried out. But the works had not been begun; and we may still rejoice to hear that Colonel Rundall's original scheme has now been accepted by Government in its integrity.

There is the great canal, which it is proposed to construct from the Ganges at Rajmahal, and to bring down beside the Bhagiruttee (the name given to the upper part of the Hooghly) to tide water near Calcutta.

Moorshedabad.

This would irrigate Moorshedabad, now so cruelly suffering, and Nuddea, and enable boats and steamers to avoid the difficulties of the navigation of the Bhagiruttee, and the circuitous route through the Sunderbuns.

It would be a magnificent work: was originally proposed by Sir A. Cotton, the most perfect master



of the question living (by others, indeed, it is said, before him), and the plans worked out under Colonel Rundall's orders.

2½ millions  
acres.

The first three schemes, above mentioned, would afford irrigation for at least 2,500,000 acres. If they had now been in operation, the saving of crops, irrespective of the increased yield due to irrigation, would have been half a ton per acre. So that 1,250,000 tons of food would have been *secured*, which has now been lost—enough effectually to have prevented famine, and perhaps even scarcity.

In North Behar and Oudh, the great works projected have all been stopped.

Is there one of the many works thus stopped that would not have entirely prevented the famine in its tract?

The Rajmahal Canal has been thoroughly projected, and might be begun at once. It will form 200 miles of the main Ganges Valley Canal, and can be connected with the Sone Canals by a link of about 70 miles. This, with the Sirhind Canal from the Sutlej to the Jumna, the Ganges Canal to Cawnpoor, another lower Ganges Canal to Allahabad, will form 1,200 miles of perfect steamboat navigation, the finest navigation in the world, and will save at least £4,000 a mile, £5,000,000 a year, as compared with *river* transit. On the railway alone there is actually paid £1,600,000 for the carriage of goods only, at 1½*d.* a ton; on the canal this would cost, at 10*d.*; £100,000, saving £1,500,000.



Such are the sums India is losing for want of cheap transit.

But if a complete system of canals were cut on all the main lines, every part of India would pour food into any distressed tract in any quantities, and at a nominal cost of carriage.

A return showing the extent of irrigation in Madras Presidency, gives 4,800,000 acres, and the real area is above this. This is at the rate of 250,000 acres per district. About 40,000,000 of acres more, besides the works in progress, would give every district in India 250,000 acres, and cost about £100,000,000, producing an additional value of grain of about £200,000,000 a year, besides the transit; the whole benefit being certainly eight or ten times the whole amount of taxation, £40,000,000. That is, it is in our power in this way to do eight or ten times more for enriching India than the abolition of all the taxes.

The total paid into the treasury in Madras for water is about £3,000,000 a year.

The Sone works are now watering more than 130,000 acres—the first year, the water-rate of which would be, at 3R., £40,000—on a present expenditure of about £500,000, including all the fundamental works; and the value of crop is estimated at £450,000.

Such is the real case of irrigation.

Do not many write as if all irrigation had been a loss to the Government, and the one difficulty how to obtain it without overwhelming burthens on the



country? The Godavery works alone, in their present unfinished state, pay the interest of £5,000,000.

Is there anything to prevent the Government ordering at once the irrigation of from 250,000 to 500,000 acres in every district in India, including a complete network of steamboat canals of 20,000 or 30,000 miles, embracing all India, and to be completed in five years, with an absolute certainty of two or three times the present interest of money in direct returns? The Sone works are calculated to irrigate about 2,000,000 acres, paying £500,000 water-rate alone, or 12 per cent. on £4,000,000.

The water-rate paid in Godavery is 4rs. per acre of *rice*; on the Ganges Canal  $2\frac{1}{2}$ rs. an acre of *wheat*. Some of the old irrigation in Madras used to pay 20rs. an acre; some now pay, it is said, 12rs., and much pays 8rs.

Two millions a year are now actually paid for goods transit between Calcutta and the confluence of the Ganges and Brahmapootra, a distance of 130 miles, £15,000 a mile per annum; while £3,000 a mile would make a perfect steamboat canal, carrying at  $\frac{1}{4}$ r. a ton for the whole distance, or £50,000 for the present 2,000,000 tons, producing a saving on the *present traffic* of 500 per cent.; this is besides about 1,000,000 tons that would be carried along the first 100 miles of the canal for the Upper Ganges. And at this charge the present traffic would be soon doubled.

On this little line of 130 miles, a saving would be effected of at least £3,000,000 a year, including the new traffic.



N.B.—Seven-eighths of the traffic still go by a very bad navigation of 470 miles, three times the distance by rail, and taking six weeks on an average.

Is not the Government of India too much like a dispensary, which does all that man can do to cure when too late to do anything to prevent?

Dispensary  
Government.

#### IV.

These facts speak loud: I have no need to add my poor words. He who runs may read.

Are we to pay  
out of current  
revenue?

What is the answer given by modern 'financial policy' or impolicy? That we must only do what we can pay for out of current revenue, or at least what will pay for itself at once.

[Instead of interest enough not being taken in India, too much, it would seem, is taken—an ignorant, unsound interest. So much the worse for India.]

It seems like going back 500 years: to the times when our beds were our banks, and we took out of our old stocking, hid in the mattress or in a hole in the floor, enough for a miserable sustenance day by day, careless of whether we starved or died 100 days hence.

Christ himself tells us not to bury our talent in a napkin, but to put it out to interest.

'Sound Indian finance' appears to be what Plato calls 'wanting to have money safely kept and not used,' or 'justice useful' and 'money useless.'

Is it not as though we said: It is 'unsound financial policy' to live unless you have money in your stock-

Or by loan?



ing; to borrow in order to build, or to trade, or to farm; you must not make railways except you can pay for them out of your income, nor telegraphs, nor any means of communication by steam or water?

Is not this reversing the whole principle which has given England her unparalleled success in trade and manufacture—her greatness, as a nation, over the whole globe?

Unless you have money in your stocking to do it, we say in India, don't do it; you must not utilise the money in your neighbour's stocking. You can't eat roads, or railways, or canal-banks this year, though they may bring you a hundred-fold produce in twenty years. Be not fools who spend their money, unless, having £100 in your mattress, you can see £110 for every £100 in your mattress before Christmas. Eat what you can grow in your garden; you can keep your own money safer than anybody else can use it for you.

Is it 'extravagance' to provide for ten years hence, or even, as this famine has but too fatally proved, for one short year hence, what we are to eat then?—or die of starvation—unless we can provide with the money now in hand?

Is it 'sound finance' to let a man starve a year hence, and live this year by eating up all he has?

Is it cheap to let him die, too dear to make him live, if you have to provide for his next year's food on borrowed capital, even if that capital returns cent. per cent. in future years; and even if—*not* borrowing it—you spend next year millions where you would



only have had to spend thousands this year, besides the small item of a few hundreds of thousands of acres of depopulated country?

Is it cheaper to let a man 'get dead' than to feed him or house him, on borrowed capital?

Then comes the drought; and costs us tens of millions instead of millions, to say nothing of a million or two of people who 'get dead.'

To thrust these poor remarks upon those who know it all so much better than I, and can put it so much more forcibly, seems needless.\* This appalling

\* It will, perhaps, be said that the loan system has been now adopted, and public works are no longer carried on out of current revenue only;

That the Government is no longer in the position of the old woman with the stocking;

That the principle has long since been admitted that the cost of such works should not be borne by the existing generation, which has only a life interest in them, but in the shape of interest upon public loans by succeeding generations, which will equally benefit by them.

But this is not true. Loans have been *talked of*, but not raised, nor sanctioned till Famine came; and now the money may be spent—not in preventing Famine, but in feeding and keeping alive some of its victims.

It will perhaps be said that for years the whole expenditure on irrigation and State railways has been defrayed from special loan funds.

But this is not so.

That the Government is open to blame for not having conceded the first sooner, and also for not having pushed forward such works fast enough, though the immense establishments which it has been necessary to organise could only have been got up by degrees.

But this is hardly true.

Why did they stop private companies from doing the work?

There has been fatal hesitation for the last three or four years,



famine speaks louder than any man can do—or woman either.

not so much in carrying on the schemes actually in hand—for some of these have been prosecuted and funds supplied as fast as the engineers could submit estimates and designs—as in starting new schemes. And this has chiefly arisen from the presumed discovery that the promises held out by the advocates of irrigation of high direct returns are illusory (made so indeed by our own mistakes), and that, with the notable exception of some great works in Madras specially conditioned, such schemes do not, and for many years to come will not, pay the current interest on the loan capital invested. This is what is said.

But then why did they abolish the Income Tax?

There is no doubt that such works do vastly enrich the land and add to the general wealth of the community, and it may safely be concluded that, directly or indirectly, they must eventually pay—even in spite of our own mistakes.

In permanently settled Bengal, the Government, in laying out money upon irrigation, is always said to be in the position of a man who, having given his property in lease *for ever* at a mere quit-rent, proceeds to lay out vast sums upon it. The tenant reaps the whole profit.

From whence, then, are returns to come? Increased wealth will lead to increased consumption, but of what? Opium or spirits? God forbid. Let us hope that these two sources of income are to decrease, not increase. Salt? The 'Poor Man's Income Tax?' God forbid again, we say.

What, then, are we to look to?

Should not the Government do as they did in Ireland—advancing money to the Landlords?

Or as was done in Lancashire after the Cotton Famine?

But when Lord Mayo's tax was negatived, as above recounted, both he and the members of his Government, who had up to that time been staunch irrigators, drew back, and refused to advocate any new schemes without such a guarantee.

And so matters have stood.

Has not the old woman been to blame, although she had begun a little to mend her ways before the day of retribution came, too late to avert the sad fruits of former error?



But one must live in order to be a subject for sanitary considerations at all; and one must eat to live. If one is killed off by famine, one certainly need not fear fever or cholera.

### CONCLUSION.

This great essential work of the regulation of the water of India is perhaps at this moment the most important question in the world; or rather not question—action.

Nothing can compare with it for the material progress of the people, and their moral progress is greatly dependent upon it: for, till the people are in a measure relieved from their bondage to poverty and want, they cannot attend to other things.

Another very important point, and intimately connected with irrigation in all ways, has to be taken up: and that is, the subject of manufacturing in India.

There are at this moment at least 100,000 horse water power available and made no use of in the great irrigation canals. The canals will convey the goods to and from manufactories, and the irrigation will set free millions from agricultural labour for such work.

With cheap labour, cheap power, cheap carriage, and cheap food, India will have the very highest advantages for manufacture, for civilisation, and also for life, and all that makes life worth having to those whom God has created higher than the brutes, and only a little 'lower than the angels.'



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Mr. 26

# EUROPEAN CHILD-LIFE

IN

## BENGAL

BY

J. FAYRER, C.S.I., M.D., F.R.C.P.

BENGAL MEDICAL SERVICE.

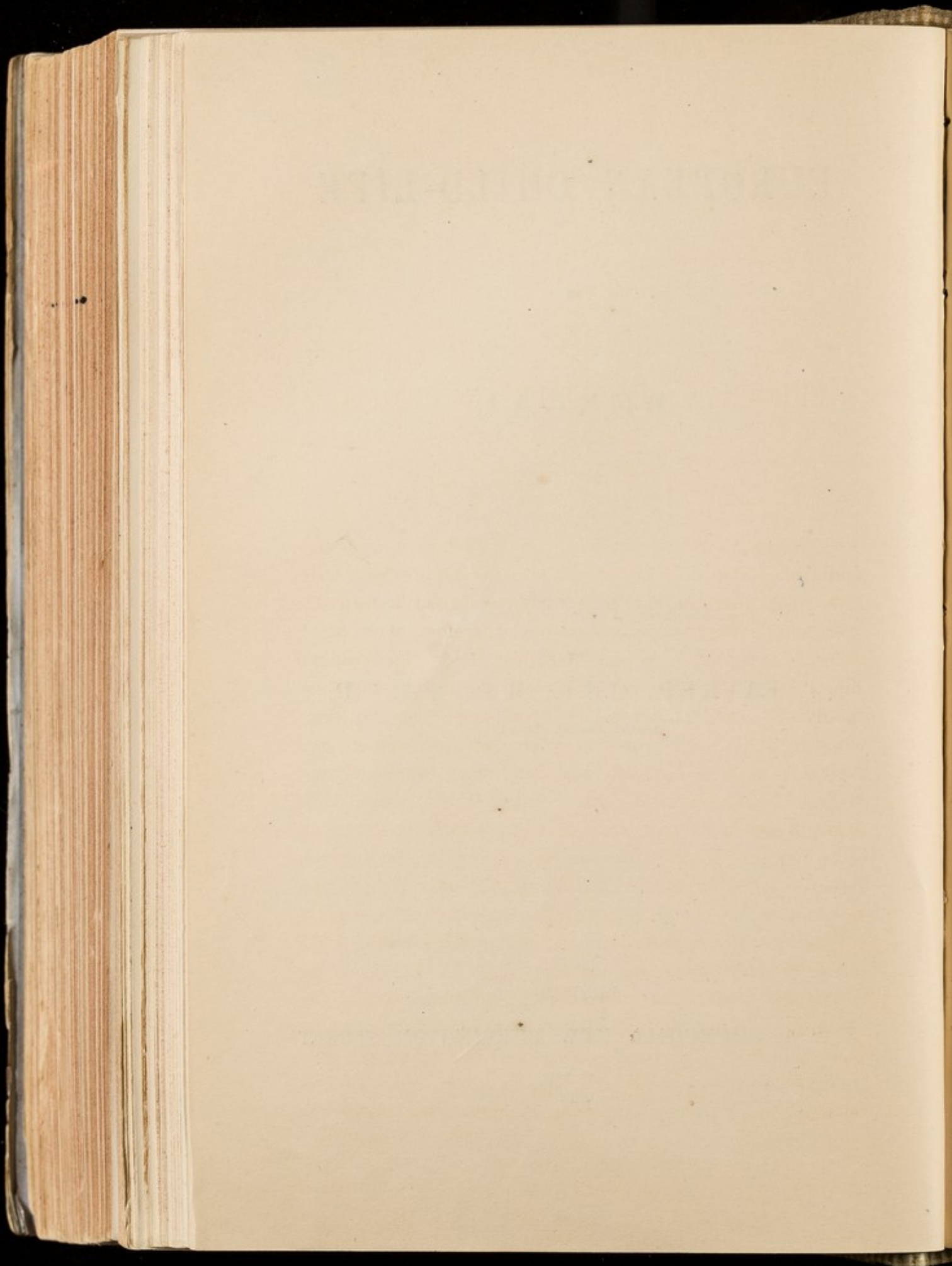
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1873







No. 26

## EUROPEAN CHILD-LIFE IN BENGAL.

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THE subject of infant European life and health in British India must always be one of considerable interest, especially now when that country is becoming so great a field for European enterprise; and it is one, therefore, upon which accurate information is most desirable. For where can we find a city, town, village or community—I might almost say family—in England in which some one does not look towards India with interest, or expect with anxiety the arrival of each weekly mail that may bring tidings of relatives or friends in the far East? And this interest is daily enlarging among all classes, not so much from the extension of our empire in the East, as on account of the impulse recently given to various industries and arts, and to the development of the almost boundless resources of that great peninsula, which is calling for and giving employment to all classes of our countrymen.

The European infant population is no doubt rapidly increasing in India, and all that concerns its life and health must therefore be of great social as well as sanitary interest. As the missionary, the schoolmaster, the railway, the telegraph, and the printing-press exercise their inevitable



influence on civilization and on the development of the intellectual no less than the physical resources of the more remote as well as of the more central parts of the empire, so is an ever-increasing tide of Europeans, by whose aid these ends are attained, attracted thereby; for although native agency and labour are, and always must be, mainly relied on, it is found that European supervision and skill are indispensable, and that their supply increases in proportion to the demand.

Matters have changed in respect of the condition of the Anglo-Saxon in India during the last quarter or half a century; or to date from an earlier period, one might say since the days when Europeans not in the covenanted service of the Honourable East India Company were looked upon and styled interlopers and adventurers, and were permitted to remain in the country only on sufferance, being at any time liable to expulsion.

The position of the European resident in India of those days was very different from that of his countryman now. In some respects, perhaps, he had greater, though in many he had certainly less, advantages than his successors. If he had the opportunity of gaining greater wealth, more power, prestige, and of leading a more luxurious life, his voyage to India was seldom accomplished by the long and tedious sea route round the Cape in less, often in more, than from four to six months. If on his arrival in the country he found himself placed, even in youth, in an office of considerable responsibility, dignity, or much emolument; and if his life were one of Oriental luxury (a condition, by the way, which is grievously over-rated), yet he was cut off from his family and friends, and his communications with them were so few and at such long intervals that he gradually became isolated from home and its influences as much in mind as in person; and it is no exaggeration to say that this expatria-



tion was not more conducive to his moral than to his physical welfare.

All this is altered now. He reaches India from England in three weeks; he goes, if he will, from Calcutta to Simla in as many days; or, if he can afford it and feel so inclined, he may take leave, and, having spent half of the time in China or England, can be back in India by the expiry of three months—in less time than it formerly took him to go from England to Calcutta. The moral and social atmosphere in which he lives has changed, as might be expected: he lives more under the influence of home interests and impressions, and in all respects his life is different from that of the Anglo-Indian of former days. He has weekly communication with home by letters, daily by telegraph; he has all the new books, periodicals, reviews, journals but little later than they are to be found in the reading rooms of remote parts of the United Kingdom. He has all that is new in art, science, and literature—the railway, the telegraph, the penny (anna) post, gas, ice, theatres, museums, social and scientific societies, opera, clubs, circulating libraries—all that he could have in England; not quite so good, perhaps, as in London, but still sufficient to make life in India as tolerable as heat, malaria, damp, mosquitoes, and the dread of cholera will permit.

It is seldom much good occurs without bringing in its train some evil; nor have we any exception here. The European class in India is no longer confined to the covenanted *employés* of former years. The so-called “adventurer” class has increased: and by this I do not mean the merchant, the planter, the tradesman; these, like their covenanted and uncovenanted service brethren, are well enough as a general rule provided for, and well-to-do—free from the “*res angusta domi*.” I allude rather to the artisans, who are now numerous enough in India, on the railways, in factories, and



engaged in many subordinate offices formerly held by natives, and on whom and their families the necessities of life press hard enough in such a climate, and who have, in addition to the disadvantages natural to it, all the anxieties inseparable from the care of a family to contend with.

Among other improvements resulting from the spread of knowledge and the advance of science, those of a sanitary nature have not been of the least importance, for they are diminishing the death-rate and raising the standard of European health in India. I do not intend to refer to figures and statistics further than by a brief reference to the last report of the Sanitary Commission: those who care to study this question may do so by referring to the sanitary reports published by the Indian Government. Sufficent for the present to say that some improvement has taken place, and that European life is becoming more valuable than it used to be. I speak chiefly from the experience of military life—that is, of the British soldier—for so far as I know the only reliable health statistics are those relating to the sanitary condition of the army; but the principle applies to all, and among others, to the children.

Dr. Cunningham says, "It may be observed that the experience of the year 1871 has, on the whole, been favourable. In the case of Bengal this remark is peculiarly apt, for here in no year of which there is any accurate record has the mortality been so low. The death-rates in this Presidency for each year since 1858 are shown in the annexed statement, and the ratios for Madras and Bombay have also been included, so far as I have been able to obtain the required information.



*Statement showing the Mortality per 1000 of Average Strength among European Troops in the Three Presidencies during 1871, compared with that of each year since 1858.*

Years.	BENGAL. *				MADRAS. †				BOMBAY. ‡			
	Cholera.	All other causes.		Total.	Cholera.	All other causes.		Total.	Cholera.	All other causes.		Total.
		In hospital.	Out of hospital.			In hospital.	Out of hospital.			In hospital.	Out of hospital.	
1858	9·16	91·39	10·52	111·07	§	..	..	..	§	..	..	..
1859	8·67	35·30	1·38	45·35	..	..	..	..	..	..	..	..
1860	12·04	24·14	·59	36·77	..	19·1	2·04	21·14	..	..	..	31·70
1861	23·73	21·06	1·14	45·93	..	14·5	1·8	16·3	..	..	..	24·72
1862	9·61	17·44	1·06	28·11	..	17·09	1·7	18·16	..	..	..	24·60
1863	4·09	18·85	1·18	24·12	..	16·5	3·01	19·51	..	..	..	16·14
1864	2·55	17·39	1·16	21·10	..	16·5	3·6	20·1	..	14·4	1·5	15·9
1865	3·12	20·40	·72	24·24	..	19·5	2·9	22·4	16·0	17·8	1·3	35·1
1866	1·37	17·34	1·40	20·11	2·3	17·9	1·5	21·7	0·6	10·7	1·4	12·7
1867	13·84	16·16	·95	30·95	0·36	15·34	2·3	18·0	5·0	12·4	1·9	19·3
1868	1·81	16·94	1·36	20·11	0·5	15·8	3·0	19·3	0·8	12·1	1·0	13·9
1869	16·46	24·98	1·45	42·89	2·2	18·8	2·3	23·3	5·2	13·7	2·5	21·4
1870	·63	19·74	1·53	21·90	3·5	13·4	2·3	19·2	0·1	15·3	1·3	16·7
1871	·71	16·07	1·05	17·83	3·32	15·40	1·38	20·10	·09	13·10	·83	14·02

“The death rate for Bengal in the past year—17·83 per 1000—although lower than it has ever been previously, is still above the ratio which has been attained in the other Presidencies, and specially in Bombay. The marked fluctuations in the Bengal mortality, chiefly due to cholera, contrast as a rule with the comparatively steady proportion of deaths in both Madras and Bombay.”

\* From Dr. Bryden's tables.

† From 1860-70, Sanitary Commissioner for Madras, Report for 1870, page 2; for 1871, Dr. Bryden.

‡ From 1860-63, Army Medical Reports; 1864-70, Report of Sanitary Commissioner, Bombay, for 1870; page 12, for 1871, Dr. Bryden.

§ The proportion of the deaths due to cholera in the Madras and Bombay Presidencies cannot be shown for the early years. The figures in these columns have been supplied by the Sanitary Commissioners.



The death-rate of British troops in India in 1871 was only  $17\frac{1}{3}$  per 1000 ; of officers 12·49 per 1000.

According to Dr. Townshend—

*Mortality of Ten Years—1860-69.*

			Max.	Min.	Mean.
Men	..	..	45·93	20·11	29·98
Women	..	..	68·03	25·46	43·31
Children	..	..	145·22	71·36	94·90

1870.

			Strength.	Deaths per 1000.
Men	..	..	33·373	21·90
Women	..	..	3·519	32·68
Children	..	..	5·644	81·68

*Deaths of Children per 1000.*

		ENGLAND. Mean of 29 years. 1838 to 1866.	BENGAL. PRESIDENCY. 1870.
Under 5 years	..	67·58	148·10
5 and under 10 years		8·80	17·73
10    "    15    "		4·98	11·51

It has often been asked if the Anglo-Saxon can colonize India—*i.e.* can the race unsupported and unrecruited from home continue to reproduce itself and exist there? Can he, in short, do in India what he has done in America, Australia,—colonize or establish himself, take root, continue his race, people the country, and of course in so doing displace, or rather replace, the autochthones, and his older Aryan brethren, who have become acclimatized during an occupation of many centuries? I think not. But if I am asked, Why not? I must admit that I have no proof to give that it would be so, and that I have only my impressions to offer in support of the conviction, as the data for framing a precise reply do not, so far as I know, exist. I am not aware that the opportunity of testing the vitality and durability of the Anglo-Saxon race cut off from all communication with its own country or with the in-



digenous races has ever occurred ; but I feel convinced that, had India been colonizable by the European, his position, important though it be, would have been very different to what it actually is. This, however, though a curious and important point of ethnic inquiry, is not the subject now to be discussed. I desire to consider, not the question whether the Anglo-Saxon can colonize India, but whether he can rear his children—the first generation—in that country, and with what prospect of success ?

Sanitary science is doing much : life is being prolonged ; health and the conditions of existence are altogether being improved. The European who becomes an item in the fixed population, who leads an ordinarily temperate and correct life, has expectations of life perhaps little below those he might have had in England. But still he is in a tropical or quasi-tropical climate, he is liable to certain grave and sudden disorders, he incurs a risk which has been variously estimated by life insurance societies, all implying greater danger to life than in England. This would be a question, also, of interest, and one that might furnish subject for profitable investigation.

But, as I have said, it is not of himself that I now wish to speak, but of his children, and especially of those whose parents are unable, from any cause, to send them to Europe for nurture and education. What are their chances of life and health, brought up and trained in India ?

Now, with reference to the rearing of European children in India, much has been done during the last half-century. The necessity for proper schools, and establishments where not only their physical but their moral health would be regarded, has been the subject of serious thought, attention, and action of many good and great men in India, and has led to the establishment of schools and orphan asylums in



the Presidency and other towns and hill stations, which have contributed much to these good ends; and the various orphan asylums and schools in Calcutta—the Lawrence Asylum at Sanawar, and the Bishop's schools in the hill stations—will, as long as we remain in India, bring down with grateful remembrance to posterity the names of Claud Martin, Ellerton, Kidd, Sir H. Lawrence, Bishop Cotton, and others.

In these institutions the problem of infant health and progress in India is solved to a certain extent; but as a reply to the essential question I wish now to consider, that of European infant health, it is only partially satisfactory, for the reasons that, in the first place, some of the schools are situated in the hills, in an almost European climate; in the second, the children are to a great extent of mixed parentage.

The introduction of the indigenous race element of course entirely modifies the value of the information we thus receive. An opportunity, however, does exist in Calcutta of studying this very important question, and it would hardly be possible to imagine one better calculated to illustrate the subject.

In or about the year 1815 an asylum was founded in Calcutta for the female orphans of Europeans of the poorer classes in India, and the original reasons for it are set forth as follows in the annual report of the institution:—

“It has long been observed, by persons whose situations have enabled them to know the state of the children in the King's European regiments in this country, that those who become orphans at a very tender age, being usually left in the charge of careless nurses, and in many cases altogether unprovided with nurses, are very seldom reared to maturity, through the ignorance, indolence, and cruelty of those who



are entrusted with their management. An asylum, therefore, for the reception of such orphans would tend to the preservation of many lives which are now lost through the neglect or mismanagement of nurses, or the want of nursing altogether.

"1. This Asylum is established for the reception and education of female European orphans generally, but especially those of the King's regiments in India.

"2. Those children only are admissible whose fathers and mothers are both Europeans.

"3. The objects of this charity are admissible (if under 10) whenever they become orphans, at however early an age.

"4. That destitute children deprived either of one or both parents be eligible to the benefits of the institution, until the number reach to the amount of one hundred."

Originally intended for the orphan children of soldiers in the King's regiments (the only class of Europeans then in the country whose circumstances were so poor as to render it impossible for them to make provision for their children in case of death), it has of late years become of much wider application, for the class of Europeans who may require such a provision for their children is, and has been, as I have before said, increasing, and for many years a large proportion of its inmates have not been the children of soldiers—these being for the most part provided for by the Lawrence Asylum or other institutions founded of later years.

I would observe that this European Orphan Asylum differs from all the others in this respect, that it extends its benefits to children of pure Europeans only—any mixture of native blood rendering the child ineligible. The question of the growth, nurture, and vital statistics of the *Eurasian* child is one of great interest, but is apart from that with which I am now concerned.



It is this which gives it such value as a crucial test in studying the influence of climate in the growth and development of the European child, and is the reason why I have selected it as the basis on which the following remarks are made. The report on which these remarks are chiefly based commences in January, 1863, and is continued up to May, 1871, or for more than eight years, and also on the previous history for many years as related by the Secretary and confirmed by letters from Drs. Jackson and Webb.

It appears from these records that about 130 individuals have been under observation during this period, ranging in age from 1 year to 18 years—a daily average of about sixty-five girls. Say that in January, 1863, there were sixty-six in the institution; to these, before May, 1871, were added sixty-four, and of that number seventy had left. During this period there have been six deaths—one in 1863 from dysenteric diarrhoea, one in 1865 from mesenteric disease, one in 1866 after amputation, one in 1866 from convulsions in teething, one in 1868 from typhoid, and one in 1868 from atelectasis pulmonum.

It is remarkable how great an immunity these children have had, not only from the diseases peculiar to the country, but from all others of a severe kind. There has been during the period under report, and for many years previously, I believe, no cholera, no diphtheria, no scarlatina, no croup, no pleurisy, no pneumonia, no ophthalmia, no typhus, no phthisis, no severe malarious fever or its complications, no dengue, and no malarious cachexia. The diseases have been—a few cases of dysentery, one only fatal, in a child (a mistress died of that disease); a few cases of diarrhoea, simple fever, febricula; a few cases of typhoid (one death), slight rubeoloid,



slight hooping-cough; a few cases of modified small-pox—varicella; some catarrhal and bronchial affections; herpes, abscess, stomatitis, slight conjunctivitis, convulsions, simple sores.

SANITARY REPORT OF THE EUROPEAN FEMALE ORPHAN  
ASYLUM FOR SIX YEARS, COMMENCING JANUARY, 1863.

During this period the monthly average of each year of the number of girls in the school has been, in round numbers—In 1863, 68; in 1864, 70; in 1865, 67; in 1866, 66; in 1867, 59; in 1868, 60—being an average of 65. The ages vary from 1 to 18 years, the great proportion being between the ages of 5 and 16.

The sanitary history of this institution is as gratifying as it has been during previous years, and is not less remarkable for the absence of disease than for the generally vigorous state of health enjoyed by the inmates. The abstracts of admission into hospital show that there has been great immunity from epidemic disease of any severity, and the very low mortality, as well as the small amount of sickness, proves that the European child, under proper hygienic conditions and careful physical training, may live and thrive in the plains of Bengal *almost* as well as in its native country. It is not merely in the absence of any serious disease and the low death-rate that this is manifested, but in the vigorous, healthy appearance of the children generally. This was remarkably noticeable at the last yearly distribution of prizes, when the girls were assembled; and it is no exaggeration to say that their appearance on that occasion would have borne favourable comparison with that of the girls in any similar institution in Europe.

For this very satisfactory state of matters the thanks of



all interested in the institution are due to the careful and judicious management of the Ladies' Committee, who have supervised the institution, and especially to the lady superintendents, who have, under their directions, so vigilantly watched over the moral, mental, and physical education of their charges. It is impossible too highly to estimate the advantages of such management, and I am glad to have this opportunity of recording my impressions on the subject, and of declaring how much the high state of efficiency of the school, as well as the continued good health of its inmates, is due to the unwearied exertions and admirable administration of the past and present Lady Superintendents.

*Disease during Six Years : Daily Average about Sixty-five Children.*

Abscess . . . . .	2	Icterus . . . . .	2
Adenitis . . . . .	2	Lumbrici . . . . .	1
Edema . . . . .	2	Marasmus . . . . .	2
Anæmia . . . . .	1	Operatio . . . . .	1
Aphthæ . . . . .	1	Parulis . . . . .	2
Bronchitis . . . . .	1	Pleurodynia . . . . .	1
Catarrh . . . . .	24	Pneumonia . . . . .	1
Cephalalgia . . . . .	1	Rubeoloid . . . . .	29
Conjunctivitis . . . . .	5	Scabies . . . . .	3
Convulsio . . . . .	2	Sprained ankle . . . . .	2
Curvature of spine . . . . .	1	Stomatitis . . . . .	3
Cynanche . . . . .	3	Subluxatio . . . . .	1
Debilitas . . . . .	3	Torticollis . . . . .	1
Diarrhoea . . . . .	81	Tuberculosis . . . . .	1
Dysenteria . . . . .	15	Tumor . . . . .	1
Dyspepsia . . . . .	16	Ulcus . . . . .	3
Febris (simp.) . . . . .	77	Vaccinia . . . . .	2
Febris (typhoid) . . . . .	2	Varicella . . . . .	4
Febricula . . . . .	5	Varioloid . . . . .	2
Furunculus . . . . .	33	Vulnus capitis . . . . .	2
Herpes . . . . .	49	Vulnus digiti . . . . .	1

There are several points of interest in the sanitary history of this school that might be considered, but I shall only advert to those which are most appropriate to this brief report. And first I would remark on the absence of any severe form of



epidemic disease. In looking over the monthly abstracts of admissions into hospital, I find that there has not been a single case of cholera; and that the only death from dysentery, which is the disease peculiarly to be dreaded in Calcutta, was that of —, aged 5 years, which occurred in 1863, and this was rather a case of dysenteric diarrhoea in a naturally delicate child.

With reference to the class of disorders peculiar to early female life, I may say on this head that nothing could be more favourable, and that although there be certain indications of the influence of climate in either accelerating or modifying the usual functions, the state of health of the girls is, in this respect, most satisfactory.

The disease returned as measles was a rubeoloid fever of a mild form, slightly contagious, showing little tendency to spread, which has occurred from time to time, and has not been followed in any case by those grave sequelæ that so frequently result from measles in Europe.

Two cases of modified small-pox only are recorded, and there has never been any tendency in the disease to spread. The children have all been protected by vaccination, which has succeeded admirably in all upon whom it had not previously been tried.

A few cases of genuine typhoid or enteric fever have occurred, one of which proved fatal in 1868, the case of —, aged 5. The other forms of fever have been of the simple continued form, or mild manifestations of the influence of malaria.

The same may be said of the cases of convulsions, a few of which have occurred.

Hooping-cough has been altogether absent.

A few cases of skin disease, but those of a simple and tractable kind, have occurred.

As might be expected among so large a number of children,



strumous disease has not been altogether absent, and one death from pyæmia in the Medical College Hospital after amputation of the thigh, the other thigh having been previously amputated a year before, for extensive disease of the knee-joint; and another from marasmus, the result of strumous disease of the mesenteric glands, have been recorded.

Of acute inflammatory disease, whether of the head, chest, or abdomen, there has been almost none.

Diseases of the liver or spleen, whether from malaria or other causes, have been also singularly few, if not altogether absent.

Pulmonary and bronchial complaints have been very few and slight; with the exception of one case of capillary bronchitis with atelectasis in a child aged fourteen months, who came in ill and died a week after admission; and a few slight catarrhal attacks involving the bronchial tubes,—none are recorded. Indeed the mildness of disease and the absence of those forms of it, with few exceptions, that characterize the Indian climate, have been remarkable.

The number of children under two years of age has been small, and therefore it is not to be expected that the diseases of first dentition should occupy a marked place; indeed, they have been almost altogether absent. The cases of convulsions recorded were more probably due to either centric irritation or the influence of malaria on the nerve-centres. But the evidences of malaria have been, on the whole, I am bound to say, very slight, as may be readily seen in the fresh colour and red lips of the children.

I would here remark, in proof of the improved sanitary condition of the girls, that lateral spinal curvature, of which ten years ago there were several cases, has now disappeared from the school. There can be no doubt that the very satisfactory state of health enjoyed by these children is mainly due to the sound hygienic arrangements, and the moral as



well as physical discipline under which they live. They inhabit a well-built, ventilated, and commodious house, surrounded by a large open space of garden or ground, in which they find amusement and healthy recreation in gardening, or play in the open air. The nature of their occupation is such as to conduce alike to their moral and physical well-being. They have sufficient mental labour to develope without fatiguing their intellects, and of a character suited to the sphere of life in which they are intended to live. With this is combined methodic occupation of a fitting character, regular hours, a good but plain and nutritious diet; and all that could tend to injure the health from constant or over-work of any special kind is strictly avoided.

The following statement of their daily occupations, diet, and recreation by the Lady Superintendent, explains how the time is passed; and it is a system that might well be followed by other educational establishments here and elsewhere.

*Diet.*—Three regular meals in the day, and bread early in the morning. Breakfast (half-past nine), bread and milk. Dinner (half-past two), meat every day for girls above twelve, and three times a week for those under; dhall and rice, etc.; fruit three days in the week. Supper (half-past seven), bread and milk. The milk is pure; no water with it.

*Habits.*—All through the year the children rise at five a.m., bathe in cold water, and then take exercise in the compound.

*Occupation.*—During the cold season school commences at seven, and in the hot weather at six a.m. Five hours of regular school, and one of study (preparing lessons) through the day. During the hours of recreation, skipping and active play are encouraged, and, as a rule, the children are as active and fond of a good romp as children in England. In-door exercise consists of cleaning the house, which is all done by the girls. Calisthenic exercises every morning.



The conditions of a healthy mind in a healthy body are here all existent, and the results show how materially a just combination of mental and physical training will, when supported by example in those whose duty it is to teach, conduce, even in the climate of Bengal, to ensure a high standard of moral and physical health.

In reference to the question of growth and development of the European child brought up and educated in Bengal, I may give the following illustration from the average measurements of five girls at sixteen years of age, which was—height, 5 feet 4½ inches; weight, 7 stone, 11 pounds; girth of chest, 34·7 inches; girth of hips, 35·7 inches—a stature and weight which would probably not be much exceeded in Europe.

During the next twenty-eight months—*i.e.*, from January, 1869, to May, 1871, the health of the school was excellent. Disease has been almost entirely absent; the general standard of health has been high. There has been no death. But two cases of any severity have occurred; one of pelvic abscess, from which, after an operation, the girl recovered, and is now in robust health; another had typhoid fever rather severely, but recovered. I would notice one or two causes, which are, no doubt, potential in preserving health, and have recently been introduced. First, the children now all wear flannel, and have a blanket at night under the sheet on which they sleep; and, secondly, they drink the new water from the stand-pipe. Both of these changes are beneficial. The absence of disease and the general good health that have prevailed is somewhat remarkable in a school of nearly seventy girls. In 1869 there was a slight outbreak of measles in January. Eight girls only were affected, and there were no unpleasant sequelæ. Except the two cases already alluded to, there was absolutely no other disease in this year. In 1870 there were a few cases of varicella; and in July, two cases of typhoid fever; both recovered. There was no other disease during 1870. Up to the date of the report



(May 6, 1871)\*, there has been almost no sickness, with the exception of a few very slight cases of hooping-cough. The disease was clearly imported by one of the girls who had been out on leave. The cases are mild, and it shows no inclination to spread. Throughout the whole period there has been no small-pox; the children are all protected by vaccination.

The following table shows the ages at which each of twenty-seven girls commenced to menstruate. These girls are all of pure European lineage, such being a condition of their admission into the Asylum. It appears that seventeen were born in India, two in Ceylon, six in Europe, one in Australia, and one whose birth-place is not known. The earliest age at which the catamenia appeared was at 12 years and 2 months in a girl born in India; the latest at 16 years and 4 months in the case of a delicate strumous girl who died, after amputation (in the Medical College Hospital), of pyæmia; she was also born in India. The next latest was a girl born in England, in whom it commenced at 15 years and 8 months. Of the seventeen girls born in India, the catamenia commenced in two between 12 and 13; in five between 13 and 14; in eight between 14 and 15; in one between 15 and 16; and in one between 16 and 17. Of the six born in Europe, the catamenia commenced in one between 12 and 13; in one between 13 and 14; in two between 14 and 15; and in two between 15 and 16. Of the two born in Ceylon, it commenced in both between 13 and 14. One in Australia, between 15 and 16; and the one whose birth-place was unknown, between 12 and 13. Thus of the whole number—

Four commenced between 12 and 13 years of age.

Eight	"	"	13 and 14	"
Nine	"	"	14 and 15	"
Five	"	"	15 and 16	"
One	"	"	16 and 17	"

\* This state continued until I left India in March, 1872.



*Tabular Statement showing the Birth-place, Date of Birth, and Age at which the Catamenia first appeared in Twenty-seven Girls of European Lineage, educated and brought up (many born) in India.*

Where born.	Date of birth.	Date of first menstruation.	Age.	Remarks.
India .....	March 3, 1851	March 13, 1864	13 years 10 days	Regular (left school).
India .....	October 20, 1850	April 1, 1864	13 years 5 months 11 days	Regular.
India .....	October 19, 1851	December 21, 1864	13 years 2 months 2 days	Irregular (left school).
India .....	September 28, 1848	February 10, 1865	16 years 4 months	Illness occurred twice (dead). Died March, 1867.
India .....	January 14, 1852	September 15, 1865	13 years 9 months	Regular.
India .....	July 27, 1854	October 10, 1866	12 years 2 months	Regular.
Ceylon .....	January 11, 1852	October 17, 1866	13 years 9 months	Regular.
England ....	November 11, 1852	December 3, 1866	14 years 19 days	Regular.
India .....	November 18, 1852	January 9, 1867	14 years 1 month	Regular.
India .....	April 23, 1853	January 12, 1867	13 years 9 months	Regular (left school).
India .....	June 9, 1852	March 27, 1867	14 years 10 months	Very irregular (left school).
England ....	June 18, 1852	November 5, 1867	15 years 5 months	Regular (left school).
Scotland ....	April 28, 1853	January 4, 1868	14 years 8 months	Regular.
India .....	January 7, 1853	December 28, 1867	15 years all but a week	Slightly irregular.
India .....	December 5, 1854	January 12, 1868	14 years 5 weeks	Regular.
India .....	August 12, 1852	February 1, 1868	15 years 5 months	Regular (left school).
England ....	May 15, 1854	March 8, 1868	13 years 10 months	Regular.
India .....	March 15, 1854	April 27, 1868	14 years 1 month	Regular.
Australia ....	August 10, 1853	September 28, 1868	15 years 1 month	Regular.
Ceylon .....	April 20, 1855	October 3, 1868	13 years 5 months	Regular.
India .....	May 5, 1854	October 11, 1868	14 years 5 months	Illness has occurred only once.
Not known ..	May 14, 1856	December 17, 1868	12 years 7 months	Regular and very profuse.
India .....	August 3, 1855	April 6, 1869	14 years 7 months	Regular.
India .....	May 25, 1856	February 6, 1869	12 years 8 months	Regular.
India .....	March 30, 1855	June 10, 1869	14 years 2 months	Regular.
England ....	December 21, 1856	June 12, 1869	12 years 5 months	Regular.
England ....	November 17, 1853	August 10, 1869	15 years 8 months	Regular.



The column of remarks in the table shows how the functions were performed subsequently. This is interesting as showing how far physical and moral training under favourable circumstances affect the European female child born and brought up in India.

I have been acquainted with these girls since they were young children, and the impression I have formed is, that they are rather more precocious both in physical and mental development than girls of the same age would be in Europe. They are most carefully educated, and, as the Report shows, their physical as well as moral training is most sedulously guarded from aught that could prejudice or injure either. But the stimulating effects of an almost tropical climate assert their influence; and it is evident that the girl of 16 or 17 is two or three years in advance of a girl of that age in a European climate. It is remarkable how few deviations have occurred from the natural and regular performance in the menstrual functions in these girls. As a rule it occurs regularly and without trouble, and it is most unusual to hear any complaint made on this score.

In connection, though perhaps remotely, with this subject, I would note the occasional occurrence among the girls of a swelling of the lower extremities evidently nearly allied to the elephantoid growth seen in the limbs of the natives of Bengal—a bucnemia. It is manifestly a steady and progressive enlargement about the ankle and leg, but extending slightly up the thigh itself, generally on only one side. If there be any change in the condition, it occurs at the menstrual period, when the limb is somewhat larger than at other times. The swelling is firm, not œdematous, and very like elephantiasis, except that it is not attended with either periodic pain or excitement in the parts, but is of very slow and steady growth. One of the finest girls (aged 17) in the school is affected by it, and the left ankle is more than an



inch greater in circumference than the right, and the swelling gradually extends to the left thigh, which is somewhat larger than the right. There is no pain and very little inconvenience, except that which comes from the increased size. I have not, as yet, succeeded in making any impression on it by medical treatment, and but very slight—only of a temporary nature—by bandaging. These cases, I am happy to say, are exceedingly rare, as during the twelve years that I have known the school, there have been only two or three; they are very interesting, and their pathology requires further investigation.

My personal knowledge of the institution\* ranges over a period of twelve years—*i.e.*, from 1860 to 1872,—and I have been, through the kindness of the Secretary, furnished with sufficient information as to the early history of the school to show that it has been equally satisfactory. The Secretary says, “I can’t remember any sickly year with the above exception. I have known single cases of cholera, but none fatal; no outbreak of dysentery, but we have had single cases most years, but not fatal amongst the children. We lost two mistresses from death by dysentery, and one had to leave on account of that disease. I should say chronic dysentery, diarrhoea, and sluggish livers were the commonest ailments of the children. I never heard of diphtheria in the school. One of my earliest recollections of illness in the school was a very severe fever of the nature of typhus, I believe (which caused great anxiety), in a girl of 10, who became very delirious and lost her speech for weeks, but ultimately recovered, and no one else took the fever. My personal recollection of the European Female Orphan Asylum goes back to 1850. The only epidemic I remember besides measles and hooping-cough—one or other of which has visited the Asylum mildly every two or three years—was chicken-pock; in what year I can’t



now recall, but it must have been pretty general through the school, for I remember the chapel was filled with beds as an additional hospital, and there was some anxiety, from the idea that it was modified small-pox, but no deaths occurred." The following letters from Dr. Webb and Dr. Jackson confirm this :—

*Letter from Dr. Allan Webb to the Secretary of the  
European Female Orphan Asylum—1852.*

"Having had medical charge of the European Female Orphan Asylum during the years 1849, 1850, and 1851, I have had abundant opportunity of judging of its general healthiness, and comparing it with other educational institutions for children in Calcutta. It must be, to all connected with this admirable institution, most gratifying to learn that the children are so healthy; that there is no institution in Calcutta surpassing it. I doubt if there be any in India more free from disease; and this happy result is attained—it must not be lost sight of—in children exclusively European in the climate of Bengal.

"But this testimony to the health of the girls generally is not limited to immunity from disease only, but comprehends that robust capacity for work and play which marks the well-being of a child. For this great blessing under Providence the children are indebted to the intimate personal supervision of the Lady Managers themselves in all that appertains to diet, exercise, and the neatness, cleanliness, and order which are inseparable from the salubrity of a girls' school; the fine open grounds and large airy upper-room dormitories being very important adjuncts.

"The school has not been exempt from disease. There



was a good deal of sickness in the earlier part of 1850, when small-pox and measles were raging in Calcutta, but the diseases were of a mild type in this institution; whilst of cholera I do not remember whether or not there was a single case, yet this is generally as common as it is fatal. The children were indeed wonderfully exempt from bowel complaints.

"I am, &c.,

(Signed) "ALLAN WEBB, M.D.,

"Presidency Surgeon."

*Letter from Dr. J. Jackson to the Secretary of the  
European Female Orphan Asylum—1853.*

"I have great pleasure in sending you a short notice of the state of the health of the children in the Orphan Asylum during the last year, and it is a great satisfaction to be able to state that they have been altogether free from any of the ailments which commonly are observed in schools, and that during the whole of the past year, from the month of February, when I commenced my charge, there has scarcely been a sick child in hospital.

"This is attributable, no doubt, in some measure to the children all being of European extraction, but more especially is it due to the kind and judicious management which is bestowed upon them, to the regularity of habits, goodness of their diet, and the great attention paid to cleanliness and ventilation; and I consider it impossible to find an equal number of children in a better state, or more healthy condition, in any similar institution.

"I am, &c., (Signed) J. JACKSON."



Reference to the later reports shows what is much to be regretted,—that notwithstanding its usefulness, this institution has rather fallen off in numbers of late years; that, whereas in 1853 there were eighty inmates, the number has decreased to sixty-five in 1872. Of course this is partly accounted for by the existence of other institutions; but, considering the increasing want and the advantages of this institution, it is matter of regret that there should be any falling off at all.

How much the value of infant life is affected by climate and the circumstances under which it is placed, may be seen by comparing the statistics of death of European children in England and soldiers' children in the Bengal Presidency, for which I am indebted to Dr. Townsend, Sanitary Commissioner of the Central Provinces of India, and by the statements which I have extracted from the last Indian paper (of March):—In 1871 there were nearly 11,000 soldiers' children in India, of whom 425, or about 5 per cent., were sick every day, while 794, or upwards of 7 per cent., died. The mortality, therefore, of children is thrice that of adults. Judging from the experience of 1871, the risk of life in the Bengal and Bombay Presidencies in each 100 European children is stated as follows:—thirty-three die under 6 months, twenty-two die between 6 months and 1 year, nineteen die between 1 year and 18 months, eleven die between 18 months and 2 years, two die between 2 years and 3 years, one and a-half die between 3 years and 4 years, and one between 4 years and 15 years. At this rate it is remarked, out of 100 babes, scarcely eleven would reach maturity.

For example in 1000:—

	England, the mean of twenty-nine years.	Bengal Presidency, 1870, by Report.
Under 5 years . . .	67·58	148·10
5 „ to 10 . . .	8·80	17·73
10 „ to 15 . . .	4·98	11·51



—or more than double. Now, that this mortality is due to some extent to preventible causes, and not only to climate, I think is tolerably clear, if compared with the death-rate of the European Female Orphan Asylum, where a similar class of children under better conditions gave such very different results. I am perfectly aware that statistics are only reliable in very large numbers, and that they have been said to be capable of proving almost anything; but I know that the life of the European children in barracks in India is not so safely guarded against evil as might be, and that, despite all the care and attention they receive, they are exposed to influences that tell more against life and health than is the case with children placed as those I have described in the European Female Orphan Asylum.

Miss Nightingale says justly, "Children are, as it is well known, the very touchstone—the live tests—of sanitary conditions, or sadly, but too often, the dying and dead tests of *insanitary* conditions."

That infant life and the preservation of health is peculiarly influenced by the hygienic conditions under which it exists, is proved by such facts as those I have narrated in reference to the European Female Orphan Asylum, and I would here remark that it has been shown to be equally so in England.

I am indebted to Mr. E. Chadwick, C.B., a sanitarian of European fame, for the following remarks on the subject in connection with the half-time school-drill review held on July 25, under the auspices of H.R.H. the Prince of Wales and the Society of Arts:—

#### "MORAL RESULTS.

"The great body of the children reviewed are orphans or deserted children. Under the old system of Poor-law



administration, the children of this class, brought up in the workhouse long-time school, in contact with aged and vicious paupers, were turned out at 13 or 14, bodily and mentally inapt for steady industry, and not above one out of three got into a place of self-supporting industry. Full 60 per cent. went to 'the bad,' on the streets as mendicants or thieves, the girls as low prostitutes, and they furnished the largest contingents to the population of the prison. These moral failures were attended by pecuniary waste, for all were supported by the ratepayers, either as mendicants or thieves, or as expensive prisoners. But now, under the improved mixed bodily and mental training of these half-time schools, the known failures and waste do not exceed 3 per cent. The great mass of the boys brought under review may be beheld with confident satisfaction as victims rescued from 'the bad,' and preserved for the good, as honest, self-supporting producers, and worthy members of the community. But although much of this success will be due to the bodily and industrial aptitudes imparted, and the work of the drill-master displayed, yet much of it will be due to the ministrations of the school chaplains, not alone in religious instruction, but in secular care and service, seeing that they get fitting places (especially girls), visiting them there, advising them, and corresponding, and acting *in loco parentis* to all the fatherless and the motherless.

#### "SANITARY RESULTS.

"It has been shown, as respects the common schools, where filthy-skinned and dirty-clothed children are often crowded together in ill-ventilated rooms, in miserable conditions, they are the common centres of children's epidemics. The old workhouse schools were subject to murderous epidemics. But now, by the application of rudimentary sanitary science, they are made normal examples of what



may be done by it. Of this, one of the schools from whence the children were sent to the first review may be cited as an example. Some years ago, the death-rate was 10 and 11 per 1,000. The drainage and ventilation were improved, and it was then brought down to about 8 in the 1,000. Next, more complete personal ablution and a swimming-bath were established, and the death-rate was reduced to about 4 in the 1,000. All the district schools, the elder of whose children will be reviewed, are to some extent children's hospitals, and many children are taken in only to die or linger as hapless cripples for life. But—with the exception of some remains of ophthalmia—by better ventilation of space, by careful skin-cleanliness, and by bodily exercise, the 'children's diseases of spontaneous origin may be said to be banished, and the death-rates have been reduced to about 3 in the 1,000, or less than one-third of the death-rates prevalent amongst children of the middle and well-to-do classes. With such a general death-rate, producible by sanitary science, there would be upwards of 10,000 children saved annually in the metropolis. Without such sanitary precautions, new schools may be only extended centres of children's epidemics.' ”

I think it will be admitted that no more delicate test could have been afforded on the question of the state of infant European health, and the chances of life in the climate of the plains of India, than this almost continuous history of a little colony of about seventy European children—of all ages from one to eighteen years, educated and trained in Calcutta and never leaving the place—for a period of more than half a century. The answer it furnishes to the question is more favourable and satisfactory than might be imagined by those who have seen the evil effects of a tropical climate on infant life, for it shows that with care and attention much may be done that might be deemed impossible. The statistics of



these children would, I know, compare favourably with those of any school in the world; and so far it is very satisfactory, for it demonstrates most clearly that with care and proper training a European child may live, grow, be educated, and even thrive in the plains of Bengal. This must be a consolation to those parents who are unable to meet the cost of sending their children to Europe, or even to the hills, and who otherwise must have the misery of feeling that their children were sacrificed to the inevitable hardship of having to remain in the plains. Having said so much, I have something to say on the other aspect of the question, for the matter requires careful consideration from both.

I have no desire to prove too much, as I certainly should appear to attempt to do were I to advocate the theory that Calcutta or any other part of the plains of India is a *desirable* locality for the training and nurture of European children; such, indeed, would be a theory as dangerous as false. For although the exceptionally favourable circumstances of the European Female Orphan Asylum prove that the European child may thrive, yet it is certain that without favouring influences it will not; and the statistics of infant life in the British Army in India, as I have also shown, prove not only that such is the case, but that the obstacles to success in the rearing of children are very great.

Moreover, the mere question of health up to a certain age, and the acquisition of knowledge, are not the only subjects requisite in the proper training of a child. It has long been known to the English in India that children may be kept in that country up to five, six, or seven years of age without any deterioration, physical or moral, and in the higher classes of life with probably as little, if not less, danger to life than in England; for most assuredly in some respects—as, for example, scarlatina, measles, hooping-cough, thoracic complaints, and even dentition,—they suffer less in India



than in England. But after that age, unless a few hot seasons spent in the hills should enable parents to keep their children in India until a somewhat later age, to do so is always a doubtful proceeding. The child must be sent to England, or it will deteriorate physically and morally—physically, because it will grow up slight, weedy, and delicate, over-precocious it may be, and with a general constitutional feebleness not perhaps so easily defined as recognised, a something expressed not only in appearance, but in the very intonation of the voice; morally, because he learns from his surroundings much that is undesirable, and has a tendency to become deceitful and vain, indisposed to study, and to a great extent unfitted to do so,—in short, with a general tendency to deterioration, which is much to be deprecated, and can only be avoided by removal to the more bracing and healthy (moral and physical) atmosphere of Europe.

Now, for many reasons, I think the notion is correct—that it is right that European children born in India should be brought up in Europe. But, as I have before remarked, as it must so often happen that the parents are unable to meet the cost of doing this, it is satisfactory to know that the climate of the plains of India is not of necessity fatal, as I think the history of the European Female Orphan Asylum incontestably proves, whilst it suggests the reflection how much more might be effected. I have no doubt that all that can be done in Calcutta under peculiarly favourable circumstances could be, and is, done better in the hill stations, and I have seen European children who have been born and brought up in these localities, who in physical health were not inferior to those who had been reared in Europe; and of such no doubt the numbers will continue to increase, for, as I have said, the Europeans who are unable to send their children home are becoming more numerous. Such schools, I am happy to say, are already existing, and their numbers will probably



extend, and I have no doubt will be much appreciated,—for the hill stations of India promise to become a permanent home to many of the class of planters, landowners, and even retired commissioned and non-commissioned officers. Such stations, notwithstanding their excellent climate, are, I think, too few and far between and too isolated to become the seats of real colonization; and though they may and will be the home of many Europeans, I believe they will never be such in a permanent sense.

I feel certain also that Europeans residing in India who wish to do full justice to their children, will, although it involve separation for years, continue to send them to Europe even in preference to the hills. But it is satisfactory to know that, for those to whom this is impossible, their children can be reared in the hills; and to others still more hindered by the pressure of impecuniosity than even in Calcutta or the plains, their children may with care grow up and become fitted for life in India—at all events for one generation. I have seen the third generation of Europeans in Calcutta born and brought up there. Such are rare, but examples are not wanting. Though neither in physical nor mental properties was there anything to suggest marked degeneration, yet there is that which would make one look with great doubt on the prospects of a race so produced.

It is a fact that some of the life assurance offices charge 10 per cent. more on the life of a European born and brought up in the plains of India. They attach the same value in fact to his life as to that of the Eurasian. It would be difficult, perhaps, to justify this on statistical grounds, but it shows, at least, how strong the feeling on the subject is in India; and I cannot help saying that generally I think they are right.

I have endeavoured to show by what I have said that although the mortality among European children in India



is, as a rule, very high, yet that under judicious management and proper hygienic conditions more favourable results may be obtained;—not that the European child can thrive and be reared as well as in the hill stations of India or in Europe, but that life and a very fair amount of health is possible even in Calcutta under *favourable\* circumstances*, and that as the numbers are increasing who must expect to bring up their children in India, they need not despair even though their lot be cast in Calcutta.

If anything I have said or could say had thrown a light on the subject, or would encourage those who have already done so much, and others who, with the power, are only wanting the opportunity of doing more in aiding in so good a cause as the protection of the child-life of their poorer fellow-countrymen whose lot has been cast in India, I should feel satisfied that this brief relation of my own experience on the subject has not been without result; and that it may stand as its own apology for these tedious details.



27

# TWELVE SHORT ESSAYS

CHIEFLY ON

## MILITARY SUBJECTS.

BY

HENRY BOWLES FRANKLYN, LL.B.

OF THE MIDDLE TEMPLE, ESQ., AND THE HOME CIRCUIT  
(LATE ROYAL ARTILLERY).

*"Labores generositatem pariunt."*

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27

TO THE  
RIGHT HON. GATHORNE HARDY, D.C.L., M.P.

(SECRETARY OF STATE FOR WAR)

These few Pages

ARE

(WITH HIS KIND PERMISSION)

MOST RESPECTFULLY DEDICATED BY

THE WRITER.



## PREFACE.

---

SOME of these Essay articles have already appeared in leading papers and magazines; the rest are added to complete the number. The writer hopes that they will be received by the Seniors in the same spirit in which they are written, being in part drawn from the works of great men like Alison, Thiers, Johnson, Helps, Matthew, Franklin, Bacon, and the lives of eminent men of different nations, to which is added the writer's experience in the Indian campaign of 1857 and Italian of 1860, and towards the end of the Franco-German war. If a perusal of them by those who are commencing their path in the service can render more clear their proper line of conduct, the writer's object will have been attained.

HENRY BOWLES FRANKLYN.

THE MIDDLE TEMPLE, *July 1875.*



## I.

### THE RESERVE FORCE.

WE many of us saw the gallant struggle of men of two Universities in 1875 on Old Father Thames. Cambridge, rowing about thirty-nine strokes per minute, seemed at first go-off likely to win. Presently the dark blues creep up, the pace of Cambridge sinks to thirty-three, and, in spite of their desperate spurts, the superiority of Oxford is maintained. In all contests in life—in the Army, in the Navy, at the Bar, even the Pulpit—men fail from early exhaustion, physical or mental.

In the composition of an army, the first essential is a well-constituted, powerful reserve force. How often in the campaigns of Napoleon was the enemy rolled back by the resistless charge of the Imperial Guard, and at Waterloo the French disaster was, according to the best writers, probably owing to the reserve being enfeebled by the necessity for repelling the attack on the right flank, so that when the British line was nearly broken at La Haye Sainte, it was impossible to follow up the success. He only commands success in a great war behind whose corps of battle is heard the steady tramp of the army of reserve. The first force may suffice for the commencement, but we must be prepared for an unexpected crisis. We have *our* regular army, skeleton though it be ; we have our backbone, *our* Landwehr, but where is *our* Landsturm ? And if we have one in name, or a force answering to it, can we count upon it



for capacity and discipline? Sir Garnet Wolseley will doubtless be honest enough to tell us this before long; and had he been at Tonnère, 100 miles south-south-east of Paris, in 1871, he would have reported that an Uhlan regiment belonging to the Landwehr held that town, and was as highly disciplined as the Uhlans of the regular army.

Let us not forget that it is both impossible to impress men on the line of march and to forage for supplies successfully as we go along; nor are we even sure of our green coffee, as in the Crimea. The reserve force and a good base of supplies (as was lately proved) is as essential to success as well-armed battalions, and behind Wellington and Marshal Fürst was a power equal to millions of men.

To proceed further in the examination of this subject—A reserve force is the easiest and most economical way of carrying on a campaign; and the true way to treat this difficulty is to face it, to cut through it boldly, and not continue to go round it like a cooper round a cask. Military force exhausted in a single spurt is worst of all. A good army must be a Niagara fed by inland seas, chiefly from the plough-tail in this country; for nearly every great campaign has been victoriously ended by the coming up of the reserve.

In judging of the power of any country, we ought to feel that there is a greater power behind, by which it can always be augmented. Was it not the intelligence and discipline of the Germans (educated in the best common schools in the world), the men *behind* the guns, fed by those reserves (indicated on the tin plates posted at the entrance of every village), which won the recent brilliant victories? and was it not one of the Prussian columns coming over the mountains in 1866 that turned the scale at Sadowa



more than the needle-gun ? Another advantage of reserved force is, that when it cannot prevent defeat, it will save us from rout and despair.

The military leader who brings all his men to the front has no resource when beaten ; not so the man who has his battalions in reserve. He, like Marshal Fürst, fights harder, and although forced back at Ligny, the thunder of his guns was heard at Waterloo. Napoleon said of Massena, that he was not himself till the battle began to go against him, that this awoke his marvellous powers of combination, and he put on terror and victory like a robe. Again, in the Secession war, finding his men in retreat before Early, a general said to his commander, "Oh ! sir, we are beaten !" "No, sir," said Sheridan ; "you are beaten, but this army is not beaten ;" then, bringing up all the reserve he had, he hurled it like a thunderbolt on the enemy, and the day was won.

On examining all these proofs, we can, as sensible men, but come to one conclusion : That, however great the mountain of the reserve force may loom before us, we must face it in all its difficulties. We must have no impossibles ; but think on the words of Napoleon, when they told him the Alps intervened, "Then there shall be *no* Alps ;" and so was hewn and blasted through the rocks the magnificent route from Brieg to Domo d'Ossola.

Nothing great is done without toil ! Many of us have taken a voyage in one of our grand Indian troopships. Have we ever descended, as she glided along the Red Sea, into that gehenna on board, and seen the sweating firemen relieving each other at short intervals ? Have we noticed the heaped-up coal-bunkers, and heard the constant rush of water from without coming along the pipes to replenish the gigantic boilers ? Is not all this reserve force ?



Let us pause a moment, and think how we shall proceed ! Must not the nucleus of our force be gathered and trained before war, but arrangements (and good ones) be made for continually strengthening it by fresh recruits through the entire campaign ? and above all, must not the importance of concentration (as Moltke has taught us) never be overlooked ? Another thing to be attended to is, "the training must be gradual, the speed of the train must not be put on at once ; entire rest is at times requisite." Our bodies and brains are, in construction, even more complex than locomotives. The fighting man must have his coal and water like the engine ; he must have his oil also, although, God knows, half-a-pound of Government meat,  
 x bone EXCLUDED, does not furnish much of this latter and *necessary* article to counteract waste of nervous power. Nature is a jealous creditor, as may be seen generally by comparing the soldier of *forty years* of age with the civilian. She demands compound interest for every loan she makes to us, and if we overdraw without a reserve, our bills will be dishonoured, and the result will be physical bankruptcy in time of war, and to the country shame and disaster.—*Naturam expellas furca tamen usque recurret.*

x *Best action is Austrian War action.*



## II.

## PHYSICAL TRAINING.

IN continuation of the article on "The Reserve Force," we will now hope and assume that, by hook or by crook, either through "Sergeant Kite" or a thirst of young English and Irish men for glory, we have got our men; the question then is, "What shall we do with them?" Common sense whispers in our ear, "Take care of them and train them."

His Royal Highness the Commander-in-Chief has of late given us a helping hand in calling attention to the extreme necessity of a careful and effective gymnastic training; and it is absolutely incumbent on us that these two adjectives be particularly dealt upon; for what say the laws of life? "To the strong hand and head, the capacious lungs and vigorous frame, will always fall the heavy burdens; but where the heavy burdens fall, the prizes fall too."

One of the first elements of success in this world, both as regards individuals, and even more so when concentration is required, is to have superior bodily stamina, a stout physical constitution.

If recruiting be carried on among the sweepings of our cities, and as Dr Ackland has of late declared that two-thirds of those treated at hospitals are sufferers from the hereditary effects of vice, then the doctrine of Pascal, "That disease is the natural state of Christians," may be believed; but hoping that we may ere long get our



recruits from other sources, let us rather endeavour to hold to the opinion of Dr Alexander, who, when asked if he enjoyed the full assurance of faith, replied, "I think I do, EXCEPT when the wind is from the east!"

It will not do to continue building up the army, like many builders of the present day do their flimsy carcass of rotten bricks. John Bull is not, like them, a bankrupt, and does not require at the end of a few months to *mortgage the shell* before the edifice is half finished; but he is a large feeder, and knows well that there have been strong men both before and since Agamemnon. Man's power comes from the generating forces that are in him. (1) The drinking deep draughts of that atmosphere which, when pure, is the most elaborately finished of all God's works prepared for the life of man. (2) By the conversion of good and nutritious food into vitalised blood, allowed to run up and down (if the commanding officer, adjutant, and master-tailor will do this) through an untrammelled neck, so as to nourish a brain, and supply force to a heart, which, like the engine of the Holyhead express, must take up water as it goes along, and which is done by the magnificent capillary work of the lungs, where the aëration of the blood is effected. Have any of us, in company with an athlete, tried the lung-power we possess by the instrument which measures it? for in it lies a secret which the authorities appear not in full possession of. What do they say? Take all the tallest men, and those with the biggest chests, and shun all those below a certain standard, and we are all right. No! You are all wrong! Take your two men, one with a big chest, which may be composed of fat, framework, or anything else, and a power of expanding of about 2½ inches, and the other with a much smaller chest, sound, and with an expanding power up to <sup>3½</sup> four inches. Put them at



the foot of a hill, or give them a march (with full kit) of fifteen miles, and see how the big one will knock up, and how the well-aërated blood of the little one will bring him in fresh at the end! Soldiers should be trained as we do at the Universities, slowly, and with care; be well fed during the increased exertion, and get sufficient fat (as truth-speaking Professor Parkes will tell us) to supply the waste of power. Measurement as in the Gymnasium is humbug. Attention when measuring the arms is even directed to the wrong muscles, and to those whose power is of secondary importance.

When will some commanding officers see that the sound and compact little man is worth more than the lanky, spindle-shanked creature who, with a bearskin, is *supposed* to look like a grenadier?

Prodigious workers everywhere have been those who have trained their bodies well. Peel, Lyndhurst, Brougham, and Gladstone, have all been good-chested men, and capable of immense bodily fatigue. That the King never dies, and that Brougham never sleeps, used to be two leading features in English constitutional doctrine. His Lordship once worked six days and six nights on a stretch, 144 hours, then ran down into the country, slept from Saturday night till Monday morning, and started to work as fresh as ever. From his toughness at nearly ninety, one would have supposed him at least the son of old M'Donald of Keppoch, who, camping out with his clan, went and kicked the snow from under his son's head, which he had piled up to make a pillow, calling him an effeminate youngster. The Grants, Shermans, and Sheridans of the American war, had all nerves of whipcord and frames of iron; and Franklin, at the age of seventy, camped out on his way to arouse the Canadas. Napoleon could do with four hours' sleep and be twenty in the saddle;



and the efficiency of the common soldier *he* knew depended on his being in perfect health and splendid condition ; hence he tried to bring up his troops to that of pugilists ; and this was the secret of the prodigious efforts of the "Garde Imperiale," who, after two days and nights' unceasing toil, finally at Waterloo formed around the intrepid Cambronne, when he gave his celebrated reply to the English general's call to surrender. It is related of Cicero that he once became a martyr to dyspepsia—a malady that follows the indolent as the shark follows in the wake of the plague-ship. He did not hasten to the physicians, but threw himself into the Gymnasium for two entire years, returning to the struggle of the Forum as vigorous as ever, and without which he would never have blasted Anthony with his lightnings. The effects of physical training are seen in the nations of antiquity, where gymnastics and calisthenics were a regular part of education, by which the brain was filled with a finely aërated blood, the nerves made strong, the digestion good, and the whole physical man (as antique statues show) was developed into the fullest vigour.

As a rule, this training tells on the officer also, and it has been said that the first thing in a general is to have a good constitution. Certainly it is a *rare exception* to see what we saw at Fleurus Leuze, Steinkirk, and finally at Neüvinde in 1693, when the two feeblest in body were the little hunchbacked Luxembourg, who led the fiery onset of France, and the asthmatic skeleton who covered the slow retreat of England.

For the man who is stripping like a soldier for an arduous race in life, no time nor money is wasted that contributes in any way to his physical health, that gives tone to him, and develops the muscles, particularly those of breathing and of the lower extremities, and provides



him with good socks and boots. He need not be a Heenan, nor have the sledge-hammer of gallant Tom Sayers, but, like the London porter, who staggers at first under 200 lbs., he may in the end, by training, step away with 600 to 700, or being fatigued at first by a fifteen-mile march, ultimately may do fifty miles. After the fall of Delhi you might have seen men of Greathed's column of this stamp, belonging to the old 8th and 75th. These fine fellows, in their mouse-coloured skins, were the picture of life and vigour in spite of their recent hard fighting. Again, at the relief of Azimghur, and afterwards, there were the same stamp of men belonging to the Royal Artillery, 10th and 84th, fellows without an ounce of superabundant fat on them, and who marched and marched with the thermometer at 120°, till the battery mares were bags of bones, and the spokes falling out of the wheels of Michell's and Lyon's guns, and who did not halt until they had "*riddled*" Koer Singh on the banks of the Ganges.

These are the men we want, who have founded for England her splendid empire, and made "her morning drum-beat follow the sun," — models of endurance and courage, and worth taking care of abroad and at home.

Finally, when we shall have overcome our recruiting difficulty, let us select our men better than at present, feed them up to the mark, train them properly, looking to powers of endurance, activity of body, and rapidity of locomotion. It is these, and not the mere regularity of the "march past" (so pleasing to women), that will win the battle. Let us think less of mere appearance, and of trying in vain (like some antediluvian colonels) to give a soldier of nearly forty years a flat back by setting-up drill; for we must read the truth at last, "*that even the British*

*\* Remarks of Crown Prince. Prussians marching*



*bull-dog* may be bowled over by the present arms of precision which can bring all (the strongest and weakest) to the same level with an ounce of lead, and compel us again to look around us for the Army of Reserve."

### III.

#### AN ARMY OF MARTYRS.

HAVING now spoken of the necessity of action, and immediate action, in the case of the Reserve Force, and also on the physical training of the men who compose it and the regular army, the next subject for us to consider, assuming that we have made the soldier's frame as hardy and capable of fatigue as possible, is the liability of it to exposure and consequent sickness, and the best way of providing for such a contingency, or of preventing it.

In doing this, we shall have to refer at some length to those officers to whom the Sovereign has confided this duty.

Not a campaign occurs without our being able to say that, from our observation, we have learnt at least one thing more ; and at the present time, such is the state of revolution in the Medical and Control Departments of the British Army, that were a war of any magnitude to occur, it is the general opinion of most experienced officers, that the probable collapse of the two above-named departments would be the result ; and if so, the right hand of the general in command would be paralysed by want of effectives when on the point probably of delivering his principal blow. It will not do to cite the



Abyssinian and Ashantee campaigns, to which every available medical officer was sent from home.

The first law of success in the present age (for life is short and art is long) is the concentration of all our energies on one point ; going directly to that point, and looking neither to the right nor left. The range of human knowledge has increased so enormously of late years that no brain can grapple with it. Every one who is determined to prosper is working at immense pressure, and pouring all the energies of hand, heart, tongue, eye, and brain, into his calling. To make him do this, however, he must be interested in it, there must be some goal before him at which he hopes to arrive after long years of toil and devotion to his country, and which is more wanted in the case of the Medical Department of the Army, charged with the effectiveness of the human war-machine, than in any other.

The greatest captains of modern times have recognised the primary importance of early and good treatment in sickness of the soldiers under their command. Napoleon, who, as we have said (in a previous article), kept his men in the condition of pugilists, was as fond of his Surgeon-general as of those two whom he considered his most competent commanders—Dessaix and Kleber. So Larry was made a nobleman ! The Iron Duke again used to look for Hume's morning visit, at one time, with as much anxiety as for that of Sir Thomas Picton, or his chief of the staff, and said that no man had done more towards his victories than Sir James M'Grigor. Marshal Radetzky went so far as to say that the term non-combatant was *totally inapplicable* to the devoted men whom he saw performing their noble duties everywhere under the enemy's fire.

In spite of all this testimony, the greatest parsimony



has of late years been adopted in the provision for the sick soldier, and obstacles are thrown in the way of the army surgeon from making the men again effective. Sir William Muir has been trying hard to keep up his departmental strength, and is still trying to keep the soldier from falling, or when down, to get him on his legs again. Meantime, everything is in *statu quo*, and his little army loud in complaints.

In all callings in life, commencing even with the domestic servant, more consideration is now demanded by *employés* than years ago. Everything is now at market-price, which is in many cases even double. More liberty is required, and more indulgence; yet the false economy practised as regards hospitals and treatment of sick, the tying hand-and-foot of the administrative medical chiefs—as if they were Davenport Brothers—and putting them and their subordinates in a false position, has indirectly increased to a considerable extent the amount of sickness and ineffective numbers, and turned what should really be flesh-and-blood soldiers into nothing more than paper ones.

In the whole annals of the British Army and Navy, it is impossible to find more true heroism and pure devotion than has been shown by those who have the health and well-being of the soldier and sailor confided by the Sovereign to their care; yet no class of officers have more cause to complain. In addition to their strength being cut down to the lowest possible ebb, the seniors as well as the juniors have had the most onerous, unprofessional, disagreeable, and multifarious duties thrust upon them. “Stick to your business!” said Rothschild to a beginner! “Stick to your brewery, and you may be the great brewer of London! Be a brewer and a baker, a merchant and a manufacturer, and you will soon



be in the *Gazette*." And this has robbed Sir William of some of his most conscientious and hardest workers, and so driven *them* into the *W. O. Gazette*.

It is not every one who can be a Leonardo da Vinci, of whom it is said, "Had he stood before the gates of Macedon, he would have tamed Bucephalus;" "had he been seated on the magic throne of Comus, he would have snapped in twain the wand of the demon;" "had he seen the chariot of the King of Phrygia, he would have unravelled the Gordian Knot;" and who was not only a painter, but a mathematician, metaphysician, musician, poet, sculptor, engineer, architect, chemist, botanist, anatomist, astronomer, besides being skilled in mechanics and natural history. Those who come nearest to this perfect genius, it is suggested, may be those officers elevated to the supreme position of governors of military hospitals over the administrative departmental chiefs of thirty or forty years' service and experience in all countries, and who may *not* have had the chance of proving themselves (like such governors) Leonardo da Vincis, or, like Admirable Crichtons, taking their M.A. at the age of fourteen, and capable of driving half-a-dozen callings abreast. Strange to say, the Von Moltkes and Von Roons have found out *before us* that it is not the possession of a combatant commission that makes an officer fit for *any* appointment. During the Franco-German war, combatant officers of considerable standing were employed on duties pertaining to the sick and wounded, and yet were placed entirely under the orders of the principal medical chiefs, who were on the general staff. The proof of how well it answered is, that what was adopted in war has now been made the rule in peace. There was no jealousy of medical officers, for all then sang "Die wacht am Rhein," and worked devotedly



among the helmeted soldiers of Fatherland. Those of our readers who travelled along the German lines during and at the close of the war, will remember the little wooden kitchens at intervals, and the complete little hospitals at some of the railway stations. These were all done under the superintendence of the so-called non-combatant medical officers. The one at Weissenbourg, which received the wounded from the farm above where Douay and three colonels fell, and where the bloodiest struggle took place, and passed them on by rail, was a monstrous success, and administered by a medical major. In the Italian campaign of 1860, the hospitals at Naples and up at the front were governed by officers of the Medical Department holding even military titles, and those of Santa Maria di Capua, in the extreme front, Caserta, four miles in rear, and of St Sebastiano, at Naples, with its 1400 sick and wounded, were allowed by the *Times* to have overcome gigantic difficulties. The brigade hospital system of the Italian army to this day is very complete, and is entirely under the direction of its medico-military chiefs.

Some wiseacres say, in case of war we could get any number of volunteer surgeons! Oh, vain thought! The medical profession has found out how true is the proverb, "*Dæmon ægrotat*," &c., &c. Although a few might volunteer for an ambulance, Sir William's army could not be recruited from such men and sources. A few homœopathists perhaps might suit, and be introduced for the benefit of some who believe in them, and those young men crammed and passed through the colleges into the service; but neither homœopathy nor these last will coolly tie the carotid artery under fire, nor (like O'Leary in the Crimea) amputate successfully at the hip-joint. Those officers—sometimes colonels, sometimes surgeons



—honestly acting for their regiment's effectiveness, should meet with assistance, not be doused with a bucketful of *cold Control water*, when they suggest anything for the men's good and for prevention of sickness; for every colonel will allow that 500 effectives are better than 1000 paper men.

As it is applicable to the case of Sir William Muir's and Sir Alexander Armstrong's reduced army of martyrs, we may perhaps be allowed to quote from the sixth book of the *Æneid* :—

“Facilis descensus Averni.  
Noctes atque dies patet atri janua Ditis.  
Sed revocare gradum, superasque evadere ad auras,—  
Hoc opus, hic labor est.”

Those true friends of the soldier, the surgeons, have hoped long, but Hope is a deceitful enchantress; she sheds a sweet radiance on the ocean of life. One seldom, however, in the medical services of the country attains to what she beckons to us to pursue. A small pittance after twenty-five or thirty years, and much less if health has given way previously. No *social* rank or *title* like other officers, but retiring in this respect after long toil with the SAME title as one had on entering the service, the calling generally, however, ennobled by the manner in which its duties have been discharged. The mortality of the army since twenty years ago has, in India and elsewhere, been reduced by one-half. It might be made even yet less. Is the cutting down of the allowances of those to whom the care of the soldier and sailor is confided, the not giving him his leave, nor sufficient inducements, likely to attain this end? We cannot believe that the cutting-down system originated in the War Minister himself, but rather in one whose brain does not, like Cuvier's, weigh sixty-four ounces, and who forgot that,



“Blessed is he who provideth for the sick and needy,”  
&c.

Finally, let us quote for earnest consideration the following lines :—

“When on their narrow beds are laid  
The ghastly relics war has made ;  
Or when above the crowded camp,  
Like vapours o’er a deadly swamp,  
Hovers disease, on vulture pinion,  
And pallid sickness holds dominion ;  
There, or upon the battle plain,  
Those watchers by the bed of pain—  
The kindly soothers of distress,  
The surgeons, heroes laureless—  
Strive long and ardently to save,  
And of its victims rob the grave.  
Yet not to them is given the praise  
That the bold warrior’s toil repays ;  
Denied to them the wreath of laurels,  
Who also die in nation’s quarrels ;  
But when our God, in brighter skies,  
Shall wipe the tear-drops from all eyes,  
When war her blood-stained flag has furled,  
Who knoweth in that better world  
Whether the wreath of laurel green  
Shall on the warrior’s brow be seen ?  
But surely on their brows who fell  
Uncrowned on earth, though fighting well,  
Shall twine bright wreaths of asphodel.”

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## IV.

## SUCCESS IN MILITARY LIFE.

HAVING hitherto spoken of the difficulties in keeping up the effective strength of the great war-machine, we will now venture to offer a few remarks to those who have to work it, and more particularly to those who are commencing their career ; for all, junior as well as senior, are called upon to contribute to the good of the service.

The general pursuits in life have been divided by the French into two classes, that of (1) *Métier*, and (2) *Etat*. Of this latter, which answers to our word profession, Sidney Smith says :—"Be what nature intended you for, and you will succeed. Be anything else, and you will be ten thousand times worse than nothing."

Again, Longfellow says :—"The talent of success is nothing more than doing what you can do well."

The chief care, therefore, of a young man entering the army is :—(1.) To be certain that he has some taste for the profession. (2.) That he has the determination to work steadily under the new *régime* from the last step of the ladder, and endeavour, by his application and mastering of details, to prevent others from passing him by getting hold of the bars above his head.

If officers would read this truth, and British soldiers be more steady, live more on good food, and less on bad drink, what an army we might have without the anxiety caused by our present futile system of recruiting ! How



shall I get on in the service? This is an old theme, and asked by many a young man on retiring to his bed after his first introduction to the regiment. If he be in the ranks, the answer is, by steadiness and attention; but of the officer more than this is required. There are before him icebergs, sunken reefs, stormy capes; in other words, dissipation, horse-racing, card-playing, Jewish thieves, all of which may be his ruin, and there is no exact chart laid down for his voyage. Let him remember what Sir Charles Napier said to his officers. To drink unpaid-for champagne and unpaid-for beer, and to ride unpaid-for horses, is to be a cheat, and not a gentleman. The path of success never was and never will be one of primroses, and to-day it is more thorny than ever. Competition in the service grows fiercer. Physical qualities, we have shown in a previous article, are urgently required, and not less so are the intellectual,—alertness, activity, prudence, persistence, boldness, decision. Carlyle says, “The race of life (and not least so in the army) has become so intense, that the runners are treading on each other’s heels, and there is not time to stop to tie one’s shoestring.”

The rule still holds that men who make their way to the front are those who have both force of personal character and perseverance. We grieve, however, to know that many departmental officers, whom we mentioned in our last article, have sadly felt that time and talents have been wasted, and have been doomed to see many who set sail with them pass them by, with streamers flying and swelling sails.

There are many degrees of success, and it is not the greatest of them which ensures happiness. A soldier may well be content with a lesser reputation than Napoleon or Wellington, yet if we trace the fame of these



warriors through its many stages, we shall find that it was greatly due to unceasing labour.

Shelley said that the Almighty had given men arms long enough to reach the stars, if they would only put them out! If! Yes! *If my aunt had been a man, she would have been my uncle!* And if young officers want to get on in the present day, they must use their arms, their heads, their eyes, and all that God has given them.

It was also remarked by many Indian officers at the outbreak of the Mutiny, "This occasion will make great men!"

Great men, other than the immortal Havelock, did arise out of it, but it was not the Mutiny that made them. The Mutiny was only the great occasion for which great men were the supplies; great men make great occasions for themselves. They are themselves the great occasions, the beacon lights, the efficient motive powers, the *causæ causantes*.

Havelock, like Robert Lee, had all his life studied military history, and the events in the lives of successful soldiers; and both these truly great men were unconscious of the way in which they arrived at greatness, except that they knew unceasing toil was indispensable.

When Wellington made his two outer lines at Torres Vedras, he was probably only thinking of defending himself against Massena, or any one else; and again, when he was making his third and inner line, his thought was the protecting of his troops, if forced to embark, in place of being driven into the sea, as a cold bath was evidently intended for him by the French. Finally, when he put the keystone to the arch of his glory at Waterloo, there was probably only one wish in his heart, "to gain a great victory over his powerful rival."

What a man wants to ensure success in the army is



not talent, but purpose ; not the power to achieve, but the will to labour ; for men of even ordinary calibre have effected changes in the destinies of nations, and very ordinary abilities will suffice to make a man a good soldier, which others with greater talents fail in becoming.

If a young fellow says, on joining the army, "Now, after drill I'll lock my barrack-room door each day for a certain time, study plans, read history, and ask Benson, who has just come well out of the Staff College, to come in for Krieg-Spiel," then a moderate talent will achieve useful results.

It is no business of the young officer whether he has genius or not. What he has to do is to work steadily and quietly, and have a tacit understanding with himself that he is to rise. The things which God means him to do will be his best. If he is to be a really great man, they will be great ; if he is to be a small man, they will be small ; and he will know that he has done his best. We have in a former article shown that the body may be trained to do wonders ; so may the mind, in like manner, be trained to more than it would otherwise be capable of. The young Spartan who complained to his mother that his sword was too short was told to add a step to it. So must small capacity be increased by redoubled diligence, for industry supplies the want of parts. It is, indeed, wonderful with what slender qualifications in the army, as compared to some other professions (but with these properly managed), a man may become a good officer, fill a large space in the great war-machine, and be a credit to his country. If he has discretion, it may be of more value than great qualifications ; for if we know the range of our faculties, as the artillery officer does that of his guns, we shall never aim at objects beyond our reach, but



be ready as chances turn up to take advantage of them, and then is the time to seize Fortune by the hand which she holds out, not blame, as we do too often, this coy and saucy maiden, rendered so by her many wooers. La Fontaine says—

“Le bien nous le faisons, le mal c'est la Fortune ;  
On a toujours raison, le Destin toujours tort.”

Some young officers who have not great talents fancy that there is no chance for them because they see all the places around full, and even if any vacancy occurred, a more skilful workman would be chosen. This last, we regret to say, *is not what occurs generally in the service*. There is, indeed, room for improvement under this head—that of employing officers in certain situations for which some are peculiarly fitted.

When we have got together a good *flesh and blood*, not paper, war-machine, the next thing which must necessarily occupy our attention is to get good workers and machinists in all departments of it, and there must be prizes held out to induce officers to struggle for these against competitors. As a very sensible writer used to say, “If you want to get on in life (and this particularly applies to the army under the new *régime*), you must do as you would do if you wanted to get through a crowd to a gate which every one is trying to reach. Hold your ground and push hard! Look alive! Be patient! Work hard! Watch your opportunities, and hope for the best.” If you fail to reach the goal of your wishes, you will possess the consciousness of having done your best, which is, after all, the truest success to which an officer can aspire.



## V.

## MASTERING OF DETAILS.

THE two great military stars that illumined the European theatre of war towards the close of the last and beginning of the present century had many points of character in common, as extraordinary decision, self-reliance, persistence ; but the one in which they so nearly resembled each other was *Attention to details*. Mr Smiles has told us in his work on Character, that after the first publication of the Wellington Despatches, a friend meeting the great soldier said, "It seems to me, Duke, that your chief business in India was to procure rice and bullocks." "And so it was," replied Wellington, "for if I had rice and bullocks, I had men ; and if I had men, I knew I could beat the enemy."

Again, old Runjeet Singh's opinion respecting the British soldier was, "that his commander should be so up in every species of detail concerning his well-being, that he might be brought up by him like one of the Maharajah's chetahs, and deposited on the very ground where he was to seize his prey." Military experience proved day by day during the war of 1866, and again during the Franco-Prussian war, the sagacity of these observations, and that the causes of failure were owing to the contempt of details, commencing with even some of the *minor* points of that *necessity of necessities*—*Discipline*. The souls of the French were full of enthusiasm when the mob shouted "à Berlin," but they



forgot that dry minutiae and vulgar drudgery were required for success. They forgot, or did not take the pains to learn, that the Mecklenburg veteran, like their own first Napoleon, had commenced with the *smallest details*, and never stopped building up his giant fabric of military strategic knowledge till the bugles sounded for the advance of the Crown Prince towards Weissenbourg and crashing Woërth.

Some forces which we have seen and known have resembled a watch which *would have been* perfect, only it has had no hands ; or a cannon, a *fine piece of metal*, well bored, only with *no touch-hole* ; or like a mouse-trap where the cheese has been forgotten.

"An army marches on its belly!" Oh, yes, "*natürlich*;" so it does on its legs and feet, as the great Duke found, and as he had many a row about *bullocks in India*, so he had many a one about shoes, boots, and trousers in the Peninsula ; and one of the very reasons of his great success was what Sir Arthur Helps called, "an almost ignominious love of details," an element of effectiveness which the good British officer will find that neither *talents* nor *loftiness of design*, no ! nor even enthusiasm or courage, can replace. This is the difference between the practical soldier and the dreamer, between Watt, who conceived the steam-engine, and the old woman that sat looking at the kettle when the lid was blown off by the force of the steam. Let the barrister neglect any apparently petty circumstance in his brief, and it may prove to be the very keystone of the whole, or substitute any word now of similar meaning in a deed for HEIRS, and where will be his estate in fee-simple ? So in military life, many of our highest officers know, and the Government will probably yet learn, "that the difference between first and second class work in every department of



the service lies chiefly in the degrees of care with which the little details are executed. When Brunelleschi designed the Cathedral of Florence, it is supposed that he superintended the laying of every brick of the dome, and some say he even ascertained its specific gravity, and so it stands one of the wonders of Italy. The great painter Turner never slighted the humblest piece of work, and did everything conscientiously. So the good General does not become one except by the patient acquisition of each military detail, and incessant business-like care for everything connected with the transport of food, dress, appointments, and health of his men and horses. We remember how these latter were shown by a commanding officer of one of the Royal Horse Artillery Batteries before Lucknow in 1858, when (perhaps remembering the broken buckle during the Commonwealth) he *asked one fine morning*, whether something connected with the harness of "one of the wheelers of No. 2 gun" (which his quick eye had detected) had been rectified, and probably rather than go into action not up to the mark as far as possible, he would have liked to do it himself.

A thousand trifles must always be attended to before the proper time for playing "See the Conquering Hero Comes," which was, no doubt, thought by Sir Garnet Wolseley and the Ashantee force the other day a capital tune, but before this they had had to march in the mud, lie in a tent during a tropical heat, stung by those brutal tiger mosquitoes, with a frugal supper and a splitting headache, while many of us were snoring in a fine feather bed, or in one of those companionable easy-chairs at the club. They had had, perhaps, in the transport train, to thrash stubborn mules, and overcome great difficulties, and finally end with (what many old officers are inclined



to look at as the great proof of military capacity) a rather heavy butcher's bill.

The first Napoleon was a striking illustration of all this, and it was the secret of his brilliant success. "No young girl," said he, in a letter in 1806, "enjoys her novel more than I do my returns." Out of his brain every vision flew as a chariot of iron, perfect in every detail of execution. Even Shylock did not show more attention to the pence and farthings, than did he concerning his men, horses, equipments, and the minute details of his force. In one letter, on the 4th of October, he is arranging about saddles; on the 5th about shoes for the men; on the 6th he asks Ney if he has got the muskets; on the 7th he gives directions to Jerome about great-coats for the cold weather, and shakos and arms for Wurtemberg regiments; on the 10th he informs Daru that shirts are wanted; on the 12th he tells the Grand Duc de Berg that there are not enough sabres, and orders them to be made at Posen, and helmets at Ebling; on the 14th he writes, "Your return is not clear! I do not see the position of Gardanne's division. I see some companies that don't *belong at all* to the army of Naples! This carelessness deranges administration, and is calculated to destroy discipline."

It was this practice which enabled him to carry out his principle of concentration, and to throw such overwhelming numbers on a given point, and *not what has* been attributed to *him* as a saying, "God fights with the big battalions." But the most striking illustration of it was on September 1st, 1805, when he broke up his great camp on the shores of the Channel, and gave the word for that mighty host of 170,000 men and 432 pieces of cannon to defile towards the Rhine and Danube. Before the bugle sounded for that march, he had planned



the exact route for every corps, and the day it was to arrive at each station. What was the result of these details, carried out as they were by those under him, and of that memorable march? That before the 1st of December Vienna had fallen, and he was seen on that evening resting his telescope on the shoulder of an hussar of the guard, surveying the ground of the coming struggle. Some of us may have seen the picture of this, the veteran trooper standing with carbine at the present, and saying, "Sire en serons nous?" The following evening, when the sun set on Austerlitz, the fate of Europe had been sealed for ten long years.

It was the same business qualities and attention to details, not less than to his military genius, that gave to the Iron Duke his great success. He left nothing to chance, and always provided like a clever lawyer for a contingency. He had never feared to give his attention to the pettiest detail from the commencement of his military career, and perhaps it was in a great degree owing to this that it may be said he never really lost a battle.

The correspondence now published by the American Government shows that Sherman, for months before he "marched down to the sea" and cracked the nut of the Confederacy, had studied all the country through which he was to pass, its resources and habits of its people. This fact had been predicted by the *Army and Navy Gazette*.

Every bit of information regarding Alsace and Lorraine had been fished out by the Germans before the commencement of the campaign, and probably their information regarding England is carefully put away in Von Moltke's cabinet at Berlin.

In 1858, before Lucknow, it used to be quite a common saying, that Mansfield knew the exact position of every



gun, its kind and calibre, from Peel's eight-inchers to D'Aguilar's nine-pounders, and Jock Anderson's sixes and twelve-pounder howitzers.

In the face of all these facts, how often do we see officers, and even some seniors, underrating petty details. Be assured that it is the little things which make the great! "the pebbles make the beach, the trees form the woods; individual Highlanders the moving FOREST of the Highland Brigade, and the Stars the milky way; no man can get up to the Calculus without commencing with  $(a + b)(a - b) = a^2 - b^2$ .

In the words of Jeremy Bentham, "while striving after a sum total, we forget the cyphers of which it is composed, and man stretching out his hands to catch the stars forgets the flowers at his feet, so beautiful, so various, and so fragrant."

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## VI.

### CONCENTRATION.

ANOTHER indispensable element of success, in addition to those we have already mentioned, is a devotion as much as possible to one object: Goëthe's advice to us on the point is this:—

"We should guard against a talent which we cannot hope to practise with some degree of perfection. Improve it as we may, we shall always in the end, when the merit of the master has become apparent to us, painfully lament the loss of time and strength devoted to our inferior attempts. We have alluded to some officers in the service who may have been supposed to resemble



Leonardo da Vinci, and the grave has not long since closed over an old man, aged ninety-four, the concentration of whose talents and oneness of aim lifted him from a most humble position to the Woolsack, and gave a coronet to his posterity. The day of universal scholars is now past, and a man that would know one or two things well must have the courage to be ignorant of a thousand others. The moment we think of Watt, the wondrous steam-engine comes before us ; of Arkwright, and the spinning-machine ; of Davy, and the safety lamp ; of Harvey, and we feel the blood rushing through the veins ; of Jenner, and we see a frightful disease stayed by the prick of a lancet ; of Morse, and we think of the electric spark darting under the ocean from continent to continent, and putting a girdle round the world in a less number of minutes than the hour. The successful man in every profession is generally he who is *totus in illo*. Strength in any one's calling is like gunpowder. To be effective it needs concentration. The soldier who aims at the entire target will seldom hit the centre ; and most Crimean officers will allow that, towards the close of the war, when the old soldiers had been in a great measure replaced by recruits, that the fire of these was, from want of concentration and aim, about as dangerous to the enemy as that of a cockney sportsman who takes care to shut his eyes before pulling the trigger.

Assuming that a man has once become sure that the army is the profession to which the faculty of his mind is directed, he naturally looks to those in power, who have the direction of his faculty, to guide him in making the best use of it. Of course, if he is to be an engineer or artillerist, he will require more mathematics and mechanics than if for cavalry or infantry, and the concentration of his studies is particularly called for on these. It



is difficult to see how more than a comparatively elementary knowledge of classics can be called for in such officers, any more than how a clergyman should be called on to understand the fortifications of Vauban because he has learnt mathematics at College, which led up to such study. Yet we find that the same number of marks is given for classics as for those European languages which are so precious whenever we are allied with another army in the field.

We are not, we think, going too far when we say that the ignorance of European languages, even among officers of the Scientific Corps, is considerable ; and when they can, by aid of a dictionary, wade through a military article from the French or German, there is not one officer in twenty who could keep up a fluent conversation in the former and *easier* of these, and for which *accomplishment* (the work of perhaps years) only 300 marks is given for the colloquial. This was exemplified last year, when some distinguished officers showed such knowledge of the great language as the following :—" Vous choisi lunch avant ou apres," by which it is presumed the speaker wished to say, " Preferez vous prendre le lunch en ce moment-ci ou bien plus tard ;" and again, in reply to a question of a distinguished French personage, we heard, " J'ai resté là, mais j'ai changé maintenant," by which the speaker meant no doubt to convey, " J'y ai demeuré mais je viens de déménager."

Of course, as regards German, the matter is still worse, and some who put forward foreign articles and books translated by them into English, strange to say, when met on the Continent, cannot utter a word of any language save their own mother tongue. How should they, when the education rules keep them from concentrating their minds on such things as useful modern languages, by ordering



them to get up "Rob Roy," "Peveril of the Peak," or Spencer's "Fairie Queen," by heart?

The gardener does not suffer the sap to be diverted into a hundred different channels, merely to develop a myriad of profitless twigs; nor does the British tar, like the Yankee sailor, splice a rope in many different ways. He knows but *one* way! Ay! but that *one* way is the best by a *long way*. In the English, as in every Continental army, the profession is stocked, and the only way of climbing over a brother officer's head should be by concentrating one's talents on the subjects most useful to us, and which, in after years, may make him a skilful commander. Have we not often watched clouds of steam as they rise in the air? What is more powerless? But, pent up in the boiler, they can propel the great ironclad through the sea, cut a tunnel through the Alps, and bring the Antipodes to our doors. It is not every day we meet with a Fearne, who writes a work on contingent remainders, and springing and shifting uses, is profoundly versed in medicine and mathematics, invents a new dye, and brings out a treatise on the Greek accent;—with a *Gladstone*, an intellectual giant, who, as Prime Minister, receives despatches, makes experiments with the hygrometer, writes letter after letter to great financiers, conducts a well-sustained correspondence with half-a-dozen great classics on Homer, translates English hymns into Latin verse, writes occasional letters of forty pages to a lawyer on a nice legal point, and winds up by tackling all the Roman Cardinals and Pio Nono himself on their own ground. But the Cavours and Bismarcks of every country have generally been men of *one great idea*, like our own heaven-born statesman, who, devoting his entire soul to politics, working like a horse, and converging all the rays of his mind to one focus on the object in hand, went



nearly straightway from College to the House of Commons, and in two or three years rose to be Prime Minister of Great Britain, reigning for nearly a quarter of a century virtual King. Concentration is also the way of using strength economically, so as to avoid exhaustion. The mind, enthusiastic on one subject, must naturally accomplish more than if occupied with half-a-dozen; and the chief labours in the army should be expended on those subjects which demand to be specially cultivated, never, however, neglecting *details*, which build up the fabric itself. This can be done, and yet the accomplished soldier can lay aside his sword for a time, and, like Charles James Fox (as Walpole tells us), after his exhausting speech on Hasting's trial, was seen handing the ladies into their carriages with all the idle small-talk of a cornet of dragoons.

The time may perhaps be coming when, to find a perfect man, we may have in some degree to imitate the artist, and take a brain from one, a heart from a second, discretion from a third, and a stomach from a fourth. Concentration of one's energies have been well exemplified in Butler, whose "Analogy" took twenty years to write, the same time as did Gibbon's "Decline and Fall." Sir Isaac Newton re-wrote his "Chronology" seventeen times, and these are the kind of works the world will continue to honour: and in these cases there was no chance of failure from greediness to grasp too many of life's prizes.

In the same way the results of that masterly stroke of genius in Napoleon, when opposed to old Wurmser and Quasdanovich in Italy, would never have been arrived at except for this power of concentration; for had he, according to best authors, on that occasion guarded the whole line of the Mincio, he would certainly have been pierced; but sacrificing even Mantua, he concentrated at



the extremity of the Lake of Guarda ; the consequence was, that meeting first with Quasdanovich and his 20,000, he drove back his advanced guard, which made that general halt to get tidings of Wurmser, and so gave the great captain the chance of facing round to meet the 20,000 men which Wurmser had left of his *own force* under Bayalitch, and of piercing its weakened centre ; so that in six days from the commencement of hostilities the Austrian generals were flying back to Tyrol with a loss of the fair plains of Lombardy and 20,000 men *hors de combat*. Turn now to a more comic view of the question, and take an event in the life of Boswell. In his youth, he imitated in the pit of Drury Lane Theatre the lowing of a cow so admirably that there was a general cry from the gods of, "*Encore the Cow.*" As he attempted with inferior effect to vary the performance, Hugh Blair, who sat next him, whispered in his ear, "Stick to the Coo, mon ! Stick to the Coo." There are few in life who would not do better to stick to the Coo ! and not, as Sidney Smith said of Lord John R——, attempt the most incongruous of things, such as to go up in a balloon, perform an operation for cataract, or take command of the Channel Fleet.

We have a strong suspicion that his Royal Highness, if his sound sense were allowed to predominate in the matter of military education, would endorse the following truth, which we are actually so bold as to suggest :—

That knives which contain half-a-dozen blades, two or three corkscrews, a file, a small saw, a toothpick, a pair of tweezers, and other appliances, are generally wretched instruments, and worth but little for each of their specific purposes. In the lines of Pope—

"One science only can one genius fit,  
So wide is art, so narrow human wit."



## VII.

## SELF-CONFIDENCE.

IN making use of the above term, we are aware that it may be translated in two different ways—(1) Reliance on one's own powers, such powers having been gained (as physique in the athlete) by long and careful training; (2) where the real power is shallow, but conceit deep, in a person puffed up by it like a peacock, and contemptible in every one's estimation but his own. Gibbon tells us that every one has two educations, one which he receives from others, and one (the more important) which he gives himself. "Aide toi et le ciel t'aidera," should be the motto for the soldier who, rich or poor, wishes to rise to honour. Where the storm beats there the toughest plants are found, and he who jumps into the sea of life, and buffets manfully with its waves, in place of relying on a kind of *Boyton's apparatus*, will most likely succeed. Although, when in difficulty as to his course of action, an officer, and more especially a young one, cannot do better than to seek the counsel of his superiors and elders, still, a man who can do nothing of himself, but is always running off to others for advice, and who refuses to take responsibility, is nothing more nor less than a veritable dwarf, and like the *lobster*, who will not even work his way back to the sea, but waits for the sea to come to him. There have been many arguments regarding *Purchase*, *pro* and *con*, but the young man who puts his hands in his pockets, and with a Haw, haw! says he has



come to the conclusion that its abolition is a bore, *only* because "it stops a feller from getting the command of a regiment," be assured is not the man that such regiment will ever miss. Healthy blood, self-reliance, honest working, sticking to one's duty *as the limpet to the rock*, *let us hope* will still enable a man to grasp the upper branches in the tree of military fame, and with such qualifications as those above enumerated, he will not now want much of the *Devil's blessing*.

The obstacles on the road to Fame are positive advantages. They teach us to set our teeth firmly, and so overcome difficulties. *Peril* is the element from which real power is developed in a soldier; and, as the great Greek, Pythagoras, tells us, "Ability and necessity go hand in hand." When Lord Thurlow was once consulted by a parent as to the best means for his son's success at the Bar, he replied, "Let your son first spend his own fortune, then marry and spend all his wife's, and *then* go to the Bar. There will be little fear of his not succeeding. "Ibit eo quo vis qui zonam perdidit." And it was for this very reason that his Lordship withheld from Mr Scott (afterwards Lord Eldon) the Commissionership in Bankruptcy. Many *lucky dogs*, as they are called among English officers, began life at the foot of the ladder, and if we want a good example of this, we have it in the generals of the first Napoleon. These gentlemen put their iron heel on the painted lizards of society, and many of us might copy them by considering well *their* method of working, and that "nothing was looked upon by them as *done* while anything remained *undone*." We cannot be too often reminded that *difficulties, not facilities*, make the man! Many a flower needs to be crushed before it will part with its perfume; so men are sometimes well-nigh crushed by despair before the brilliancy of their



genius is displayed. They will, however, when the chance comes, be like Lord Eldon, equal to the occasion, and not like some men of the present day, ceasing to think for themselves, but getting their thinking done for them by machines ; or like some young ones, carried up to the Himalayan peaks of knowledge by cramming ; this being made necessary by the education and competitive examinations, civil and military, of the present day. Be assured of one thing, "That you may have a foundation with *no superstructure*, we must admit, but you cannot have a roof in the air with *no foundation*." You cannot, in the same way, speak a language without commencing with its individual words ; you must learn each of these like a child does from its earliest prattle.

We sometimes see men determined not to continue travelling in a groove that can lead to nothing, *and who refuse* to be like a *toad embedded in the rock*. These men will probably hew out a new path for themselves ; they are not those limp persons so frequently found in the service, whose central quality is *fluidity*—at all times a bad thing indeed to support one's-self on.

If a man be self-reliant and determined to labour, there is no telling what he may accomplish. Did not a camel-driver found a new religion and control the destiny of nations ? Was not Gregory VI. a carpenter's son ? Adrian VI. a bargeman ? Murat an innkeeper's son ? Kepler, who discovered the three great laws (1) that the planets' orbits are ellipses, (2) that the radius vector from the sun to the planet sweeps over equal areas in equal times in the same but not in different orbits, (3) that the square of the time of the planets varies as the cube of their distances ; was not he also the son of a publican ? Was not Bernadotte a sergeant before a king ? Napoleon a sous-lieutenant, with no prospects



before he was noticed by Barras? Arkwright was a barber's apprentice, whose grand mechanical genius carried us through the wars of the French Revolution, and is said to have been of more value to England than all her colonies!

Is it not the master-will which subjugates the forces of nature, and concentrates years of labour on an invention like the boring of the Modane tunnel through the solid Alps? Even the instruments which accomplished this work are far inferior to more modern inventions, where the steel borer is replaced by the diamond.

These things prove (as we shall find on reading the Life of Goethe) "that man is *not* the creature of circumstances." "*Tant s'en faut.*" He is the *architect* of circumstances. *Bricks and mortar* have been called *mortar and bricks* before they come under his hand, and difficulties which dishearten one man act as a mental spring-board to another, by which he leaps across the gulf of failure on to the solid ground of success beyond. The best advice, therefore, to the young officer is, not to wield the rusty sword of his grandfather, but fight his battles with his own good blade, taking care, however, if a *cavalry* man, *not* to buy it of a *tailor*; and (as Horace Greeley warns us) not to look through the wrong end of the telescope.

It was said by J. R. Lovell, that the code of *Society* is stronger with most persons than that given to Moses on Mount Sinai; and that many a man who would not scruple to put his hand in his neighbour's pocket, would refuse green peas rather than use his knife as a shovel, or as a Chinaman does his chopsticks; yet we blame the South Sea Islander for tattooing himself, though no one bows more slavishly to what?—Custom!—than we do.

There is one thing which we ought to remember espe-



cially, "that in these days of competition, quick-witted dwarfs may get ahead of slow-witted giants!" In some departments of the army it is sad to see that *nothing but a good digestion* carries the day. In other departments, however, the man who runs in a *perpetual rut* DOES frequently find himself, and rightly, outstripped in the race, as the lugger ON *a wind* is by the fore-and-after.

In the army *particularly*, we cannot do better than take a good model and imitate; for imitation is at times necessary. In spite of self-reliance, there is no harm in borrowing from men who have illumined the world. Thorwaldsen's Mercury was suggested by a boy whom he had seen at rest; Kean's Richard III. from his seeing the struggle between Painter and Oliver. The best writers draw their stock from a variety of sources, being careful not to let the honey take the flavour of any particular flower. If Sir Walter Scott had not given up poetry when he found himself so eclipsed by Byron, we should never have had his splendid prose. There is no doubt that a sensible writer, speaking of *self-reliance*, was not far out when he said, "Do not be frightened because you are different to others. If you are knock-kneed or hump-backed or squint-eyed, never mind! you will be less likely to be confounded with the general public." In the words of R. Emerson, "The powers of man have *not* been exhausted. Everything may be yet better done by him. Do that *first* which is assigned you, *then*, *self-reliant*, you cannot *hope* too much or *dare* too much."

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## VIII.

## PRACTICAL KNOWLEDGE.

ALTHOUGH genius in a man in any form *ought*, and generally *does*, excite the admiration of his fellows, still one of the most vital elements of success in life is practical knowledge, derived from a steady and patient labouring of probably years and years. If we take the trouble to inquire into the many causes of failure on the world's highway, we shall find that there is none more frequent and fruitful than this want of practical knowledge. In fact, the possession of a brilliant intellect may even sometimes prove a bar to worldly advancement. "Try and cut a bar of iron with a razor. Will it not lose its edge? Then work at it slowly with a file for a few moments, and mark the results." Is it of any use to rifle a cannon till the strength of the metal is gone? Intense intellectual culture, with want of practical knowledge, is in a soldier about as unsafe a position as a theoretical knowledge is to a surgeon, or the trusting of a stiff cross-examination in court to a barrister who has never held a brief.

Young officers who are coached-up to what is now required of them are too apt to forget that the end of life is to *be* and *do*, and not to be only reading what Napoleon or Wellington have done before them. True, these are admirable models, but a man won't learn to skate without a cropper, nor till he can keep the centre of gravity well under him. Again, this practical knowledge in itself brings self-confidence and resolution. A man labours



hard in the workshop ; he keeps it up day by day. He knows at last he *can* do what he wants to do at his trade ; maybe he is only a carpenter or a gardener, yet his master-hand in the way he goes to work is recognisable at a glance. He has no doubt in *his* case ; he is confident in his carpentering or gardening—

“ He suffers not his native hue of resolution  
To be sicklied o’er with the pale cast of thought ; ”

and although, “ from time to time, comet-like geniuses have shot through ” the world, still most of life’s real labours are performed by the practical Colossus. So in one of our commonest pastimes, cricket, although “ fine fielding and good bowling and wicket-keeping are valuable, still the hard hitting and fast running make the score and win the game.”

The greatest men in the world have not generally been the polished scholars. The barons who wrested Magna Charta from the despicable sovereign at Runnymede could not write their own names.

The next time any of us travel by a flying express, it may be well to remember for a moment that Stephenson, who gave us this wonderful power of locomotion, could neither read nor write till he was twenty years old.

“ Men have ruled well,” says Sir Thomas Browne, “ who could not define a commonwealth ; Charlemagne could scarcely write his name ; Cromwell, the brewer’s son, was as bad ; and Frederick the Great was the worst speller of his day.”

A man may not be able to give a physical explanation of the lever in mechanics, and yet know that the shorter the bite of the crowbar the greater the power ; or he may resemble Andrew Ferrara, who in the fourth century turned out from his dark cellar in the Highlands of Scotland tempered blades that excelled those put forward



by all other manufacturers. The highest genius (which we know is rare) can sometimes see by a flash what others have to learn by observation; but no genius, however great, can dispense with experience in the practical affairs of life. The great navigator and seaman, who works out his lunars to perfection, finds that he is obliged to confess himself inferior *for the moment* to the squatting Chinaman-pilot who guides his ship up the *Boca Tigris*. It is of no use blinking the fact that "The crown of all faculties is *common sense*," and it is the men of action, rather than the men of thought, who will get to the top of the ladder first; particularly as is now the case in the army, where the ladder of purchase has been cut from under the tree, and many who are already in the upper branches are laughing at those trying to get a footing on the trunk. The right thing must now not only be done *per se*, but it must be done just in the nick of time. It is of no use trying to take the second step before we have taken the first. You must go *ahead easy* in skating before you attempt the spread-eagle; if you don't, you will certainly soon be seen lying on the broad of your back on the ice. And yet, in the world, and particularly in the army, there are many of those unpractical men who are impatient to reach the goal by jumping over the intermediate ditches, and who forget that there is no royal road to learning.

Talent, says a celebrated writer, knows *what* to do; tact, *how* to do it. Talent is wealth, it is true, but tact is *ready money*; or, as we say at the Bar, Talent often gets a compliment from the bench; but tact touches the fees of solicitors and their clients. Keep your eye, then, on the weathercock of life, and take advantage of every wind that blows, remembering always that although "a man may be a giant in the closet, he may be a child in



the world." Corneille, with his talents, was so poor from want of common sense and care, that he had to have his stockings mended at the corner of the street ; and the author of " Fidelio " and the grand Sonatas, when thirty-seven years old, sent 300 florins to pay for a few shirts and a dozen pocket-handkerchiefs, and (what most military men will consider the very height of his folly) paid his *tailor* 300 florins in advance.

This practical knowledge is as necessary to success in the world as is oil to machinery ; without it, friction in the engine will soon cause it to stop. There will certainly be a hitch somewhere, and he who is not a practical man will in the end be held back by the web which trifles will weave around him. In fact, he may be brilliant in some ways, and yet be nearly a social simpleton ; a kind of Madame Malaprop, always saying and doing the wrong thing in the eyes of the world.

The want of practical knowledge combined with intellect is seen daily ; and some men with great genius are unable to manage their own affairs. Genius, says Helvetius, is only a continued attention ! Genius, says Buffon, is only a protracted patience ! Genius, says Cuvier, is the patience of sound intellect !

When Sir Garnet Wolseley characterised *as an approach to genius* Sir Anthony Home's conducting of the sanitary arrangements of the Ashantee expedition (rendering so few coffins necessary), this end was only attained by resolute, untiring patience in the generally ill-requited labours of his profession for many years.

Energy and self-possession, *without* intellectual power, give often special knowledge ; and practical men will cut the knots they find it difficult to untie, and so come to a conclusion, while men of genius sometimes waste time in meditation, or, looking through a microscope, they re-



fuse to drink the water of practical knowledge for fear of impurities. Theory alone in our day won't do for generals, and officers who desire to rise to that rank. A celebrated writer says :—"Genius should not only be endowed with wings to fly, but with legs to stand and run upon."

Without practical knowledge the best runner will find himself tripped up and lying flat on his back, like the skater we have before mentioned.

To sum up : *Life is action !* This is the truth, neither more nor less. Believe it or not as you please, the time *will* come when you will be obliged to own it. The man who sees clearly within his own limited circle will very likely make his mark in the world, just as a horse in a carriage with blinkers is less likely to shy in London streets than without them. It is impossible not to see the force of a celebrated French writer's words :—"Ni Bacon, ni Shakespeare, ni Molière, ni Tasso, ni Dante, n'auraient fait grand figure dans une révolution. Ils auraient trop vu, trop compris, trop douté, trop craint, trop souffert, trop présenté, et trop dedaigné."

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## IX.

### DECISIVE ACTION.

A CARRIAGE is seen coming along the road ; the horses start at a train passing, then plunge and go clear away at terrific speed. The coachman tries to hold them, but ineffectually. On they come down the road, threatening to smash everything, and perhaps fatally injure the occupants. The coachman, habituated to horses all his



life, decides in a moment what to do. He sees an open way on one side leading to a ploughed field, and guides them in. They take several turns at full speed, and then allow themselves to be easily pulled up, panting and covered with foam, but all is saved by this good example of *decision*, and without which there can be no real success in life. This decision is, like vigour of constitution, the gift of God. It can be *cultivated*, but not *created* by man. In him, it is true, there is always the germ, but that is all: there are constant occasions when a man breaks through his resolution, but this is no reason for his giving up his purpose of reaching the goal he desires; for the Angel of Martyrdom has been said to be own brother to the Angel of Victory.

If two men are running side by side in the race of life, the one with determination, the other without it, the first will always push aside the other; for the human will resembles the driving-wheel of the bicycle or locomotive engine, and the most brilliant men have been wrecked on the quicksands of life for want of resolution and decision. Following the tuition of Sidney Smith, we should lay it down as a rule, that, "In order to do anything worth doing, we must not stand shivering on the brink, thinking of the cold and danger, but plunge in, and scramble through as well as we can." Otherwise a man may spend his life in asking the opinion of others, and at sixty find that he has lost so much time in consulting uncles, first cousins, and other friends, that he has not much time left to follow their advice. Difficulties in the army beset every man, but some (and *good men*) have more thorns in their path than others. They must make up their mind that these are like a hostile army before them, and either they must conquer the difficulties, or the difficulties will conquer them. If



they by decision do commit an error, it is better probably than to be continually wavering. Nearly every battle has turned on a few rapid and decisive movements during the thunder of artillery, the crashing jar of cavalry, and steady fire of infantry; and here it was that the genius of Napoleon and Wellington showed itself so strongly. At Arcola, Napoleon's decision of a moment saved the day. At Montebello, when he saw it would take about a quarter of an hour for the Austrian cavalry to come up, he played a desperate and rapid hazard, and in ten minutes had saved the day.

Again, at Rivoli, at the most critical moment of the day, by despatching his flag to the Austrian headquarters with mock overtures for an armistice, and by seizing those precious moments, he was able to rearrange his line of battle, and changing front, to convert a nearly lost day into a brilliant victory. Again, in the conquest of Lombardy, which has been mentioned when speaking of concentration, there was scarcely a moment left for his decision. He *did* decide, however, although much against all his preconcerted plans, and immediately withdrew Augereau from Legnano, and Serrurier from Mantua, although this fortress had been besieged for two months, and his battering train was before it; and it was this rapid decision that won for him the plains of Lombardy, in spite of all difficulties.

But the hero of these great achievements in the end lost this precious gift of rapid decision, and his not appreciating minutes after Ligny, and before Waterloo, led to his ultimate downfall and hard fate; for on the morning of the 18th June, he might have fallen on Wellington with the force of a thunderbolt. The great Duke, however, preserved this power of decision to the very end of his military life.



Before the great battle, Sir Sidney Smith is reported to have said, when told that the Duke had decided to hold his position at all hazards,—“Oh, if the Duke has said that, the other fellow *must* give way.”

Again, an amusing anecdote is told of him when it was feared the ship in which he was would go down. The captain came to him and said, “It will soon be all over with us !” “Very well,” said the Duke, “then I shall not take off my boots.”

Of course there are certain times in life when long deliberation is strictly necessary. An officer must be guarded to a certain extent, yet his conduct beyond *this* is what we want to impress upon the mind ; and, to hesitate then, may bring about absolute failure instead of success. If a thing may be done either to-day or to-morrow, it is the safer plan to do it to-day ; once done, we feel safe ; and no one can tell what the morrow may bring forth. The breaking down of a bridge when a regiment is *about* to pass over it, is only like many events in a man’s career, and in these cases instant decision what to do is imperatively called for. It is related of the general who took the Malakoff, that one morning in Algeria, when very angry, he cut a sous-officier of Spahis across the face with his whip ; the man drew a pistol and fired it in the face of his chief, but it missed. “Maladroit ! dit Pelissier. Je vous mets trois jours aux arrêts pour ne pas tenir vos armes en bon état.”

In other professions, as in the army, this instant decision is frequently demanded. At the bar, and at any trial, an unsuspected line of argument might require from the opposing counsel a complete change of base, just as a new symptom may oblige the physician to alter his entire plan of treatment. Dr John Brown said it was like sleeping with a loaded pistol under your pillow at



full cock. A moment lost by indecision, and *all* may be lost. We ought *at these moments* to make up our mind on which leg to stand, or otherwise we cannot help falling. As John Foster says, "A man with no decision does not belong to himself;" and it has been our fortune to meet some officers who have been whirled about like a chip of wood by every passing eddy, and the man who generally succeeded in advising them was he who spoke last to them.

"I respect the man," says Goethe, "who knows what he wants;" but many men in the army do not, unfortunately, know this; they had perhaps originally made up their mind to build a house, and ended by laying the "foundation only of a shanty."

It was this decision of character in Blucher that won for him the appellation of "Marshal Forwärts." "Nescit vox missa reverti," is a capital motto for any one who wishes to make his mark in the world. It was the iron will and tenacity, as well as genius, of Garibaldi in pursuit of Italia Una, that ensured the ultimate success of his expedition to Sicily; the triumphant march from Reggio up to the gates of Naples, leading to the battle of the Volturno; and this genius was shown afterwards in being the first to tap the telegraph, in November 1860.\* He drew outside Caprera towards him all his associates by the indescribable charm in his manner, as the magnet draws the needle; and by decision like that of Colin Campbell in 1857, who, when asked, "Will you go out, General, at this critical time, to lead the army in India, and when?" replied, "To-morrow morning."

\* General Garibaldi first conceived this idea, sending counterfeit answers into Gaeta three years before General Stuart tapped it in America.



## X.

## POSSUMUS QUO VOLUMUS.

KITES rise against the wind ! No man ever worked his passage anywhere in a dead calm !

The above is a quotation of John Neal, and if you take it to pieces, you will find its truth.

Our own saying or proverb is, "Where there's a will there's a way ;" and although there is a limit to a man's capabilities, still, generally speaking, the above proverb is tolerably correct, and Lord Bacon, following Virgil's words, says—"Possunt quia posse videntur." It is remarkable to see what a man driven to extremities, who has a determined will, may accomplish. In the expedition of Santa Fé, it is related that the men marched and marched until they nearly dropped with fatigue, and yet on being told that those who could not go farther must be shot, they again marched on, and kept it up the whole day.

A young Frenchman (who, of course, like all his countrymen, knew that every private soldier carried a marshal's baton in his knapsack) used to march about his barrack-room saying, "*I will* be Maréchal de France," and he succeeded in becoming one. So again Smiles, in his work on *Self Help*, relates that a carpenter was observed planing a magistrate's bench one day with much care. "What are you so particular about that for?" said a bystander. "I wish," replied the man, "to make it smooth against the time when I come to sit here myself ;" and he did live to sit on that bench as a magistrate.



It is allowed by soldiers as well as historians, that, of all the great captains that the world has ever seen, the greatest was *Hannibal*; yet his giant will, perhaps, won more victories than his military skill. His passage of the Rhone and the Alps, which was truly an explorer's march as well as a brilliant military feat, and his braving the whole power of Rome when unsupported, elevate him as a general perhaps above all others.

The great Russian general, Suwarow, was quite a preacher against the word *impossible*, just as Mirabeau said, "Talk to me not of that blockhead of a word." Napoleon, after defeating his opponents over and over again, was at last conquered by the will and determination of the British, and the rebounding nature of the Prussians under Marshal Forwärts. During the stupendous and final struggle of Waterloo, the bull-dog growl of the British was heard for eight long hours as they stood against the iron hail of Napoleon. A side of one of the squares was literally blown away, yet as hundreds and hundreds fell during those hours, the one sullen, steady word of command was heard, "File up! file up!" until the gallant Picton brought up Pack's Brigade, and the (*then*) four regiments of Household Cavalry, under Lord Edward Somerset, swept down like a whirlwind, riding the French cavalry over the steep banks; and the Foot Guards, let loose with the 73rd and 30th, covered themselves with undying glory. Then it was that the Duke, seeing the Prussian standards beyond Ohain, *decided* on ordering the advance of the *whole line*, acknowledging the colossal will of the troops who had stood on the defensive so long. Again, in the late Franco-German War, the taking of the perpendicular heights of Spicheren by the Germans, considering the position of the French, was a wondrous example of determination.



Early in Benjamin Disraeli's parliamentary career he used these memorable words, or some equivalent to them, "I am in earnest. I will not retreat an inch. The time will come when you *shall* hear me!" With what result the country now knows!

A man, then, with a determined and heroic spirit (and there are many of these both in and out of the army), *may* and *does* convert difficulties into the stepping-stones of success.

Physical disadvantages also, it has been supposed, have urged on men to become great. Among these, a squint-eye has been said to be a good thing in a fencer, probably because we watch this, not his hand; and he can see the direction of his opponent's eye better than his opponent can see that of his.

Again, in the cricket-field a left-handed batter is by some thought a treasure; and a celebrated gymnast, who had a wooden leg and took it off before commencing operations, did the most marvellous feats.

We know that the lameness of Talleyrand was an irritating spur, that probably led to his great success as a diplomatist, just as that of Sir Walter Scott led to his great power as a novelist, and to that of Byron as a poet.

It is curious how often the little men physically, have shown themselves giants intellectually, entirely from indomitable will and perseverance,—Nelson, the sea-lion; Napoleon, "le petit caporal;" Aristotle, the great philosopher; and crooked Pope. Again, Galiani of only four feet six inches, but with the head of Machiavelli; and finally, little Tom Moore the poet, whom it is said His Majesty George IV. threatened to put into his wine-cooler. Although this (what may be called) working against wind and tide on the part of British officers, by



dint of determined will, is true, as a rule, to success, yet there are some departments in the service where the workers continue to be beaten back by the waves, and, like struggling against the rollers on the chesil beach, it is impossible to get through them into the smoother sea beyond. This is in a great measure due to old custom and prejudices.

In civil life, Cobden's beginning was a failure, but ultimately what a grand success! Lord Erskine, the greatest forensic orator of our country, had a hard time of it, and his sublime confidence led to his success more than anything else.

It is the half-neck in the Derby that shows the staying power. It is the one march more that wins the campaign; the five minutes more of bull-dog tenacity that gives time for the coming up of the reserve, and wins the day.

"Can they stand a little longer?" said the First Consul to Dessaix at Marengo. "The battle is completely lost," replied that great general, looking at his watch. "It is, however, only two o'clock, and there is plenty of time to gain another." Then came the cavalry charge of Kellermann, which changed defeat into victory.

India-rubber Blucher was beaten again and again, but always returned as formidable as ever to the attack, till his last rebound after Ligny brought him to Wellington's side at crowning Waterloo.

The time in the world's history has now come when will and labour are an absolute necessity, ability, learning, opportunities, are all well, but they must be backed up by toil. The boot must be blacked before it will take the polish, and no man can succeed in a calling in which he has not his whole heart. The rugged experience, and the creeping slowly on through the storms of difficulty, make in the end the accomplished soldier, just as the cold, dark



Atlantic nights, and the fierce north-easters, calling for the exercise of nearly every faculty, make in the end the naval commander.

But hardship alone does not teach us what *self-discipline* is. Self-discipline may be said to resemble a balance, difficulty being put in one scale, ease in the other ; roughness in one, smoothness in the other ; disappointment in one, success in the other. Finally, after learning what all these are, we shall begin to understand what is *really self-discipline*, and then see the needle of the balance standing in the centre.

Speaking of resolution, Robert Burns says—

“Come, firm resolve, take thou the van,  
Thou stalk of carle hemp in man.”

He who has no perseverance, no firmness, no energy, is a ghost, and this is the true meaning of the word.

We have given the definition of genius in the opinion of several great men, and there is, perhaps, no greater truth than that “Genius is what inspires the soul with this power of perseverance, and of never saying die !” Even the very best men cannot expect to get on rapidly from the start. Wellington, when a sub., was most anxious to retire from the army, and even applied to the Lord-Lieutenant for a Commissionership of Customs. Had he succeeded, we might indeed have missed him in 1815, when the fate of Europe was in his palm, as it had previously been in Napoleon’s.

Looking back for only eleven years, we find that the greatest strategist of the age now, although at that time sixty years old, had not acquired a European celebrity.

One more example of this same perseverance. When Mr Chitty was consulted by an anxious parent about qualifications for the bar, he is said to have asked, “Can your son eat sawdust without butter ?” Romilly did this,



till, by his perseverance and hard and steady labour, he attained to £9000 a year. To sum up: *Perseverance* and *Willingness to bide one's time* are the greatest elements of success ; or, as Montesquieu says, "Success depends, in most things, on knowing *how long* it takes to succeed."

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## XI.

### THE VALUE OF TIME.

"TELL the chief engineer to keep the fires banked," was the short decisive order of the captain of a man-of-war—and with what object? *To save time!* To be ready on an emergency for immediate action; and so all through life the man who is ready with the steam half up will distance in the race the man who has to make his fires and bring the water above the boiling-point.

"Dost thou love life?" said Franklin. "Then do not squander time, for that is the stuff life is made of;" and following this all-important rule, he stole his hours of study from his meals and sleep, as other great men have done before and since his time.

There is no more common excuse given by idle men than, "Oh, I should like to do so and so, if I could only find time." A man by this self-reasoning cheats himself; for it is positively ludicrous to hear such excuses made by both men and women in a matter which might be dashed off in ten minutes. Indeed, many people would lead us to suppose that nothing would be more in keeping with their wishes than, like Mrs Jellaby, to supply the niggers of Boreo Boala Gha with Bibles, blankets, and



religious teaching, if they only had a little time to themselves.

Strange to say, however, it is the really overworked men of the world who do these philanthropic things—who, in fact, still find time to do a little more. The officer who has five or six times the ordinary duty of others often gets through a *little* more, and this, when reckoned up, is what tells in the end. Again, in the other professions, when we seek the counsel of those men who have perhaps as much as they can conveniently get through, it is experience that tells us to go to them, *because* they are likely to do a *little more*. The steam with them is kept partially up, the fires are banked, consequently they are ready for an increase of work. Those who have done the most have (as we said before), in nine cases out of ten, done it by unremitting study, although in some cases slow workers; but these have never wasted time. We cannot go to the extent of John Wesley, however, *in this preaching*, for a frequent relaxation from study and bodily work is imperative.

Those who call the body the slave of the mind are wrong! On the contrary, we ought not to forget that “the mind cannot play the tyrant,” otherwise the body will turn upon it, and resist it successfully. In nine cases out of ten, he who possesses much leisure will find it a curse rather than a benefit, and will never make any mark in the world.

There was once a great German physician who, by hoarding his minutes of leisure, could repeat the entire Iliad in Greek without an error. Dr Mason Good translated all Lucretius into English verse during his walks. Matthew Hale’s Contemplations were done while travelling on circuit. The great archæologist of our day, Sir John Lubbock, attained his high authority by drawing



slips of time from his large business pursuits ; and it is said that Nicolo, once excusing himself for not commencing a new work on account of his age, and wanting to rest for the future, was asked by Arnault, " Have you not all eternity to rest in ? "

If a young officer in any of our services complains of want of time, let him remember the resolution of Aurelius Antoninus Marcus, the great philosopher and Roman emperor ; how he rose to the purple, beat back the Germanic hordes, and was the cause of that *most ingenious Papal story*, " The Thundering Legion."

If with method we employ a certain time every day in work, at the end of the year it will tell far more than we suppose ; but the work must not be spasmodic, for heaven-born geniuses like William Pitt are in our day rare indeed.

The immortal Goethe says, " Do not wait for extraordinary opportunities for good actions, but make use of common situations ; " and this completely bears out what we have said in a previous article, that " great men make great occasions for themselves." There is not a fact which you may observe, or an anecdote you may learn from a stray newspaper left on the seat in a railway carriage, that you may not make use of at a future time.

We cannot discountenance too much that constant superficial grind, which is adopted now in the training for competitive examinations, and which is neither more nor less than a *wretched veneering*—a German or French scholar, forsooth, who cannot ask and pay for his ticket at a railway station on the Continent, but has to run for the interpreter. From experience, gained by passing through many real examinations, we should say that the man who works steadily onward, and at last closes his books a few days *previous* to going up, will,



on the relaxation theory, have his brain clearer than the man who grinds away and crams himself like a turkey up to the last. The brain is (if men would only see it) like the stomach. When not at work taking in knowledge, *like food*, it is digesting what it has taken in. It has been said by a Scotch writer, "That the mind must gang its ain gait;" and so it must. When James Watt was sitting apparently doing nothing but watching the kettle, he was in reality conceiving the application of that great motive power which was to revolutionise the world. Newton discovered gravitation, and Archimedes specific gravity, when they appeared to be whiling away their time, or amusing themselves; so that as long as a certain amount of work is done regularly, and the brain refreshed by relaxation, we may anticipate the grandest results, just as the ceaseless industry of Cuvier, whose brain is said to have exceeded in power that of any other, did more for physical science than any man that ever lived. In our day, again, we have an example of this steady work in that giant of intellect, *William Ewart Gladstone*, and who has fortunately come to the conclusion that even he must relax a little in his efforts. What does he say to us? "Believe me when I tell you that thrift of time will repay you in after-life with a usury of profit beyond your most sanguine dreams, and that the waste of it will make you dwindle alike in intellectual and in moral stature beyond your darkest reckonings."

Lost minutes can never, *no never*, be regained. As Horace Mann says, "Lost, yesterday, somewhere between sunrise and sunset, two golden hours, each set with sixty diamond minutes. No reward is offered, for they are gone, gone for ever."



## XII.

## BLOWING ONE'S OWN TRUMPET.

THE above instrument has had a variety of uses in both ancient and modern times, and in the Army the two ways in which it is made use of appear, *all things considered*, to be about equal.

When the hero of Arcola saw the battle going against him, he called up thirty cavalrymen, and giving each a trumpet, sounded, and then made a dashing charge, which saved the day and won a victory.

Referring to our mythology, we also read that Minerva, the armed daughter of Jupiter, used to make use of her buccinator muscles pretty freely, but finding that it puffed out her pretty cheeks playing the pipe, she at last flung it away.

In our time, if we do not blow away at the flute or pipe, it is because we require something stronger. The cornopian is useful in this respect, but the trumpet being of shriller tones, is probably better suited for the proclamation of men's merits. The instrument should not be *plated*, but of *brass*; the mouthpiece, if possible, should be a silver one, and what is termed *double-tonguing* is peculiarly effective. *He*, then, who can blow his horn the loudest and longest, has perhaps in the services, and in the world generally, the best chance of success; and you will have to choose between this and *Esse quam videri*.

"Blow your own trumpet, like a good buccinator," is now the advice of most people of the world; that is, if you



do not wish to be trampled underfoot in this fearful competition and panting race of life, and die in obscurity. Blow a good blast, and ride over *somebody*, or somebody will certainly sound his charge and ride over you.

If we can do a thing well, is *one thing*. If we can do it well, and then get it talked about, that is another; and in this latter lies a man's great success in the present time. We often see both men and women taking a good position in the social scale without anything to back their pretensions, excepting that they invoice themselves pretty highly and keep themselves about aristocratic quarters. Perhaps they are right!!

La Bruyère says, "On ne vaut que ce qu'on veut valoir;" and one must have brass *welded* with ability, to do much in the present day. We do not wish to be misunderstood. We do not advise any one to put scruples in his breeches-pocket and button it up tight. It would be better to fall into the chasm of obscurity, than have no conscience. There is, however, a medium between the two extremes, which is the safe ground to take, speaking mathematically, "Equi-distant on the radius from the centre of your intellectual base, and the circumference of your worldly circle," where many begin to blow their own trumpets.

An excess of modesty is really an excess of pride in another form, when we look at the matter practically; although, let us confess, that it is a pleasure to meet men for a change who have no *swagger*. It is very difficult for the man who has no self-confidence nor good opinion of himself, to make others have *it of him*. Even in the services, the powers that be cannot be for ever examining into the merits of every one who puts his light under a bushel; but if a man has fair talents, and can dun incessantly for an admission of his merits, in most cases



he succeeds in getting some attention paid to them at last, unless, indeed, they be extravagant. But of course we are speaking of generalities, not of individualities.

Taking the bearings of this self-assurance in most cases, we find that the saying of lawyers is pretty well right, "That continual claim keeps alive the title." For in the age in which we now live, the world generally assumes that a man tells about the extent of his capabilities at least, and it won't do to ask for *less* than one's due, or to go about singing—

"All round my hat  
I wears demeanour unpresuming."

Otherwise one will certainly have to wait more than *a twelvemonth and a day* for one's merits to be recognised.

The old story about modest merit is too often told. It is threadbare. Of course there still do exist individual cases, but it is more often the rule that those who have pushed on to the front have been active and decisive men, who have become useful and practical workers in the world, and taken for their motto the advice of the great Greek teacher Pythagoras to his pupil, "*Reverence thyself.*"

Adverting to the learned professions in order, we know that to be a successful man in the pulpit, one must have both self-confidence and powers of persuasion. In the great profession of the Law, one must have its power *so strong* as to be able to argue against everything but complete impossibilities. In Medicine, he can never hope to succeed to any extent who has not at least self-confidence and assurance, which requires time to gain; and so in the services the same holds good, and the modest, retiring, *indecisive* man, although possessed perhaps of more talents, will not as a rule succeed so well as he who knows how to watch and grasp his opportunities. It will



no longer do to wait like the countryman for the stream to run by.

Dean Swift said, "Although men are accused for not knowing their own weakness, yet perhaps as few know their own strength. It is in men as in soils, where sometimes there is a vein of gold which the owner knows not of."

If, then, you mean to make yourself known, you must constantly blow your own trumpet ; or if you consider this too loud, at least *your penny-whistle*. No one will do it for you, and when you do it, you must be prepared, if you are blowing on a treble note, to hear the other trumpets round you blowing on a base one, and *vice versa*, so that they may be heard most ; for every one hustles his brother who is trying to get on. However, like Lords Erskine and Eldon, before you commence to blow, be sure of your powers, and that you are really not like one animal in another's skin, but in fact what you *pretend* to be, and that your self-assurance is *only* the means of making your ability available. A man of no great powers absolutely, but inspired by the above principle, may arrive at great deeds, and without it all his works in life may be like those of Gray, the poet, lost to the world. If you are like the poor Scotch weaver, then pray like him that you may have a better opinion of yourself ! Life is no doubt a journey, but if you live to be old, you will find that travelling first-class is preferable to travelling third, although there is a great saying, "That heaven is a place for those who have failed on earth"—

"For delicate spirits, pushed away  
In the hot press of the noonday."

Or, as a great writer tells us, "It is not we ourselves who choose our rôles in life !" but have, on the contrary,



nothing to do with them. Our simple duty is confined to *playing them well*. Let this, therefore, be our aim, and although we may blow our own trumpets, it will be better not to forget that there is such a motto as "*Esse quam videri*." In the well anglicised words of Schiller—

"What shall I do to be for ever known?  
Thy duty ever!"

And again—

"Worth is the ocean,  
Fame but the *Bruit along the shore*."



W 2 B

A SCHEME  
OF  
MEDICAL TUITION.

BY  
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(20)

# Dedication.

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TO

GEORGE BURROWS, Esq., M.D., F.R.S.,

PRESIDENT OF THE GENERAL COUNCIL OF MEDICAL EDUCATION,

WHO HAS THROUGH LIFE BEEN THE

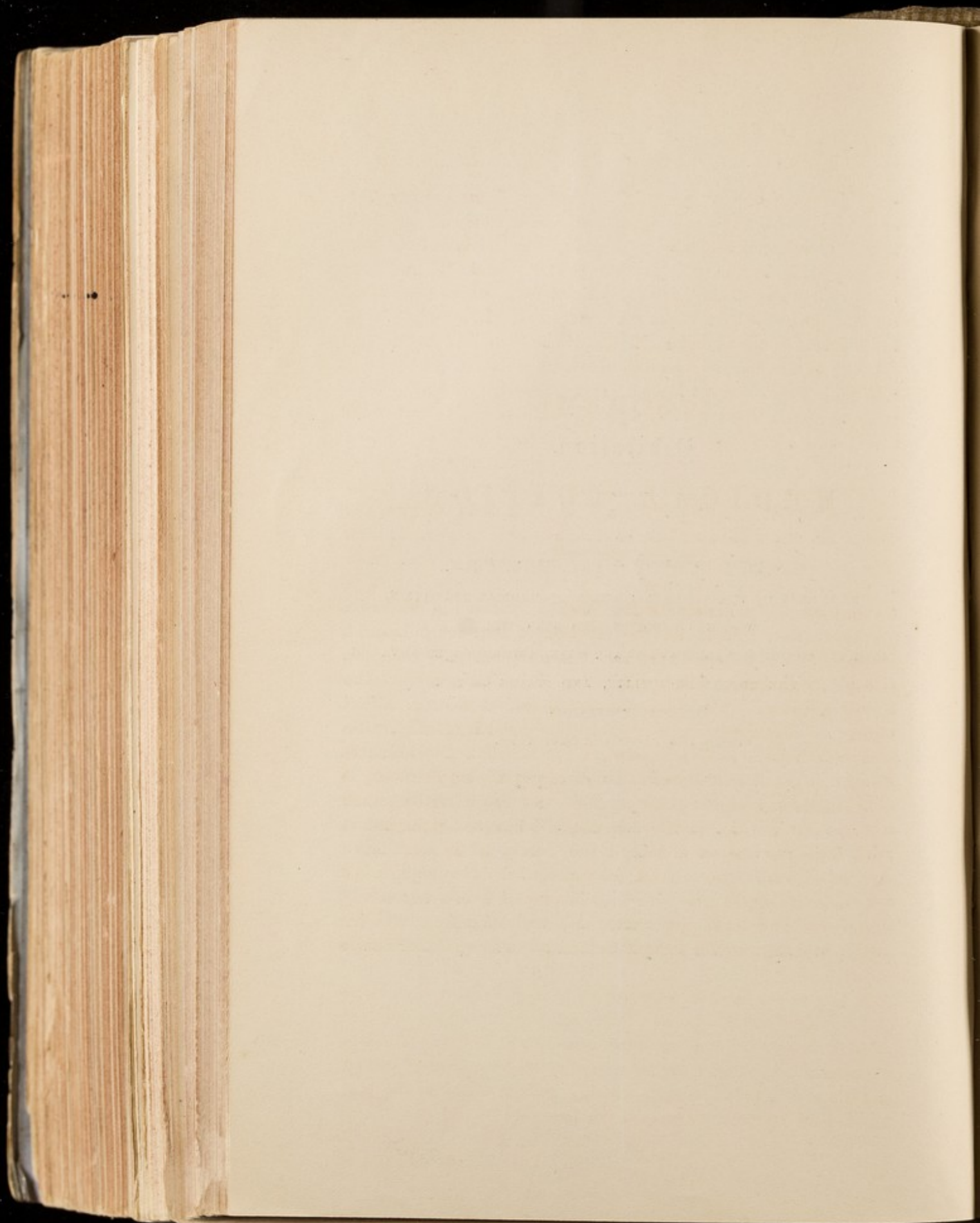
ABLE AND CONSISTENT ADVOCATE OF ANY CHANGE WHICH COULD ADVANCE

THE EDUCATION, UTILITY, AND STATUS OF THE

MEDICAL PROFESSION,

THESE FEW PAGES ARE DEDICATED.







(25)

# A SCHEME OF MEDICAL TUITION.

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AN important Association of the London Teachers of Medicine has lately been formed for the purpose of improving medical tuition. It is to be hoped that this Association is preliminary to a larger organisation, which will include all the teachers in the United Kingdom. The changes in the system of medical tuition which are absolutely necessary in several subjects can only be brought about by some co-operative movement. The Medical Council might indeed do much, but it can hardly act efficiently if it is not supported by public opinion and urged on by public pressure. If the Association of Medical Teachers would review the whole course of medical tuition; if they would prepare and agree on a report embodying all the desiderata; and if, sinking minor differences of opinion, they would unanimously determine vigorously to carry out their own programme, they would supply a basis for action, or at any rate for general discussion, which would terminate in action.

It is with the hope of contributing to such a report that, as an old London teacher, who has been engaged in teaching different subjects for twenty years, and as an examiner in medicine of nearly fifteen years' standing, I am desirous of stating the kind of tuition and the succession of subjects which I believe would be the best for students intended for general practice.



A young man of seventeen or eighteen years of age passes his preliminary examination in general education, and has then four years to study before he can obtain a diploma admitting him to general practice. He is necessarily profoundly ignorant of all the subjects he is about to study, for it is futile to suppose we can ever insist on a special scientific education for those who desire to enter the medical profession. We can only demand evidence that he has had a good general education, as usually understood in this country.

It is becoming the custom in England to pass either the whole or the first three of these four years at a medical school. The regulations of the English licensing bodies permit, however, a different course. After the entrance examination has been gone through, one year or eighteen months are permitted to be passed in the surgery of a recognised medical practitioner. This is an unfortunate permission, and is inconsistent with the scheme of education adopted by the Medical Council. If we mean anything by our rules, we mean that a knowledge of medicine, surgery, and midwifery can be acquired with difficulty, and imperfectly, without a knowledge of anatomy, physiology, and chemistry. This permission surrenders the groundwork of our rules, and puts the pyramid on its apex. It also heightens the uncertainty of tuition, since it is clear that the chances of acquiring knowledge must be greater in a medical school than in the surgeries of busy practitioners, who sometimes want the inclination, often the time, always the means, of instructing their pupils in those branches of knowledge which underlie medical science. Happily this modified apprenticeship is becoming less and less common. It is for the most part a mere waste of time, and occasionally is worse even than this; logically judged, it is indefensible, and from experience is hurtful. It can never hold its ground before the necessity of teaching not only thoroughly, but quickly. Our students have only a certain capital in time, and cannot afford to place it at such low interest.



## I. THE FIRST TWO YEARS.

The medical year is differently divided in the several parts of the kingdom. The English division of a six months' winter, and a three months' summer course appears less convenient than a division into five months' winter and four months summer session would be. If the time-honoured custom in England of commencing the winter session in October be adhered to, the session should end with February, and the summer session should begin in April and end with July. At present some subjects are taught too lengthily, others too briefly. Some change in the order of the subjects seems necessary. The *annus medicus* begins in October or in November, and the first winter session is ordered by almost all the curricula to be occupied by the study of chemistry and anatomy. To these subjects some add physiology, but I believe that it would be good policy to occupy the whole of the first winter session with the two first-named subjects alone. In chemistry, a winter of formal lectures is followed by a summer of practical work. Although the teachers are the first chemists of the day, the results as regards the mass of students are certainly not satisfactory. I do not speak now of the best men, to whom most teachers almost instinctively turn as showing the effect of their teaching, but of the average body of students who go up to the English licensing bodies. The amount of knowledge is not great, and it is almost always book-learning. The practical course appears to be in most schools ineffective, while in some it must be looked upon merely as a form. I believe that this is the first point of the educational course the Association should consider.

I would suggest that the leading chemical teachers should be invited to form a committee for the purpose of advising the Association. I think it possible such a committee would reverse the order of teaching and commence with the practical work. What appears, indeed, to be the best way of gradually initiating these young men (who are all ignorant of chemistry) into what is in its early stages a difficult subject? Would it not be much better to begin at once with practical teaching, making every student perform the experiments which would lead him on step by step,



and give him sure ground at every point ; and then, when he had some idea of elementary points, to explain in a few clear lectures the generalisations which bind together and explain the scattered facts he has practically learnt ?

What would be wanted for such a course ? Laboratories, which are supposed already to exist ; apparatus and tests, which would not be costly ; a carefully-prepared official text-book, current in all schools, arranged with daily lessons so as to form a series of steps ; some simple directions given at the commencement of each day's work, and a general superintendence which would be easy on the part of the teacher and his assistants. If a winter session lasted for five months, and if two hours daily were given to the laboratory work, a sound chemical foundation would be laid which a student would never forget, for he would have made every fact his own. At a certain period in this course, say after three months had elapsed, a formal lecture by the teacher for five days in the week during two months would perhaps be sufficient in the present state of chemistry to give the student a clear though brief epitome of the philosophy of the science.

Apart from the comparative ease of learning the subject in this way, two points would be gained. There would be no difficulty in the teacher assuring himself that the work had been done. A glance almost would show him how the student was spending his time in the laboratory : and if one day per week out of the six were assigned for a practical examination of the week's work, the progress of the student could not escape being measured. A compulsory written examination at the end of each month's formal lectures would test the attainments of that part of the course, and would not be too great labour for the teacher. The second gain would be, that uniformity would be introduced into the teaching ; that every student would know exactly what he had to do, and every examining body would see the limits within which their examination must fall. I know, however, that this last point, which to me appears such a gain, would be differently viewed by others, who would object that a selection of study and a limitation of examination must be bars to progress. On this point I shall have to remark hereafter.

If some scheme like this were adopted, the student in his first winter session should work at first for two, and then for the last



two months for three, hours daily at chemistry. He would have in all (examinations being reckoned) 110 to 120 practical lessons, and his progress would have been tested at every step.

Anatomy should be the other subject studied in the first winter session. Anatomy has always been better learnt than any other part of medical education, simply because it has been more practically taught. The usual method is for the teacher to lecture once daily to the class for an hour, showing dissections and organs on the dead body. Of late years, owing to the practical examinations of the College of Surgeons, small classes are often taught by demonstrators by the aid of recent dissections. According to the supply of subjects, each student himself dissects more or less; but a minimum of dissection is required by the regulations. The plan is not economical of time; for, if a student has no dissection, he often does nothing more than attend the hourly lecture, and read privately more or less diligently. The lecture also, especially for a large class, is often not effective; the parts cannot be well seen by many, and the rapidity with which the lesson is often gone over is very embarrassing to a beginner.

Can nothing be done to make the teaching still more effective? If two hours daily are occupied with chemistry, we might surely demand that three hours should be given to anatomy. Could not a complete tutorial scheme be throughout adopted, and classes of limited numbers be formed, directed it may be by the demonstrators or older students, and superintended by the teacher, in which, commencing with the bones in their hands, and then passing on to the soft parts, the student should go over and over again the important practical points?

The modes of preserving bodies, by which a dissection can be kept fresh for a long time, would seem to render the procuring of materials for such classes very easy. Then, when subjects could be procured, the student might be taken from his class and be put to dissection, which would be merely another phase of the same work. During the first three months, three or four hours might be given to anatomy, making the entire day's work in the school to last for six hours. During the time of dissection, one or even two more hours' work daily might be demanded. In this way, again, no student could escape being present and learning; or if he remained ignorant he would be detected, and not allowed to move onward.



The labour involved in this work would not be greater than it now is, as most anatomical teachers spend several hours daily in their dissecting rooms.

An authorised and official text-book for all schools is not so much needed for anatomy as for chemistry; the subject is less extensive, less changeable, and there is more agreement as to its limits. But it may be suggested whether the teachers could not more definitely agree as to what medical students want.

An extreme prominence is given by some teachers to minute points which are of no real practical value, and which the student learns only to forget. Others spend much time on transcendental questions of analogies and developments. The end, however, of the tuition must be kept in view; the time is limited, and the knowledge must be so also; but though limited, it should be thorough, and should be practical—that is, should have a direct bearing on future work.

At the end of the first winter session, at the cost of six hours' daily work, with additional private reading and preparation, I conceive any student should have a fair and accurate knowledge of chemistry and anatomy; and his attendance and industry would have been overlooked and tested far better than it is now. He will, however, have finished with neither subject.

The first summer session would occupy four months—April to July inclusive; and I conceive that in this time four subjects should be gone through—namely, toxicological chemistry, *materia medica*, botany, and physics.

The subjects now included in the course of forensic medicine must undoubtedly be divided; and it is on the whole most advantageous, I believe, to let the practical toxicological part—that is, the chemical examination for poisons—follow immediately after the practical chemical course. Daily laboratory work, during the entire session, of one hour and a half ought to make the student thoroughly acquainted with the tests for poisons. The important section of the micro-chemistry of poisons could be gone through towards the end of the course, or preferably in the following summer session.

The present course of *materia medica* and therapeutics should be divided. *Materia medica*—that is, simply the account of the drugs and preparations named in the *Pharmacopœia*, or supposed to be worthy of being included—should, like anatomy, be taught



tutorially. I have had some experience in this matter, and I believe that if every student has the drugs placed in his hand, is made to observe them carefully so as to recognise them at once, and is then obliged to read out of his text-book their origin, place of supply, chief preparations, doses, &c., the whole of this usually dry subject could be even agreeably learnt in four months, by a daily lecture of one hour and a half. There should be little formal lecturing, but constant questioning by the teacher, and replies by the student. Three or four drugs and their preparations could easily be got over every day; and if the work was not satisfactory, the same drugs could be afterwards returned to. The weekly practical examination would test the student's progress. For such a course as this, a large quantity of some drugs and preparations would be necessary; but this would entail little expense. All therapeutical discussion should be avoided.

Botany should be taught during this session, and, perhaps, with a good text-book, a lecture of one hour daily for three days in the week would be sufficient. I believe an authorised small text-book, written with special reference to medical teaching, is most desirable.

The other subject on which I think special instruction should be given is physics, which is now in part included in the course on chemistry. Mechanics and dynamics to a certain extent; the laws of heat, light, electricity, &c., their manifestations in the body, &c., are so important to medical men, that it seems desirable to bring the teaching of these subjects into greater prominence, and to separate them from chemistry properly so called. This course should be demonstrative to a great extent, but could not, perhaps, be experimentally worked at by the students. A compulsory written examination at the end would, therefore, be necessary. Probably three lectures a week, alternating with the botanical lectures, would be sufficient; but the length of this course would require careful consideration. The whole daily work would be four hours, in addition to private study, and additional practical botanical work whenever it could be undertaken.

Authorised text-books would be wanted for botany and physics. The examination of poisons and the enumeration of drugs are so completely given in many works that it would hardly seem necessary to have special works prepared for these subjects. The Pharmacopœia should certainly be the basis of the class-book on materia medica.



The second winter session should, I conceive, be entirely given up to surgical and medical anatomy and to physiology. The student would have got a good general knowledge of anatomy, but he would now commence to apply it to his future profession. By surgical anatomy I mean not only the anatomy of the important surgical regions as commonly understood, but such matters as the position of the bones in dislocations as shown on the skeleton, the most usual places of fracture, the position of the bones, and the action of the muscles in such fractures, &c.: in fact, in an easy way the surgical teaching would commence. So also in medical anatomy, the position of the organs to each other, and to the surface; the relation of the parts of the organs to each other; the indication of the parts most commonly diseased; the method of laying bare the parts in making a post-mortem examination, and other points of the like kind, should be gone through practically in the dissecting-room. In this way medical education would be commenced. These practical classes might well occupy two or three hours daily during the entire session, and if subjects could be procured in sufficient numbers, more time might be occupied in regional dissection. The remaining three or four hours of the day, making five or six in all, should be given to physiology.

The importance of this subject is so great, that I hope to see the best mode of tuition carefully debated. I venture to think it should commence with the microscopic examination of the tissues, carried on by the student himself, three or four practical lectures being first given on the microscope; and subsequently that the chemical analysis of the bodily solids and fluids should be carried on in a physiological laboratory, each student working at the investigation as in the general chemical laboratory. In this way the student would soon acquire a good practical knowledge of the component parts of the body, and would be prepared for the pure physiological lectures on circulation, respiration, digestion, &c., which could probably follow in the third month. Possibly, as minute anatomy and chemistry would be disposed of in the physiological laboratory, five lectures a week for three months would be sufficient for a general exposition of physiological doctrines, as certain parts would be taken up in detail in the next summer session. At the end of this session the student ought to be well and practically acquainted with normal minute anatomy; he



would know physiological chemistry fairly, and he would have gone through a general statement of physiological laws, and probably have received some instruction in physiological physics. I presume also he would be thoroughly trained in medical and surgical anatomy.

In the second summer session, physiology should be continued, especially in its relation to medicine. For example, the subjects of diet, of development and growth, of the mental and moral manifestations, as far as these are dealt with by physiology, and subjects of the like kind, should be discussed in formal lectures which would run through the whole session, and be supplemented by some practical work in the physiological laboratory. One or two hours a day would be thus occupied, and the remaining three hours should be spent in practical pharmacy and dispensing. In practical pharmacy (which is the supplement to the course on *materia medica*), not only the chief pharmacopœial preparations should be made, but the rules for the purity and strength of drugs should be practically worked out, and, in fact, a course gone through very similar to that conducted at the Pharmaceutical Society. The arrangement for actual dispensing would be a more difficult matter; but as practice during three or four weeks would probably be enough, it would not perhaps be impossible to arrange for the attendance of a certain number of students daily in the hospital dispensaries.

I will bring together, in a short scheme, the proposed arrangements of the subjects and the time :—

Session.	Time.	Subjects and Time.				Total time occupied.
<i>First Winter</i>	{ Oct. to Feb.	{ Anatomy (practical), three to four hours. Chemistry (practical and lectures), two to three hours. }				Six hours daily.
<i>First Summer</i>	{ April to July.	Toxicological Chemistry, an hour and a half.	<i>Materia Medica</i> , an hour and a half.	Physics, an hour three times a week.	Botany, an hour three times a week.	Four hours daily.
<i>Second Winter</i>	{ Oct. to Feb.	Practical Surgical and Medical Anatomy, two to three hours.	Practical Physiology, Microscopical and Chemical, three to four hours.	Physiological Lectures for three months, one hour.		Six hours daily.
<i>Second Summer</i>	{ April to July.	{ Physiological Lectures and Practical Laboratory work, one to two hours. Dispensing and Pharmaceutical Chemistry, three hours. }				Five hours daily.



By this scheme the student would spend more time in the acquirement of these subjects than he now does. He would do almost everything practically; and it may be confidently anticipated he would be far better instructed than at present. And yet no one can say that he would be overworked. Then would follow the first or primary examination by the licensing bodies in August. In the last two years the student would have to study Medicine, Surgery, Midwifery, Therapeutics, and State Medicine.

## II. THE THIRD YEAR.

In the first two years of his medical life, the student has to learn all those subjects which form the foundation of medical knowledge. Those subjects are means to an end, and are only valuable to him when they are so. The fault of some lecturers is, that they attempt to teach exhaustively, without reflecting that their instructions are merely links in a chain, and that they have no right to cover more ground than is useful. In the attempt to learn everything, the students learn nothing thoroughly. The imperfections of the elementary knowledge of even very good students is really astonishing. It is not their fault; it is that of their teachers.

Each subject studied in the two first years is of immense extent, and at present the point to which instruction is carried is uncertain—that is, it is fixed either by the custom of the school, or, more often, merely by the will of the teacher. There surely should be a recognised limit—that is, a selection; and if we select, we must have uniformity. It may be said that uniformity is impracticable, or, if practicable, undesirable. I entirely distrust this opinion; and believing that a selection is necessary, submit that it must be official. It can only be made officially in two ways; either by an agreement on the part of all the licensing bodies that their examinations shall be conducted in particular ways, and shall fall within certain limits; or by regulations framed by the Medical Council, and binding on all medical schools. I can by no means agree with the views of those who would entirely annul all regulations for teaching. I cannot see how medical education could be



carried on without them. Instead of less regulation, I would have more, only it should be effective.

In the last two years the student has to master what is to be the business of his future life—viz., medical and surgical practice. The period is more disproportionate to the work than the first two years are to the elementary subjects. There is all the more necessity then, in this period also, for a general agreement as to what he should learn, though the difficulties of coming to such an agreement may be great. To attempt to teach the student everything—to believe that he can acquire in two years the full extent of subjects which tax all the powers of the most experienced men to comprehend,—can only lead to disappointment. Is it not a bitter sarcasm upon our system that the Medical Officer of the Privy Council has to ask the assistance of the Medical Council to procure him men properly instructed in the cutaneous phenomena of vaccination—that is to say, in one of the most elementary parts of medical education? How are we to interpret such a request? Must it not be that both teachers and examiners have been busy in the wrong direction, and that simple, thorough instruction in the rudiments of practical medicine has been neither given nor tested? I speak from some experience of examinations when I say that a considerable, though inaccurate knowledge of difficult subjects in medicine is often combined with a singular ignorance of very simple points. I have no space to analyse the reasons of this state of things, which are, however, obvious enough. I must pass on to what I conceive to be the best mode of teaching medicine, surgery, and midwifery in the last two years, premising, however, that I am less familiar with the proper modes in the two latter subjects.

The third year should, I believe, be entirely occupied with medicine and surgery, properly so called; midwifery and some other subjects being deferred to the fourth year.

The students of the third and of the fourth years respectively ought not to be mixed up; they are in different stages of instruction, and their classes should be separate.

In the October of his third year the student has no knowledge of medicine and surgery, except what has been suggested by some of the practical courses. In fact, he has no business to have such



knowledge, as his time ought to have been thoroughly occupied with the elementary subjects. The first thing should be to give him a good foundation by means of short elementary courses of perhaps six weeks' duration, in which he should be told the definition of medical and surgical terms, the names of the more common diseases, their symptoms and their nature, stated as briefly and simply as possible. I believe these explanatory and very elementary courses to be most important, and, in fact, to be the basis of further accurate knowledge. They should, I think, not be given by the same lecturers who deliver the longer courses on medicine and surgery, to which they should be an introduction. They should be, as far as possible, tutorial; and the student should commit them to memory, and be tested at every point. He should not be permitted to enter the hospital until he had gone through them. A course of this kind on medicine would take one hour a day, and it should be supplemented by two practical elementary courses, each taking another hour, so as to make the medical work for the first six weeks three hours daily.

These two elementary sub-courses should practically teach the methods of physical examination (*i.e.*, the stethoscope, pleximeter, laryngoscope, sphygmograph, &c.) and the elementary characters of skin diseases by models and plates, and the characters of abnormal urinary conditions. All these points are now taught in the hospital; they would be far better comprehended if taught out of the hospital in regular tutorial classes. To take auscultation, for example: it is in reality a very easy matter; but it is always an embarrassing subject to the student, because after perhaps a few formal lectures, or even without them, he is told to listen in the hospital to sounds which he does not know practically, and often not even theoretically. Before he enters the hospital he ought to have thoroughly studied by actual practice all the healthy sounds of the lungs and heart, and thus have formed a clear standard of comparison; and he ought to know by description or actual practice the characters of the morbid sounds he will be told to listen to. As it is, under the present system, weeks, and sometimes months, elapse after he has entered the wards before he has mastered the rudiments which a different system would have taught him in a week.



The advantage of commencing the study of skin diseases on models and plates, before looking at patients, is very great. In a patient a disease is often in all forms: appearing, matured, fading. It is most puzzling for a young student. But show him the simple elementary characters, and then trace it upon a well-prepared wax model, and it is learnt at once. During this time he would have been attending for two or three hours daily analogous classes in surgery. A course of definitions and symptoms should be supplemented by practical courses on bandaging and minor operations for which his previous anatomical training would have prepared him. At the end of six weeks the elementary training in medicine and surgery would be ended, and the student would enter the hospital fully prepared to profit by all he sees there.

In every hospital there are two departments, that of the in-patients and that of the out-patients.

Perhaps I may not find at first many to share my opinion, but I believe that the out-patient department should be kept entirely for the advanced students. As at present carried on, the system works in this way: A young student goes into the out-patient room; he sees a great number of patients rapidly passed over; he is confused by the number, and perplexed at the rapidity of the decisions. He has none of that insight and power of rapid induction which the physician, or even the advanced students, have acquired by practice; he learns probably only the belief that his examination may be superficial, and his judgment hasty. I believe nothing is better for training advanced students than an out-patient department, but it is almost useless for a beginner. Instead of sending him there, I would propose he should only attend the wards, and that small classes should be formed, consisting only of men of the same standing, who should be systematically taught to observe the cases. At present a student in the wards attends what physician he likes and when he likes. There is often no regular system or rules of attendance. Classes should be assigned to each physician, who should be furnished with a list, and should see that every man is present daily. In this first year's attendance a student would have the three and a half remaining winter months and the four summer months for ward work; and, supposing there are three physicians, he should go for one-third



of the time to each. The clerks and dressers should be selected from the third-year's men, and be appointed for shorter times than at present, so as to allow more men to profit by these offices.

I do not think it would be advisable to lay down any invariable rules as to the modes of teaching in the hospital. It should be understood that an hospital physician thus engaged has two duties before him. The first is to his patients, who enter the hospital to be relieved or cured, and who should be his first consideration. The second is to the students, who come to be taught. A third duty, which is incumbent on all—namely, to improve our knowledge of the disease and of its means of cure—should for the time be subsidiary. If the student is to be taught, the physician cannot at the same time prosecute original inquiries. The want of distinguishing between these incompatible duties, and of recognising the impossibility of doing both at the same time, is, I believe, the reason of the failure, as teachers, of some most able and original physicians.

As regards the method of teaching, this much is certain—that the student should be obliged to do a great deal for himself. Mere talking and lecturing at the bedside is often open to the objection that it is uncertain how much has been taken in. I have heard many students speak most highly of the classes which Dr. Bennett used to have at Edinburgh, where first one and then another student examined a case before a class; and of Dr. Gairdner's classes at Glasgow. The system pursued by Dr. Russell Reynolds at University College Hospital, where each student has a case given to him, and examines it according to a given form, which, when filled up, is read over and corrected, is also very useful. But whatever plan be adopted, all the students should join in it; it should be compulsory; and the physician ought to see that every one who is ordered to attend the class goes through the regular course of instruction. In all except the largest schools the classes would be small and manageable, as no student would attend more than one course at a time; and in the larger schools, which are in my opinion under-officered, the number of physicians might be increased.

In the surgical wards a similar system should be carried on, and the hours should be so arranged that the student should not only be able, but be obliged, to attend both medical and surgical



clinical instruction. About two hours' medical, and two hours' surgical hospital work, including clinical lectures (which ought to be shorter and more demonstrative), would, I believe, be sufficient ; and if during seven months (three winter and four summer) every student went through this systematic training, he would have acquired a very considerable amount of the best kind of experience, and he would have been exercised in the most precise and useful methods.

At the same time, however (*viz.*, in the three last winter and four summer months of the third year), he ought to attend formal lectures on medicine and surgery. The elementary courses would much relieve those lectures, and allow them to commence at once on a higher level. In the hands of a really practical physician or surgeon, who steadily kept in view his object—*viz.*, to give those students destined for general practice an epitome of the most important and generally accepted facts and doctrines in medicine and surgery,—seven and a half months for each subject would be ample time. The student should not be required to attend this course twice, but as it would last seven months and a half, and he would have previously attended the elementary courses for one month and a half, he would in reality receive much more formal medical and surgical teaching than he does now, when he attends the same course of six months twice over. During the summer months it would be possible, I believe, for the professor of surgery, whose course would be less long than the medical course, to give up two lectures weekly for morbid anatomy and chemistry.

The very important subject of morbid anatomy appears to me to be the least known of all by the average medical student, and yet it and pathological chemistry are the real bases of pathology. In assigning two lectures a week during the summer to these two subjects, I am giving them scant allowance. Still, something could be done if both classes are conducted practically. Morbid anatomy is, as I receive it, a knowledge of the characters of diseased tissues. The student will already have studied practically with the microscope the structure of healthy tissue ; he should now do the same with diseased parts. I have seen in the class of my colleague, Prof. Aitken, at Netley, how easily and how well men learn in this way ; and I feel convinced that morbid anatomy can be effectually taught on no other plan. Were it possible indeed to



do so without detriment to other subjects, it should come earlier in this year's course ; but it would be difficult to bring it into the winter session, as every hour would be then wanted in preparing for and going through the bedside training.

The study of morbid chemistry (to use a convenient phrase) is more difficult in all ways, and perhaps at present this should be quite elementary, and be limited to a few lessons on practically detecting the presence of the more important chemical deviations from the healthy standard. The total work during the third year would be six hours daily, and in addition there would be attendances at operations and post-mortem examinations, which should be compulsory, and would add something more to the work.

A scheme of this kind would have the great advantage of compelling every student to go regularly through the training. He could not be absent, and he could not neglect one part for another which he likes better, as is often the case now. The means of testing his progress would be less easy than in the subjects of the first two years. The attention at the formal lectures could be tested by compulsory written examinations at the end of the winter and summer sessions ; and possibly his clinical knowledge might be examined in some way before the transference from one physician to another. But the greatest safeguard for attention to hospital work will be when the licensing bodies institute really good clinical examinations in medicine and surgery ; as soon as that is done, there will be no laxity in attending hospital.

On looking at this scheme for the third year, I think few will deem it impracticable. It changes our present arrangements very little. It only systematises and regulates what is at present, in many schools, in some disorder. It would make the most of the hospital by properly preparing for it, and by thoroughly utilising every case. The student must be indeed incapable who would not have at the end of the year a very considerable knowledge of medicine and surgery, and would not be ready for the more difficult and more strenuous exertions of the last year.



### III. THE FOURTH YEAR.

In the scheme of medical tuition which I am proposing, the whole of the third year is given up to medicine and surgery, and the work of the student is concentrated on these two subjects. There should be nothing to divert his attention, and for the purpose of giving the greatest amount of time to practical work, the formal lectures are reduced to two daily. I look upon this arrangement and on the system of hospital training by the most exact methods in the wards, as the most important part of the plan.

I presume the student would enter on the fourth year fully instructed in the best mode of examining patients, able to make a good diagnosis, and possessed of the methods of treatment most approved by his teachers. Now will be the time to give him the benefit of the immense field of the out-patients. The benefit will not be only his, but will extend to the patients. Few will affirm that our present out-patient system is satisfactory; at any rate with medical patients. At many hospitals the work is overwhelming, and has to be despatched with a celerity that is certainly unbecoming, if not dangerous. The patients, too, are often kept waiting for very long periods, and in many cases must suffer serious discomfort, if not injury. The whole system needs remodelling, and the means of doing so are ready to our hand.

The fourth-year's men should be divided into classes, and assigned to each out-patient physician. On them should fall the task of receiving and examining the patients, while the physician's duty should be merely one of reference and superintendence.

Supposing, for example, an out-patient goes to the hospital for the first time; a roster will give the student's name under whose care he is to be, and who at once would examine him, and report his opinion and the treatment he proposes to the physician. That patient should be then under the charge of the student, who must be answerable for him, and who should, if necessary, attend him at his own house. Each student would thus gradually get twenty to thirty patients, who would be under his particular care. After his ward-training he could surely be trusted, and, besides, he has



always his teacher behind him. He would soon acquire an experience which the mere ward work can never give him. Not to speak of the personal responsibility, which will greatly heighten his interest in his work, and of the varied kinds of cases, he will gain a knowledge of the conditions surrounding sick people in their houses, and of the mode of dealing with them, of incalculable advantage.

The system I propose would, in fact, be very like the German plan, which is known to work well. Such a plan would require good organization, and in keeping the rolls and books there would be a good deal of clerical work, which should be provided for. I do not think it would lighten the duties of the physician or assistant-physician; on the contrary, it would increase them; but then it would be easy, and indeed advantageous, for all the great hospitals to augment the junior staff.

The care of the out-patients would take up much of the student's time, but he would also be able to attend the wards, and should do so, but should have no class-work there. I would propose to devote the whole of the fourth winter to this medical and surgical work, and to midwifery. I believe there will be a great advantage in delaying midwifery till this period. The student will be much better prepared than if he had attended it in the previous summer. It should commence, I conceive, with a simple short course on labour, and delivery, and the early management of the child. As soon as this is over, the student should at once begin attending cases. The present system seems already well organised, and perhaps little alteration is needed in it, except to increase the amount of supervision. The practical midwifery work ought to go on through the whole winter and summer session. After the short course on labour is over, the professor of midwifery would continue the lectures on the diseases of women and children, which by common consent are separated, and properly so, from the general lectures in medicine.

Properly to work at the medical and surgical out-patients, to attend midwifery cases and midwifery out-patients, may seem a hard winter's work, but then there will be only one daily lecture.

The summer session of the fourth year would be the hardest of all. I would propose to relieve the student from all obligatory hospital work (either outside or in), except the attendance on



midwifery cases, which he should still continue. His time will be fully occupied in attending lectures on some subjects which he will be now able to properly appreciate.

There are three subjects which should, it seems to me, be left till the last, and be treated in daily formal lectures running through the four months of the summer session. The first of these is therapeutics. *Materia medica* and practical pharmacy will have been gone through in the first and second years; but therapeutics, so often joined with them, can only be efficiently dealt with when a knowledge of physiology, medicine, surgery, and midwifery has been gained. By therapeutics I do not understand merely the effect of internal remedies, but of all influences, external or internal, dietetic or pharmaceutical, medical or surgical, which can be brought to bear on disease. A course of this kind is sorely needed, and it is to the want of it that I believe our non-advance in therapeutics, as compared with other branches, is partly to be ascribed.

The second subject is medical jurisprudence, exclusive of poisons, the chemistry of which would have been previously gone through, and the symptoms and antidotes of which ought properly to come under *materia medica* or medicine. All other matters which come into courts of law would be placed under this head.

The third subject is hygiene and State medicine. Under the term of State medicine my friend Mr. Rumsey would include all medical matters which come before the law courts representing the State. This is no doubt logically correct, but there is, I think, a convenience in separating forensic cases, and in using the term State medicine as expressing all the relations between medical men and the State, except those which necessarily come before legal tribunals. If in the course of physiology the application of physiological truths to health were laid down—if, for example, the effect of diet, of exercise, of mental work, of habits, &c., on health had been there considered, the purely hygienic course might be short, and there would be time to consider the important topics of the health of communities, the action of laws and customs on them, the influence and regulation of trades, the care of the indigent sick, and such like topics, which form the domain of that part of State medicine which is not forensic.

To these three important subjects should be added a practical



course on operative surgery. Properly, this should have come sooner ; but there is a convenience in taking it in the summer, when subjects are more plentiful, and the anatomical rooms are vacant.

The accompanying table gives the arrangement for the last two years.

Session.	Lectures.	Hospital.	Total Time Occupied.
<i>Third Winter.</i>	{ Elementary Courses on Medicine for six weeks, three hours daily ; ditto in Surgery for six weeks, three hours daily. Advanced Course on Medicine for three months and a half, ditto Surgery, two hours daily.	In-patients and Clinical Lecture four hours daily for three months and a half.	{ Six hours daily.
<i>Third Summer.</i>	{ Advanced Course on Medicine, ditto on Surgery, two hours daily.	In-patients, Clinical Lectures, &c., four hours.	{ Six hours daily.
<i>Fourth Winter.</i>	{ Course on Midwifery, one hour.	{ Out-and-In-patients, and practical Midwifery, four to five hours.	{ Uncertain : five to six hours daily.
<i>Fourth Summer.</i>	{ Courses on Therapeutics, Medical Jurisprudence, Hygiene, and State Medicine, and Operations, three to four hours.	Practical Midwifery.	{ Uncertain : five to six hours daily.

Four years spent in this way—four years of systematic and regular training, the effect of which should be thoroughly tested in the schools as well as by the licensing bodies—would ensure a very fair knowledge on the part of every student.

I will not enter into any argument in defence of this scheme. Some parts of it will probably commend themselves ; others may be thought more doubtful ; but all parts of it will, I hope, receive consideration. I proceed, however, to notice certain consequences which would follow its adoption, and which may perhaps be considered difficulties.

1st. Every student must now pass four years in professional study, but he need not spend all this time at a medical school. He may take a salaried situation for a year or more, and therefore it would be a pecuniary loss to compel him to spend four years at a school and to exclude him from a situation. I am uncertain how many students would be thus affected ; but surely



if four years' school study is necessary—and I firmly believe it is,—the interests of these students must give way for the general benefit.

2nd. The medical schools would be put to some expense in providing increased accommodation in laboratories, chemical and physiological; in the stock of chemicals and apparatus; in larger drug museums, in microscopes, and other appliances of the kind. I think we may fairly call on the medical schools to provide this increase of stock. In fact, all the schools have greatly increased their material appliances during the last twenty years; and this is merely a step onward, demanded by the progress of our subjects.

3rd. Though there is less formal lecturing in this scheme, there are more teachers. There would be division of fees, but perhaps no actual increase. The chemical and anatomical fees would not be increased; the physiological would probably be larger for the year, but then the second year's fees are saved. A course on physics is added, but botany is lessened in amount. The medical and surgical lectures are for one year instead of two, and the saving would probably pay for the short practical courses. Midwifery remains much as it was, and hospital practice is altered in form, but not in extent or expense. The lectures on therapeutics would be saved in the course of *materia medica*, but there might be some additional expense in the pharmaceutical laboratory. The course on forensic medicine would be of the same length as at present; while the hygienic course would be new. On the whole, without prejudging a point which could only be arrived at from careful calculation by teachers on each subject, I do not think there would be any material increase of the aggregate cost.

4th. The augmentation in the teaching staff, providing, as it would do, for practical and tutorial classes, would have to be met by the introduction of young physicians and surgeons—assistant professors, so to speak—who would thus become trained in teaching and ready to take the higher posts. I believe that this would be an unmitigated good, and that the introduction of young blood in this way would be of service to all schools. The payment of these courses would, however, lessen the profits of some of the long courses; but as few men lecture for direct gain, perhaps no objection would be raised to this.



5th. As the scheme contemplates a selection of topics in some subjects, and uniformity to a certain extent in all schools, there must be some understanding as to the limits of tuition. In medicine, surgery, midwifery, and perhaps physiology, this would not be necessary, as the objects would be gained if a particular mode of teaching and of testing results were adopted. But in chemistry, botany, physics, materia medica, and perhaps one or two other subjects, official text-books current in all schools would have to be framed. Some may think this hazardous, as tending to introduce a system which may be difficult of modification or expansion, or which may deter independent teachers from bringing forward original manuals or systems of teaching.

Several plans present themselves for obviating this objection. The Medical Council might undertake the preparation of such text-books. The Pharmacopœia has been compiled by a number of experts, working under and directed by a committee of the Council. Why in the same way should not some of the leading chemists, botanists, &c., be called upon to prepare good text-books, under the advice of the Council? As no profit would be desired, and the expenses would not be great, these text-books would be supplied to students very cheaply, and they might be revised, as the Pharmacopœia is, every three or four years. If this plan be held to savour of monopoly, any text-book published by any teacher in a school might be submitted to the Medical Council, and receive its sanction, and after that be current in that school, or any other that chose to adopt it. But such a plan is not so likely to gain the end. If it be held that the preparation and compulsory use of official text-books on these subjects is undesirable, the only other plan I can perceive is, that the Medical Council should, in conjunction with all the licensing bodies, lay down specific rules as to the extent to which these subjects should be taught, but leave the individual school to work out the recommendation in its own way. This has, in fact, been found necessary by the University of London in some of the subjects of the medical examination. In the preliminary scientific examination, the subjects in mechanical philosophy, natural philosophy, chemistry, botany, and zoology are all selected; and in the first M.B. examination, organic chemistry is also thus defined. I think discussion is wanted on this point. For my own part, I prefer at



present the first plan, as more likely to attain the desired result—viz., to give the student the training best fitted to make him a good medical practitioner.

I must refer, in conclusion, to one other point. Would it be sufficient to leave medical education entirely unshackled by any regulations as to place or order of subjects, and to trust to the searching nature of the examinations for licences to ensure a sufficient education? This view has been urged with great vigour by a teacher to whose opinions I attach the greatest weight; and yet I find myself, in this instance, unable to agree with Mr. Simon, if I rightly apprehend his position.

With our present system of licensing by numerous competing bodies in all parts of the kingdom it is impossible to ensure such a thorough examination as is contemplated by Mr. Simon. If, indeed, there was one central body for the whole kingdom, organised in proper disregard of those distinctions of race and boundary which all men should desire to efface, we might, perhaps, look for a thorough and searching test. But I fear such a millennium is not for our generation. Even if we had one grand national licensing body, and, therefore, complete uniformity of examination and knowledge, would it be less necessary than it is now to define the successive steps by which medicine and surgery, and all the underlying subjects, can be best learnt? There must be a right and a wrong way in setting to work, and an advantage in studying one subject before another. Who is to indicate to the student where he is to begin, and how he is to proceed, and to what length he is to go? Some one must show him, and if the Medical Council or the licensing bodies refuse to do so, their place will be taken by others. But what would be the advantage of allowing this power of direction to lapse from those who are certainly fittest to use it, and of throwing it into the hands of individuals or of schools? It would be merely a transference of action, with a decided chance of loss on the transfer.

Granted that a licensing body, if it can ascertain that a student is fitted for his profession, may consider it immaterial how the knowledge has been gained, still it is impossible to deny that a good arrangement of subjects and system of tuition will greatly lessen the labour of the student, and increase his chance of acquiring the science in a given time. So that, even were the examination



complete, it would still be a question whether an official order of study would not be desirable. But what practical good can result from raising the question now, as it seems to be admitted that, till the examination is complete, it must be supplemented by regulations intended to ensure that subjects have been learnt?

The immediate questions for decision seem to me to be—How can a limited time be most profitably occupied in order to give the best chance of gaining a certain result? What system of teaching is the best, to what length is it to go, and how are the results to be gauged? When these questions have been answered, then surely we may make the answers into laws—into laws, however, which are not unchangeable like those of the Medes and Persians, and not vexatious and frivolous, but laws which represent the carefully considered views of those who are fittest to judge what should be learnt and how it should be learnt; laws, in fact, which should be as sign-posts for the students, telling them how best to reach their goal. To regulations of that kind I hardly think it would be wise to object.

#### IV. SCHOOL TESTS OF PROGRESS.

A teacher ought to be sure that he has taught. How should he ascertain this? How should he make clear—1st, that he is himself not going beyond the limit of practicable teaching; and 2nd, that his pupils have got what he wants them to get from his tuition? He can only do this in one way,—by frequent examinations.

Compulsory class examinations are essential; they are actually in force in some schools, and they have been recommended in several Reports of the Medical Council.

The point is how to conduct them. Weekly oral examinations were carried on for many years at University College, and I have been present at a great number of them. They appeared to me to fail in consequence of the numerous absentees, the length of time occupied with slow men in getting over the ground, and the consequent small number of students examined. The object aimed at, viz., the testing of every man, was certainly not attained.

I have seen at the Military Medical School at the Val de Grâce,



in Paris, a system something, I presume, like that which Sir William Hamilton instituted in his celebrated class in Edinburgh. At the "conferences" at the Val de Grâce, a subject is given out for discussion some days before the meeting; the professor is in the chair, and his class is assembled as usual. He calls upon a student to speak on the question, and then on another to reply. The names of the disputants are, I believe, noted beforehand, and their statements are prepared. While discussions of this kind are no doubt useful, they yet in no way answer the object now aimed at. Many take no part in them; and it may be questioned whether the plan of allowing students to contest doubtful and obscure points is not a mistake. They should learn only what is trustworthy; difficulties and half-truths will afterwards come soon enough.

Compulsory written examinations are certainly exceedingly good tests; every man is examined, and he is exercised in expression as well as in mere knowledge. We all know also how much more defined our knowledge becomes when we state it on paper; and it is, I believe, much more easy for a teacher to know whether a student clearly understands from a written than from a verbal reply.

Written examinations ought, however, to be very frequent; monthly, or perhaps even weekly. If postponed to the end of a course, they have two disadvantages; a great labour is thrown on the teacher, and if the student is found to be very backward, there is no time for making him go over the ground again. If made more frequent, they might be shorter; and if the answers of any man were inferior, there would be time to compel a re-study of the subject after hours, and to give him another examination. It does not seem necessary that such written examinations should be long. If conducted every fortnight, one hour would be enough; questions being put on the lectures of the period, and being answered as concisely as possible. The labour of reading the answers is not great, as the examination would not be a competitive one; the replies of the best men would be merely glanced at; those of the worst men picked out, and the men themselves spoken to and admonished.

Such written examinations would not, however, be wanted for the tutorial classes; the chemical and microscopical classes, and the practical anatomical, medical, and surgical teaching, might



be tested by practical examinations. They should of course be conducted with system, and the results be properly registered and recorded, on some good plan.

According, therefore, to the subject, written or demonstrative tests, or both, might be applied, and the teacher would satisfy himself that he was not only listened to, but comprehended.

A good system of school examinations can, like good school teaching, be only brought about by general agreement. At present, when there are class examinations, they are left entirely to the teacher, and hardly enter at all into the general programme of the school. There certainly should be a better superintendence than now exists of the class examinations on the part of the governing body of the school, whatever that may be. The teacher should certify to this body the results of his tests, and this opinion should be recorded in respect of every student. A very ignorant or an inattentive man could then hardly pass years at a school without being detected, as is now sometimes the case, and without being brought under the special notice of the authorities.

The reality of the school examinations might be also tested by the licensing bodies. In those Universities, where the professors, assisted by assessors, or examiners appointed for the occasion, are the examiners for the licence or degree, it would be easy not only to superintend the school tests, but to let them to some extent guide the examinations for degrees. In the case of those licensing bodies which draw their candidates from numerous schools, with which their connection is indirect, there might be a system of this kind. If any candidate appears before them and is rejected, his name and copies of his answers might be transmitted to the school from which he brings his certificates. It would soon be seen if any school was inferior in teaching power, or if any individual teacher was not doing his work. Of course no teacher could be made responsible for all the sins of his pupils, but yet if rejections from a particular class were very frequent, some fault on his side might be suspected, and it would give him an opportunity of seeing wherein his teaching was failing.

Such a test as this would necessarily depend on the conscientious discharge of its duties by the licensing body. It is essential that such a body should examine thoroughly and fairly, and that its own tests should do justice to the schools. In objecting to the

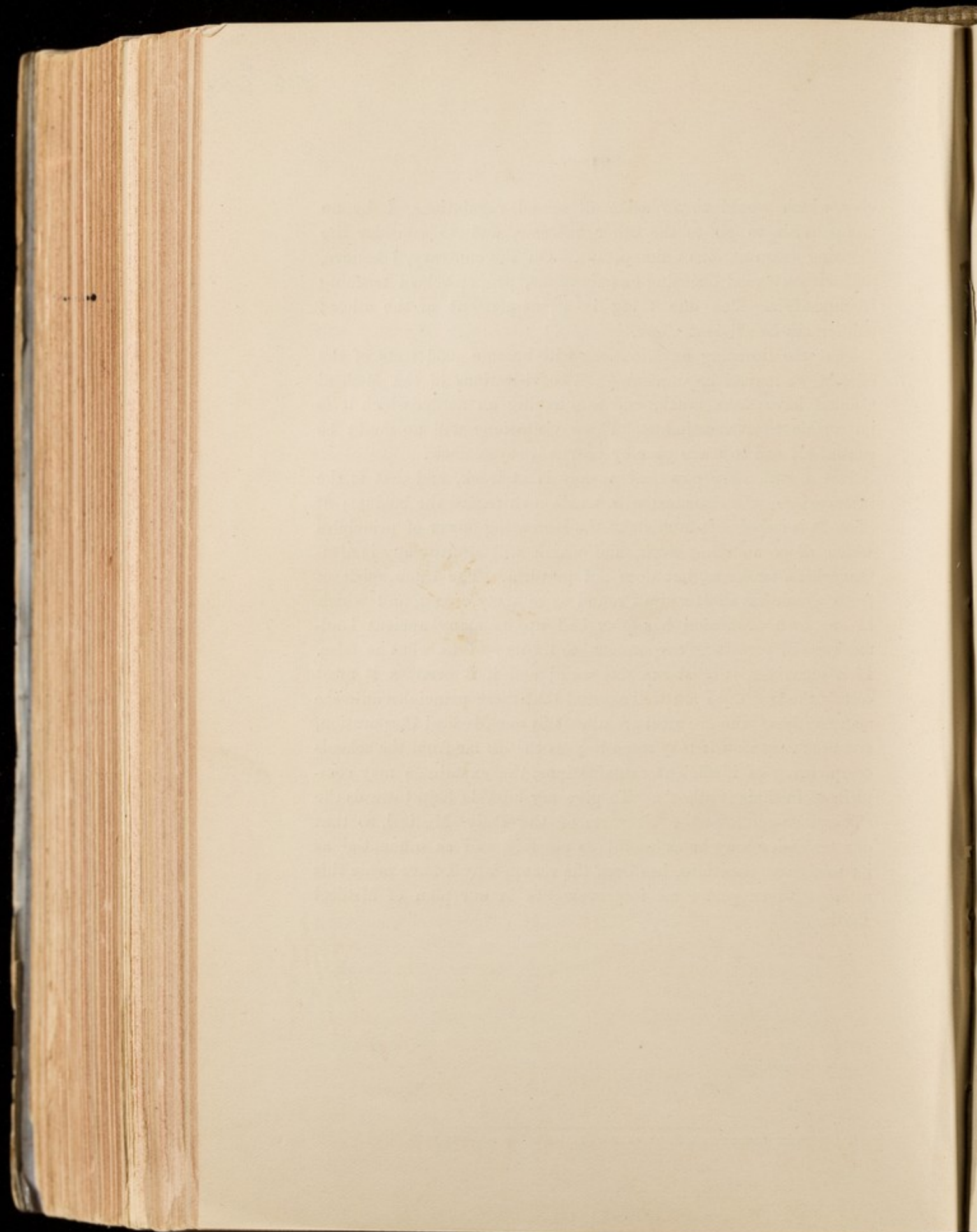


view which would throw aside all school regulations, I by no means wish to go to the other extreme, and to consider the licensing examinations unimportant. On the contrary, I believe, that without good licensing examinations, proper school teaching is impossible. The one thing is a complement of the other; neither can be efficient alone.

That the licensing examinations will become good tests of the schools, we may, I hope, assume. The visitations of the Medical Council have done much, and are having an action which it is impossible to over-estimate. Those visitations will no doubt be continued, and be made year by year more systematic.

But a still more powerful agency is at work, and that is the increased conscientiousness with which men regard the business of life. It is impossible to mistake the increasing power of principles which allow no sham work, and which will destroy any institution which professes, but does not perform. The same spirit of truth which has shattered all round us so many creeds, and which in our own profession has ploughed up so many ancient landmarks, will permit no corporation to fix its seal to what is false. If it examines, it must examine well; and if it certifies, it must certify the truth. I am well assured that these principles animate many of those who are most prominent in our Medical Corporation, and that very soon it may come to pass that so far from the schools complaining of inefficient examinations, the examiners may complain of inefficient schools. To give my humble help towards the efficient co-operation of all parts of the Body Medical, so that our profession may be as useful as possible, and as influential as its usefulness sanctions, has been the reason why I have made this attempt to suggest some improvements in our plan of Medical Tuition.







No 29

ON THE PECUNIARY VALUE  
OF THE  
EMOLUMENTS AND PENSIONS OF  
ARMY MEDICAL OFFICERS.

BY  
SURGEON-MAJOR F. DE CHAUMONT, M.D., F.R.C.S.E.,

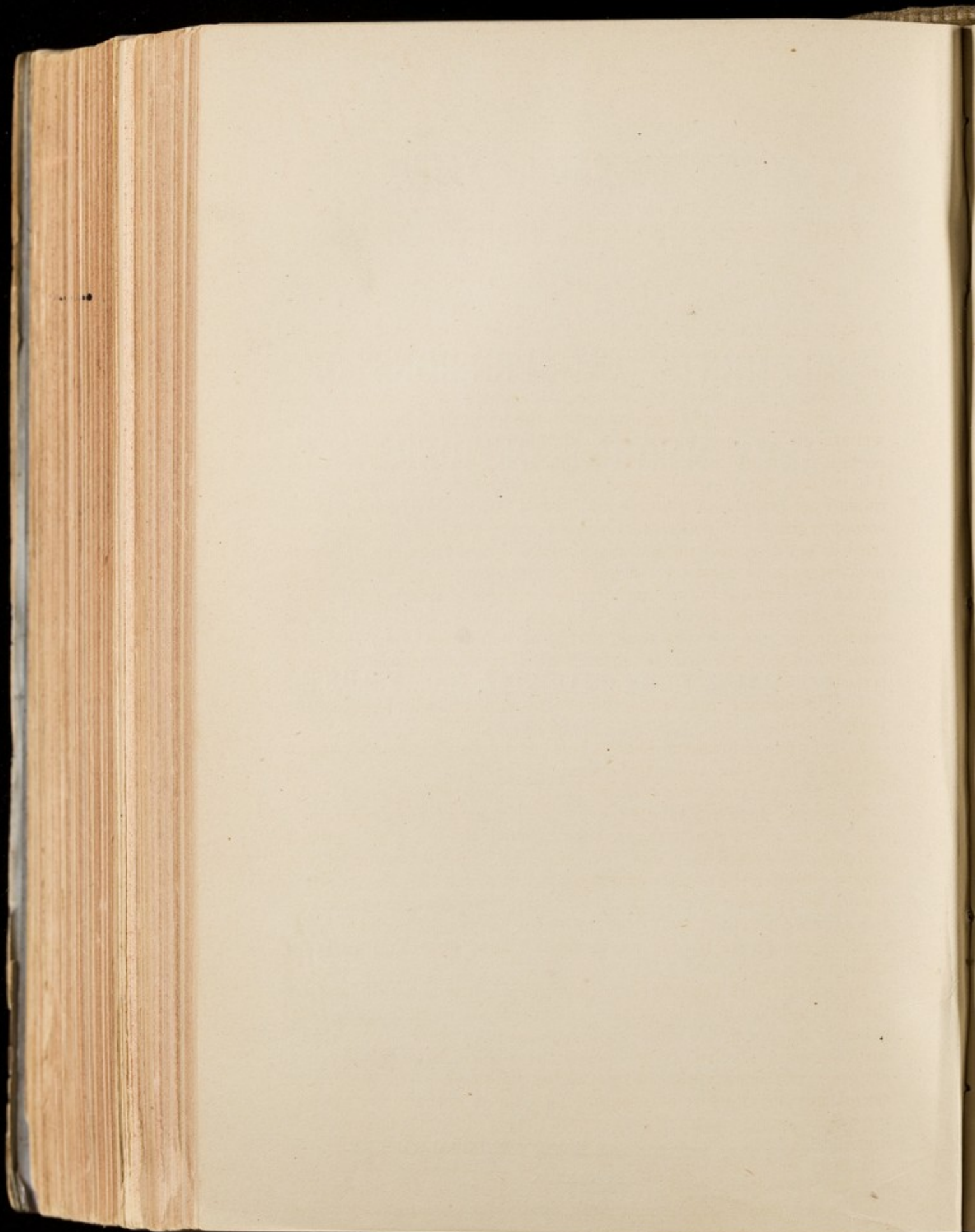
ARMY MEDICAL DEPARTMENT.

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MDCCCLXXIV.







## EMOLUMENTS OF ARMY MEDICAL OFFICERS.

A GOOD deal has been written and said on many sides about the condition of the Army Medical Department, but the majority of the statements have been rather vague than exact as regards the real value of the prospects of medical officers on entering the service. Considering the importance of the subject as bearing on the welfare of the department, both in reference to its efficiency as a servant of the State and to the wellbeing of its individual members, I have thought it would be well to try and reduce the matter to a numerical expression that should give a fair approximation to the actual truth. To make the inquiry more complete, I have also tried to get a similar numerical value for the emoluments of former periods, so as to compare the advance the pecuniary circumstances of the department have made within a certain number of years. The results in those cases must obviously be less accurate than the estimate for the present time, as the data are less available, and even more complicated in character. There are therefore three periods to consider, viz.:—

1. The present time, under the warrants of 1858 and succeeding years.
2. Quarter of a century back, just before the Crimean war—say the years 1850–53, under the warrant of 1840.
3. Three-quarters of a century back, under the warrant of 1804.

These are the chief landmarks in the history of the department. The warrants in question not only affected the pay, but created and abolished various ranks, the tendency being, however, gradually to diminish the *number* of different grades, and to make length of service furnish the chief emolument. Into the question of rank I do not propose to enter, as it does not affect the matter under consideration, except in so far as it gives claim to certain rates of allowances.

In speaking of the *administrative* grades, it will be understood that I include in these the inspectors-general and deputy inspectors-general of hospitals, now styled surgeon-general and deputy surgeon-general. All grades below these are considered *executive* officers. Some exception may perhaps be taken to the method of estimating the chances of promotion to the administrative grades, the value being apparently so small, but I do not see how any higher value could accurately be attached to them.

I have not made any special estimate of the value of the administrative appointments in India; but I think on the whole that the amount would be comparatively small, and would hardly affect



the results in an appreciable degree. In like manner the value of half-pay in case of sickness, and of pensions to widows and children, would be somewhat difficult to estimate correctly, but I do not think it would materially change the results.

### I. PRESENT TIME.

For the purposes of the calculations which follow, the subjoined *data* require to be known:—

1. Average age of entry into the service.
2. Probability of life.
3. Rates of pay and allowances.
4. Rate of retirement.
5. Prospects of promotion to administrative grades.

I shall first speak of each of these, and then proceed to the method of estimation.

1. *Average age of entry into the service.*—As the regulations of all the licensing bodies require a qualified practitioner to be 21 years of age, it is obvious that each army candidate must be at least a little older than this. On the other hand, a good many men are over 21 before taking their diploma, and some have even been in practice one or two years before coming up for the service. The limit of age by the army regulations is 28 years, but on the whole the majority of candidates are nearer 21 than 28, and I think I shall be taking a favourable estimate if I adopt 22 as the average age of entry.

2. *Probability of life.*—The probability of a good life at 22 years of age is about 40 years. But we know that the mortality in the Army Medical Department is more than double that of the same age at home; I therefore propose 37 years as a fair probability.<sup>1</sup>

3. *Rates of pay and allowances.*—In calculating these I have assumed that the medical officer *always* enjoys his full pay and allowances without deduction; also, that when living out of barracks he gets lodging allowance continuously; also, that all privileges of forage and servants are fully and continuously granted. It is well known that these conditions are not constant, and therefore the present estimate is a favourable one.

<sup>1</sup> Adult males in England die at the rate of 9 to 10 per 1000; present death-rate of army officers, exclusive of medical, 15 per 1000; medical officers, from 1839 to 1854, 34 per 1000; during the Crimean war, 67 per 1000; since the Crimean war, about 20; average death-rate for 30 years, 30 per 1000. It is further to be noted that this death-rate is not swollen by increased deaths among the older officers, as in civil life, for the greatest mortality is among the younger men.

Let us, however, adopt the recent rate of 20 per 1000. Of the 945 officers of the department the following distribution may be made, according to service and age (age of entry being 22 years):—

Surgeons,	500,	from 22 to 37 years of age.
Surgeons-major,	400,	" 37 to 55 " "
Administrative officers,	45,	" 50 to 65 " "

According to different tables of mortality, we find that out of 100,000 born alive there are at 22 years of age living:



4. *Rate of retirement.*—I have assumed that the officer serves for 20 years, and then retires as a healthy man on 12s. a day; or for

	English Life Tables. Males (Farr).	Upper-class experience, Males (Ansell).
At 37 years of age respectively, . . .	64,082	78,553
Losses in 15 years, . . .	55,133	68,080
Equal to a rate of mortality per 1000 per annum of . . .	8,949	10,473
At the age of 37 there are living (as above),	9.27	8.89
At the age of 55 there are living, . . .	55,133	68,080
Losses in 15 years, . . .	40,946	54,592
Equal to a rate of mortality per 1000 per annum of . . .	14,187	13,488
At the age of 50 there are living, . . .	17.15	13.21
At the age of 65 there are living, . . .	45,573	58,351
Losses in 15 years, . . .	29,459	42,977
Equal to a rate of mort. p. 1000 p. an. of	16,114	15,374
From the English tables, therefore, the death-rate of the department ought to be:—	36.47	23.80
500 @ 9.27 =	4635.00	
400 @ 17.15 =	6860.00	
45 @ 36.47 =	1641.15	
	945)13136.15	

Equal to 13.9 per 1000 as mean rate.

From this it appears that the actual death-rate of the department is 44 per cent. greater than that of males in civil life of all classes.

From the upper-class experience (which includes the medical profession) we find the death-rate ought to be:—

500 @ 8.89 =	4445.00
400 @ 13.21 =	5284.00
45 @ 23.80 =	1071.00
	945)10800.00

Equal to a rate of 11.43 per 1000 per annum.

From this we see that the medical officer dies at a rate 75 per cent. greater than males of his own class in civil life.

The number of males living at the age of 22 would, at the respective rates, be reduced to *one-half* in the following number of years (by the formula  $n(1-r)^t = \frac{n}{2}$ , where  $n$  is the number living at the age of 22,  $r$  the rate of decrement,  $t$  the number of years sought). Here it is evident that

$$t = \frac{\log. \frac{1}{2}}{\log. (1-r)}$$

Upper-class experience, . . .	in 60.3 years.
English life tables, . . .	in 49.5 "
Actual death-rate of medical officers, . . .	in 34.3 "

If we take the average death-rate as shown before, viz., 30 per 1000, we shall find the result to be only 22.8 years.

We thus see that the value of life, even at the lowest rate of mortality, is only 69 per cent. of the value of civil lives of all classes, according to the English life tables, and only 57 per cent. of that of professional men in civil life. Now, taking the relative expectation (or probability) of life as equal to the time in which the number of living at any age is reduced to *one-half*, we have the following:—

Upper-class experience, . . .	47.4 years.
English life, . . .	40.5 "
Army medical officers, . . .	27.5 "
Or, taking the higher rate of 30 per 1000—	
Army medical officers, . . .	18.6 "

It will therefore be admitted that the expectation of 37 years, as adopted in the paper, is a very liberal one.



25 or 30 years, and then retires on 20s. a day at either of these periods. He is, properly speaking, not entitled to the latter until after 33 years (or at the age of 55, beginning at 22), but I have adopted the above data as being quite within the truth.<sup>1</sup>

5. It is difficult to estimate the prospects of promotion to the administrative grades, but it may safely be assumed that, as matters are at present, such promotion can hardly be hoped for before 30 years' service. Now, out of a department numbering something over 900, there are only 43 administrative officers (10 surgeons-general and 33 deputies), or 1 to 21.<sup>2</sup> But many of the junior officers retire comparatively early, some by resignation and some from ill-health, so that the ratio is even smaller. I think, therefore, I am not making a very erroneous estimate in taking the chances of reaching the administrative grades as 1 to 22 for a surgeon<sup>3</sup> just entering the army; his chance of serving as a deputy-surgeon-general for more than five years, as 1 to 25; his chance of promotion to surgeon-general, as 1 to 28; his chance of completing his time in that rank up to the age of 65, as 1 to 30; and his chance of enjoying the pension of that rank up to 70 years of age, as 1 to 40.

#### *Method of Calculation.*

I have taken the aggregate pay and allowances for each period, and estimated the present value of them at the time of entry into the service; also the value of the pension and the value of the prospects of promotion. These are estimated (except the first period) as *deferred annuities*. From the sum thus obtained I have then calculated out the amount of annuity that could be obtained for certain periods, and assumed this as the total value of the prospects. In all cases 5 per cent. compound interest is taken as the basis, as is done by Government in estimating commutations under the Act for commuting pensions.

The first five years are estimated as an ordinary annuity by the formula:—

$$v = \frac{a(r^t - 1)}{r^t(r - 1)} \quad [1]$$

where  $v$  is the value of the annuity,  $a$  the annuity,  $r$  the amount of £1 for one period (in this case 1.05), and  $t$  the number of periods during which the annuity is to be paid.

The subsequent yearly emoluments are treated as *deferred annuities*, or *annuities in reversion*, and are calculated by the formula:

<sup>1</sup> He may retire invalided by a medical board at 25 years of age on 20s. a day, but if he is in good health he is only entitled to 18s. 10½d. I have, however, neglected this trifling difference; but if it were reckoned, it would diminish the value of his prospects by about £25 in immediate value, and the annuities by about as many shillings.

<sup>2</sup> The actual number in the department is at present about 945; but if we include in the administrative ranks the director-general (whose promotion of course gives a step), and the professor of military surgery at Netley, the proportion comes out about 1 to 21, as adopted above.

<sup>3</sup> Now the junior rank of the department, formerly styled *assistant-surgeon*.



$$v = \frac{a (r^t - 1)}{r^{(n+t)} (r - 1)} \quad [2]$$

where the meaning of the symbols remains the same, with the addition of  $n$ , which means the number of periods elapsed before the time  $t$  begins.

The rates of pay and allowances are the following:—

Rank.	Service.	Daily pay.	Servant.	Estimated value of lodging, fuel, and light.	Value of forage and stable allowance.	Total.
Surgeon,.....	1st to 5th year,	10s.	1s.	1s. 6d.	...	12s. 6d.
"	6th "	12s. 6d.	1s.	1s. 6d.	...	15s.
"	7th to 10th "	12s. 6d.	1s.	2s. 4d.	...	15s. 10d.
"	11th to 15th "	15s.	1s.	2s. 4d.	...	18s. 4d.
Surg.-major,...	16th to 20th "	20s.	1s.	3s.	2s. 4d.	26s. 4d.
"	21st to 25th "	24s.	1s.	3s.	2s. 4d.	30s. 4d.
"	26th to 30th "	27s.	1s.	3s.	2s. 4d.	33s. 4d.
Pension on retirement at 20 years' service,.....		12s.	...	...	...	12s.
Do. do. at 25 years, or at 30 years' service,.....		20s.	...	...	...	20s.

The annual amounts are as follows:—

1st to 5th year,	.	.	.	.	.	£228
6th "	.	.	.	.	.	273
7th to 10th "	.	.	.	.	.	288
11th to 15th "	.	.	.	.	.	353
16th to 20th "	.	.	.	.	.	480
21st to 25th "	.	.	.	.	.	554
26th to 30th "	.	.	.	.	.	607
Pension at 20 years,	.	.	.	.	.	£219
" at 25 or 30 years,	.	.	.	.	.	365

Now, the present values of the above at the time of entry into the service (treating them as *certain* annuities), is the following:—

1st to 5th year (by formula [1]),	.	.	.	.	£987
6th " (by formula [2]),	.	.	.	.	204
7th to 10th "	"	"	.	.	762
11th to 15th "	"	"	.	.	938
16th to 20th "	"	"	.	.	794
21st to 25th "	"	"	.	.	904
26th to 30th "	"	"	.	.	776
Or a total value of	.	.	.	.	£5365
Add value of pension after 30 years, with probable duration of 7 years,	.	.	.	.	489
Total value,	.	.	.	.	£5854

This sum, at 5 per cent. compound interest, would yield an annuity of £381 for 30 years, or £350 for 37 years—that is, for the probable duration of life we have assumed—or an annuity in perpetuity of £293.



*Value of Emoluments and Pension at 25 Years' Service.*

Emoluments, . . . . .	£4589
Pension at 20s., . . . . .	955
Total value, . . . . .	£5544

This would yield in annuities for 37 years £332; for 30 years, £360; for 25 years, £390; in perpetuity, £277.

In the case of the officer electing to retire at 20 years, the value of his emoluments during that time would be:—

Emoluments for 20 years, . . . . .	£3683
Value of pension, to begin at 20 years' service, and } continue probably for 17 years, . . . . .	930
Total value, . . . . .	£4613

This, as above, would yield an annuity for 20 years of £370; for 30 years, £301; and for 37 years, or probable duration of life, £276; or in perpetuity, £231.

*Value of Emoluments on Promotion to the Administrative Ranks after 30 Years' Service.*

The pay and allowances of the administrative ranks are as follows, presuming that the officer is promoted to be deputy-surgeon-general at 30 years' service, and serves eight years in that rank, that he is then promoted to the rank of surgeon-general, and serves five years in that rank, retiring ultimately at the age of 65 years:—

Rank.	Service.	Daily pay.	Servants.	Estimated value of lodging, fuel, and light.	Value of forage and stable allowance.	Total.
Dep.-surg.- } general... }	31st to 35th year,	35s.	1s.	4s. 6d.	4s. 8d.	45s. 2d.
" } " }	36th to 38th "	37s.	2s.	5s. 6d.	7s.	51s. 6d.
Surg.-general, }	39th to 41st "	50s.	2s.	8s. 3d.	7s.	67s. 3d.
" }	42d and 43d "	50s.	3s.	11s.	11s. 8d.	75s. 8d.
Pension on retirement at 65 } years of age, and 43 years' } service, .....		37s. 6d.	...	...	...	37s. 6d.

The annual amounts would be as follows:—

31st to 35th year, . . . . .	£825
36th to 38th " . . . . .	937
39th to 41st " . . . . .	1227
42d and 43d " . . . . .	1380
Pension at 43 years, . . . . .	£684

The present value of these at time of entry into the service (treating them as certain annuities) would be:—

31st to 35th year (by formula [2]), . . . . .	£792
36th to 38th " " . . . . .	475
39th to 41st " " . . . . .	542
42d and 43d " " . . . . .	360
Total value, . . . . .	£2169

Add value of pension at 43 years' service, } to be enjoyed 5 yrs. up to 70 yrs. of age, }	360
Total value . . . . .	£2529



Adding this on to the value of the previous 30 years, we have:—

First 30 years (omitting pension),	£5365
Administrative rank and pension,	2529

---

Grand total value, £7894

This would yield annuities as follows:—

For 30 years,	£513
„ 37 „	473
„ 48 years, making life a certainty up to 70 years,	437
Or in perpetuity,	395

The above exceed the 30 years' estimate previously made by  
 £132 for 30 years,  
 £123 for 37 years.

But this is treating both the fact of promotion and the duration of life up to 70 years as *certainities*, which we know they are not. I have shown that the chances of promotion are small, and probably not more than the following:—

31st to 35th year,	1 : 22
36th to 38th „	1 : 25
39th to 41st „	1 : 28
42d and 43d „	1 : 30
Pension up to age of 70,	1 : 40

Or a mean chance of about 1 : 29½; but I shall adopt the number 26 and the ratio as 1 : 26, so as to be well within the limits of error. Dividing, then, £2529 by this number (*i.e.*, 26), we reduce the value of the chances to about £95, which we must add on to the 30 years' estimate, *including pension*.

We have thus:—

Value of 30 years' emoluments <i>plus</i> pension after that time,	£5854
Value of chances of promotion to administrative ranks and pension up to 70 years of age,	95

---

Total value, £5949

This would yield an annuity as follows:—

For 30 years,	£388
„ 37 „ (probable duration of life),	356
Or in perpetuity,	297

Or the chances of promotion to the administrative ranks are equal to about £6 or £7 per annum.

It follows then, from the above statement, that the value of a commission in the medical department of the army is equal to an annuity for life of about £356, assuming health and full pay service for 30 years and life for 37 years to be *certainities*. Against this must be placed the various compulsory contributions and subscrip-



tions the officer is called upon to pay, and the fact that he does not get the full value of the allowances credited to him above, particularly if he should marry under 15 years' service, when he rarely gets lodging money or adequate quarters. The recent warrant, too, has deprived him to a great extent of forage allowance. A further set-off is the expense of moving about from station to station, which is very serious, especially for young married officers, moves being considerably more frequent now than in former times. On the other hand, there are certain advantages to be stated *per contra*.

1. The *certainty* of the pay: the medical officer can live on his pay, and so is spared in early days much of the anxiety attaching to the struggles of civil life.

2. The work is not severe, and he has a large amount of time to himself.

3. He is pretty certain of a definite amount of leave each year, which he can take without the danger to his prospects that might happen in civil life.

4. There is a *certain* provision in sickness.

5. He can look forward to a definite period of retirement.

6. There is a small but certain provision for his widow and family.

7. There is increased pay in foreign stations, although it is only in India that this is of much consequence. At the same time, this is counterbalanced to a certain extent by increased expenses incurred in separation of families, increased premiums of life insurance, and the like, and by the grave dangers to life and health from exposure to unhealthy climates.<sup>1</sup>

It would be hardly possible to state the numerical values of the above *juvantia* and *laedentia* with any approach to accuracy, but we may probably assume that the net value of a medical commission is about equal to a life annuity of £300, or probably a little more, say £320, allowing for possible retirement earlier than 30 years, and possible sickness and loss on half-pay.

## II. ESTIMATE OF EMOLUMENTS IN 1850-53, UNDER THE WARRANT OF 1848.

The department was much smaller before the Crimean war, the total number being only about 660, of whom 23 were in the administrative grades (inspectors and deputy-inspectors). The pay was smaller, and an officer, whatever might be his length of service, had to serve for two years on the *lowest* rate of pay in each rank. The allowances were much less liberal, for relative rank was merely nominal, and did not carry with it the substantial advantages it does at the present time. A surgeon, however, although he only ranked

<sup>1</sup> The Sanitary Report of the Madras Presidency for 1873, just issued, contains a paper by Dr Cornish, in which he shows that the death-rate of the Madras Medical Department is only 15.7 per 1000, considerably under that of the British service as above shown.



as a captain, was allowed forage for a horse on the same terms as a cavalry officer. Promotion did not go by seniority in the army, but in the station; this produced certain anomalies which complicate a little the present inquiry. Looking over the army lists of 1850-53, I find that the average service on promotion from assistant-surgeon to surgeon was about ten years (a fraction less). A surgeon was generally promoted to be staff-surgeon of the 1st class at 25 years' service; he would probably become deputy-inspector-general at 30 years' service, and inspector-general at 40 years' service, retiring from the latter rank after holding it three years, as was then the rule. Retirement could be claimed even in good health at 25 years. We have, therefore, three sets of conditions to consider:—

1. An officer serving for 25 years and then retiring on 13s. a day.
2.     "         "         30         "         "         "         17s. a day.
3. The proportion of chances of promotion to the administrative grades and pension in those grades.

Taking these *seriatim*, we have the following:—

1. *An officer serving 25 years and then retiring.*

Rank.	Service.	Daily pay.	Estimated value of allowances, etc.	Daily total.	Annual total.
Assist.-surg.	1st to 10th year	7s. 6d.	2s. 6d.	10s.	£183
Surgeon .	11th and 12th "	13s. 0d.	4s. 9d.	17s. 9d.	£324
"	13th to 20th "	15s. 0d.	4s. 9d.	19s. 9d.	£360
"	21st to 25th "	19s. 0d.	4s. 9d.	23s. 9d.	£433
Pension after 25 years, to be probably enjoyed for 12 years, up to 37 years as the expectation of life, }				13s.	£238

The present values of these sums at the age of 22—that is, on entering the service—would be £4361 in one sum, which would yield (at 5 per cent.) annuities as follows:—

For 25 years,	.	.	.	£309
" 30 "	.	.	.	284
" 37 "	.	.	.	261
In perpetuity,	.	.	.	218

2. *Case of an officer serving for 30 years and then retiring.*

The first 25 years would be as above given (omitting the pension at 25 years).

Service.	Daily pay.	Estimated value of allowances, etc.	Daily total.	Annual total.
26th & 27th years, { Staff-surgeon of the 1st Class }	19s.	8s. 8d.	27s. 8d.	£499
28th to 30th "	24s.	8s. 8d.	32s. 8d.	£590
Pension after 30 years' service,	...	...	17s.	£310



The present value on entering into the service would be as follows:—

Value of emoluments during 30 years' service,	£4443
Value of pension after 30 years' service,	415
Total value in one sum,	£4858

This would yield annuities as follows:—

For 30 years,	£316
" 37 "	291
In perpetuity,	243

### 3. Promotion to administrative grades.

Rank.	Service.	Daily pay.	Estimated value of allowances, etc.	Daily total.	Annual total.
Deputy Inspector-General,	31st & 32d years	24s.	8s. 8d.	32s. 8d.	£590
"	33d to 40th "	30s.	8s. 8d.	38s. 8d.	£700
Inspector-General,	41st & 42d "	36s.	12s.	48s.	£875
"	43d "	40s.	12s.	52s.	£949
Pension after 43 years' service, to be probably enjoyed } 5 years, up to the age of 70,				30s.	£548

The commuted value of these would be (at time of entry into the service) £1831, that is, if promotion and life up to 70 years of age were certainties. But I have shown that the number of administrative officers was only 23 in a total of 660, or 1:29, so that we legitimately adopt about 1:33 as the mean chance of assistant-surgeon reaching the higher grades, serving in them up to the age of 65, and then enjoying a pension to the age of 70. Dividing ~~£1733~~ then by 33, we have £56 as the proportionate value of the chances. We must therefore add this on to the previous estimate:—

Value of emoluments for 30 years, and } pension after that time,	£4858
Estimated value of chance of promotion } and pension in higher grades,	56
Total present value,	£4914

This would yield annuities as follows:—

For 30 years,	£320
" 37 "	294
In perpetuity,	246

This shows an apparent gain in the present time of £1035 of present value, equal to a life annuity of £62, or a perpetual annuity of £52, or about 21 per cent.



### III. ESTIMATE OF THE EMOLUMENTS OF A MEDICAL OFFICER AT THE BEGINNING OF THE CENTURY, UNDER THE WARRANT OF 1804.

The following table gives the scale of full and half pay as then established:—

*Table of Full and Half Pay under the Warrant of 1804.*

Rank, etc,	Daily Full Pay.	Daily Half Pay.	Remarks.
	£ s. d.	£ s. d.	
Hospital Mate, at home,	0 6 6	0 2 0	Warrant Officer up to 1804, when he was commissioned by the King; in 1813 called Hospital Assistant; abolished, and Assistant-Surgeon to the Forces substituted, 1830.
„ abroad,	0 7 6	0 2 0	
Assist.-Surg., Cavalry,	0 8 6	0 3 0	The additional shilling in the cavalry was to cover the expense of keeping a horse.
„ Infantry,	0 7 6	0 3 0	
Apothecary and Surgeon of a recruiting district, . . .	0 10 0	0 5 0	
Regimental Surgeon,	0 11 4	0 6 0	
Do., after 7 years' service in the rank, or 10 in the army, . .	0 14 1	0 6 0	
Do., after 20 years, army, . . . . .	0 18 10	0 6 0	
If compelled to retire, from bad health, at 20 years' service,	...	0 10 0	
Regimental Surgeon, 30 years' service, .	...	0 15 0	Could retire even in good health.
Surgeon to the Forces,	0 15 0	0 6 0	Entitled to the same increase for service as the Regimental Surgeon.
Physician to Forces,	1 0 0	0 10 0	Replaced in 1830 by Assistant-Inspector; abolished 1840.
Deputy-Inspector of Hospitals,	1 5 0	0 12 6	
Do. after 20 years in the army, . . . .	1 10 0	0 15 0	The suffix <i>general</i> to the titles of Inspector and Deputy-Inspector was abolished by this warrant.
Inspector of Hospitals, . . . .	2 0 0	1 0 0	
Principal Inspector-General, . . . .	2 0 0	...	Members of the Medical Board.
Surgeon-General, . . . .	2 0 0	...	
Physician-General, . . . .	2 0 0	...	
<p>In 1814 a Director-General was substituted for the members of the Medical Board, at a salary of £2000; on the next appointment, in 1852, the pay was reduced to £1200, and in 1858 it was raised to £1500, at which it now stands.</p>			<p>The allowances continued much the same up to 1858, according to the relative rank of the officer, with a few minor differences, such as the money value of forage, which, however, are hardly material to notice.</p>



There is some difficulty in estimating the emoluments and prospects of a medical officer in the early part of the century, on account of the irregular and anomalous way in which promotion appears to have been made, and the peculiar relations of the different ranks. Sometimes an officer was removed from a junior rank to a high one without passing through the intermediate grades; sometimes (although less frequently than before the warrant of 1804) medical men were appointed from civil life to high positions in the service. Looking back, however, at old army lists, I find the following to be about the average length of service:—

Rank.	Total Service on Appointment.	Service in the Rank.
Hospital Mate or Assistant, . . .	0	2½ years.
Assistant-Surgeon, . . . . .	2½	9 "
Regimental Surgeon, . . . . .	11½	7 "
Staff-Surgeon, . . . . .	18½	3½ "
Assistant Inspector or Physician,	21½	13½ "
Deputy Inspector, . . . . .	35	10 "
Inspector, . . . . .	45	3 to more years.

I think it will be sufficiently near the truth for our purpose to take the following rates, which will not, I think, differ very much from the true mean:—

		Total Service.
Hospital assistant, . . . . .	4 years in the rank,	4
Assistant-surgeon, . . . . .	10 "	14
Surgeon, . . . . .	11 "	25
Staff-surgeon or Assistant } Inspector, . . . . . }	5 "	30
Deputy Inspector, . . . . .	10 "	40
Inspector, . . . . .	3 "	43

He might retire at 30 years' service on 15s. a day, or as an inspector at 43 years' service on 20s. a day.<sup>1</sup> There appears, however, to have been no special limit of age or service at which he was compelled to retire.

The present or commuted value of the pay, allowances, etc., of 30 years' service on entry into the service, would be	} £3773
Value of pension after 30 years, to be probably enjoyed for 7 years,	
	344
Total value,	£4117

<sup>1</sup> The half-pay in all grades, and the full-pay in the higher ranks, were subject to a deduction of about 5½ per cent. for *poundage* and *agency*; the pay in the executive ranks is stated *net*. This deduction is allowed for in the calculations.



This would yield annuities as follows:—

For 30 years, . . . . .	£268
„ 37 „ (or probable duration of life), . . . . .	246
In perpetuity, . . . . .	206

The commuted value of the pay, allowances, and pensions of the administrative grades would be £1686. I have estimated the chances of reaching those grades as 1 : 40, which may perhaps be considered too low ; but even if they were estimated at 1 : 30 it would hardly make a difference of £1 in the value of the annuity. Dividing then £1686 by 40, we have £42 to be added on to the previous sum:—

Total value of 30 years, as above, . . . . .	£4117
Estimated value of chances of promotion and } pension in the higher grades, . . . . . }	42
Total value,	£4159

This would yield annuities as follows:—

For 30 years . . . . .	£270
„ 37 years (probable duration of life), . . . . .	249
In perpetuity, . . . . .	208

From this we find that the apparent gain by the warrant of 1840 over that of 1804 amounted to a present value of £755, equal to a perpetual annuity of £38, or a ratio of about 18 per cent. ; whilst the apparent gain under the existing warrants over that of 1804 amounts to a present value of £1790, equal to a perpetual annuity of £90, or a ratio of about 43 per cent.

I have added a table of the most important results of the calculations, so as to render comparison more easy.

In conclusion, I may point out that the relative value of money is an important element in the question, but this is not easily determined, although there can be no doubt that the value is less at the present time than during the former periods. It would also be useful to have a comparison between the emoluments of the army medical service and the mean earnings of civil life, but I am not in possession of sufficient data to make the comparison, which I therefore leave to others more competent to do so.



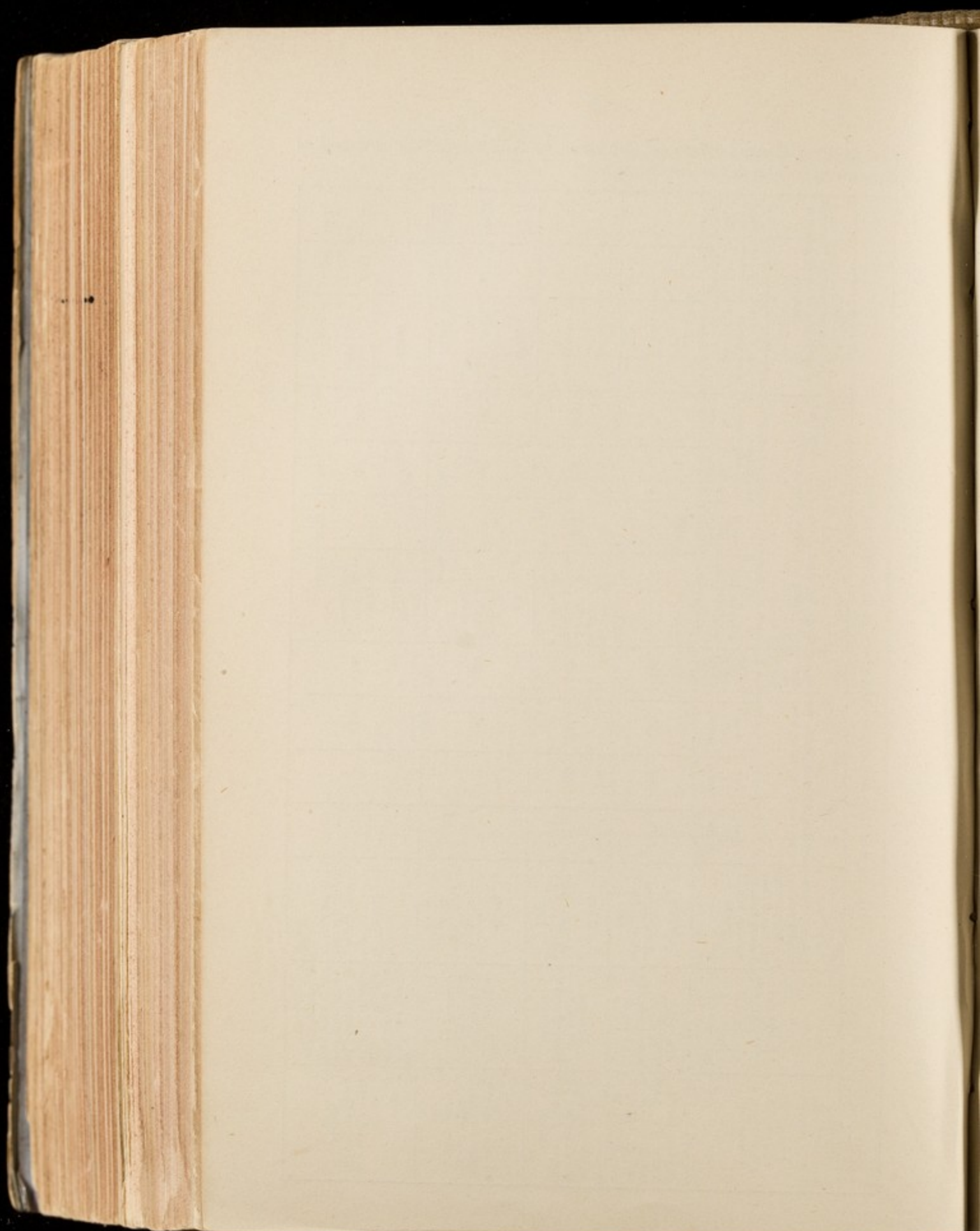




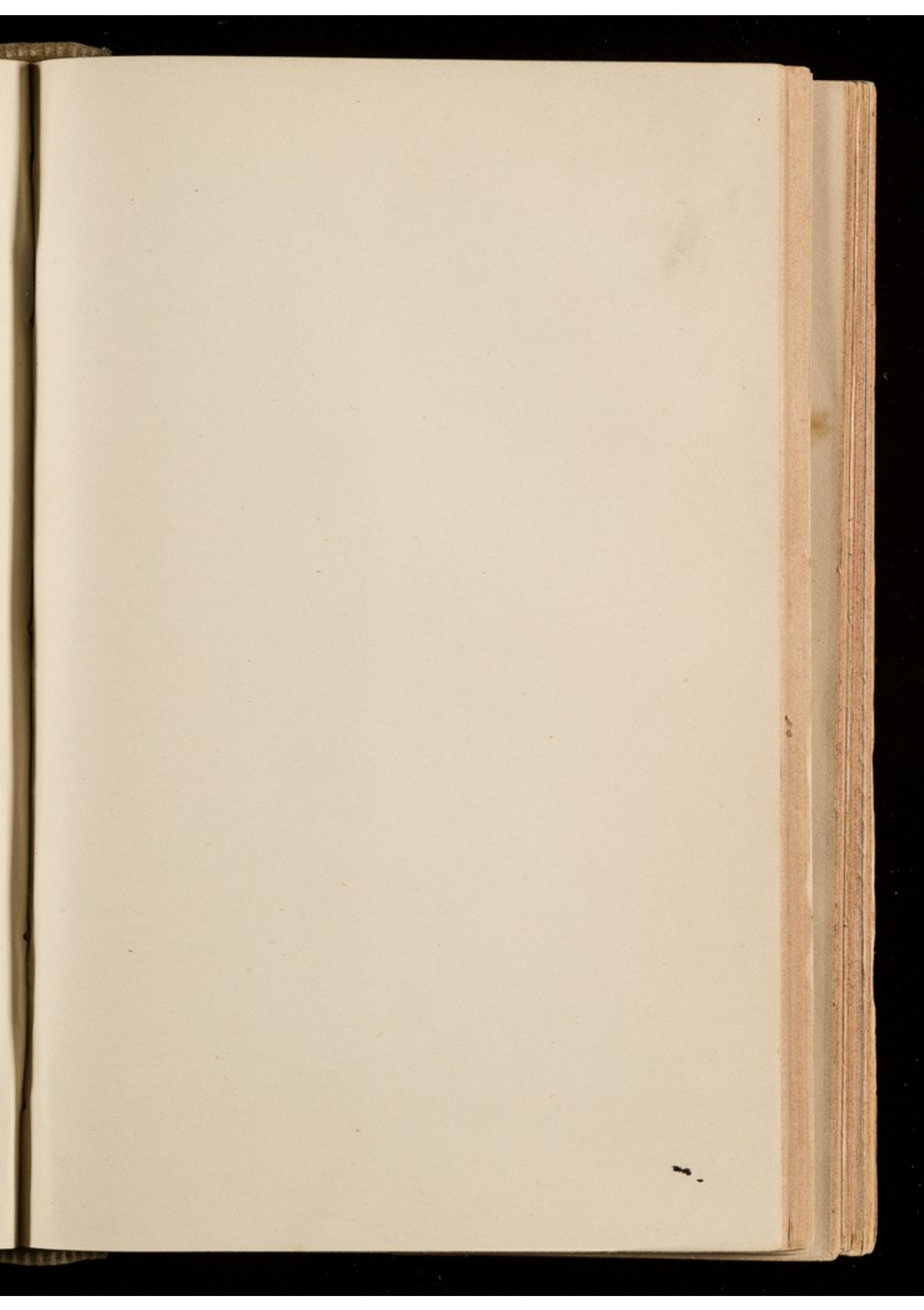
sions of Army Medical Officers, as they are under the Existing Warrants, and as the paper to which this Table is attached.

Warrants of 1858 and subsequent years, as at present in force.											
Length of service and conditions of retirement.	Ranks and service in each.	Present or commuted value of emoluments and pension at time of entry into the service, age 22 years.	Annuities purchasable for sum in previous column at 5 per cent.				Gain (nominal) on the Warrant of 1840 (say in quarter of a century).			Gain (nominal) on the Warrant of 1804, in three quarters of a century.	
			For 20 years.	For 25 years.	For 30 years.	For 37 years or life.	Commuted value.	Annuities.			Commuted value.
								25 years.	30 years.	37 years.	
20 years' service. Retire in good health on 12s. a day, or £219 per annum.	Surgeon, 15 years; surgeon-major, 5 years.	£4613 Annuity perpetual at 5 p. c., £231	£370	£327	£301	£276	£1183 Annuity perpetual at 5 p. c., £59				
25 years' service. Retire on 20s. per day, or £365 per annum.	Surgeon, 15 years; surgeon-major, 10 years.	£5544 Annuity perpetual at 5 p. c., £277		£390	£356	£329	£1183 Annuity perpetual at 5 p. c., £59	£81 = 27 per cent.	£72	£68	
30 years' service. Retire on 20s. a day, or £365 per annum.	Surgeon, 15 years; surgeon-major, 15 years.	£5854 Annuity perpetual at 5 p. c., £293			£381	£350	£996 Annuity perpetual at 5 p. c., £50		£65	£59	£1737 Annuity perpetual at 5 p. c., £87
30 years' service. Retire as above stated.	Same as above, but adding on the proportion of the chances of promotion to the administrative ranks, and pension in those grades.	£5949 Annuity perpetual at 5 p. c., £297			£388	£356	Ratio = 21 p. cent. £1035 Annuity perpetual at 5 p. c., £52	Ratio = 21 p. cent.	£68	£62	Ratio = 42 per cent. £1790 Annuity perpetual at 5 p. c., £90

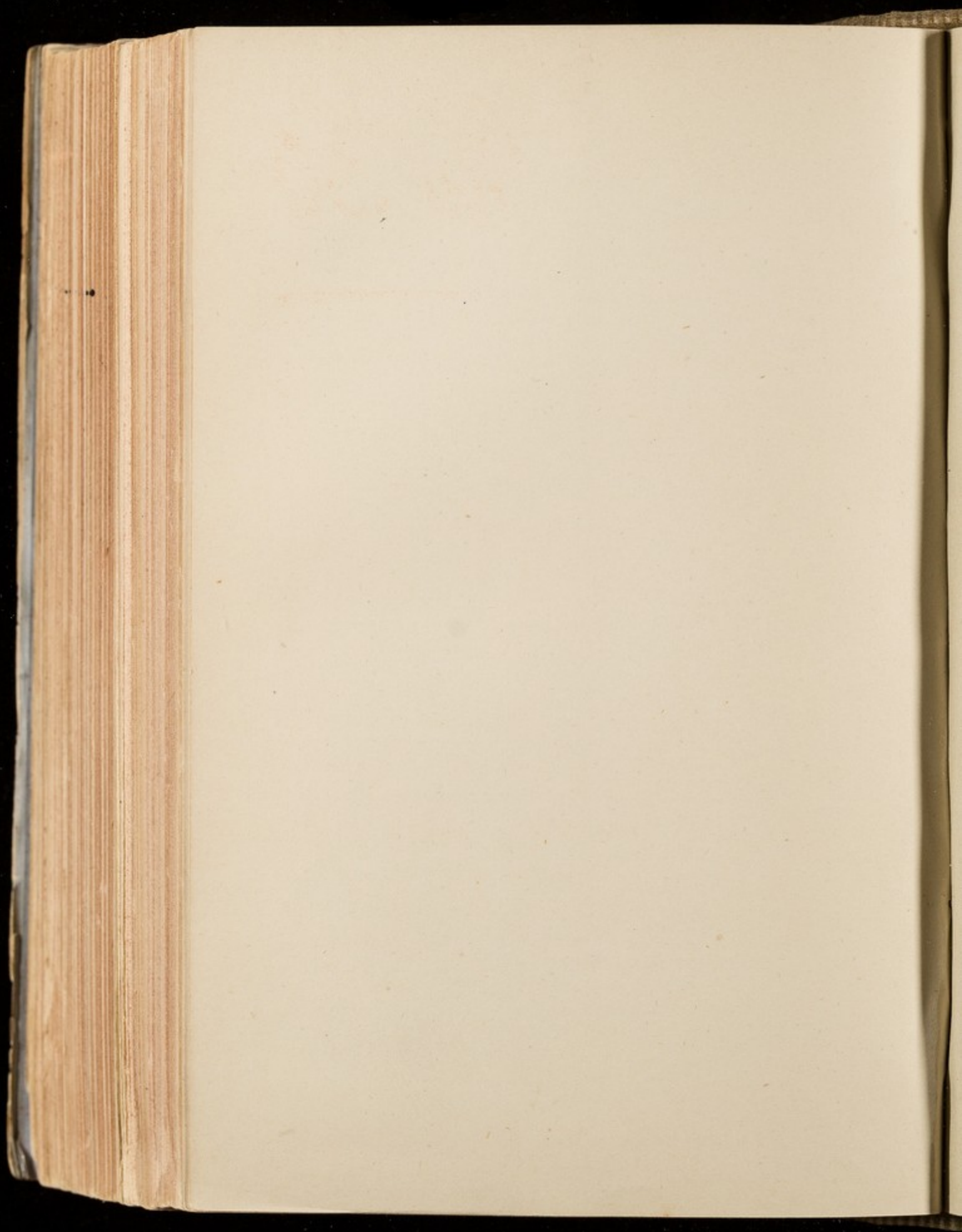








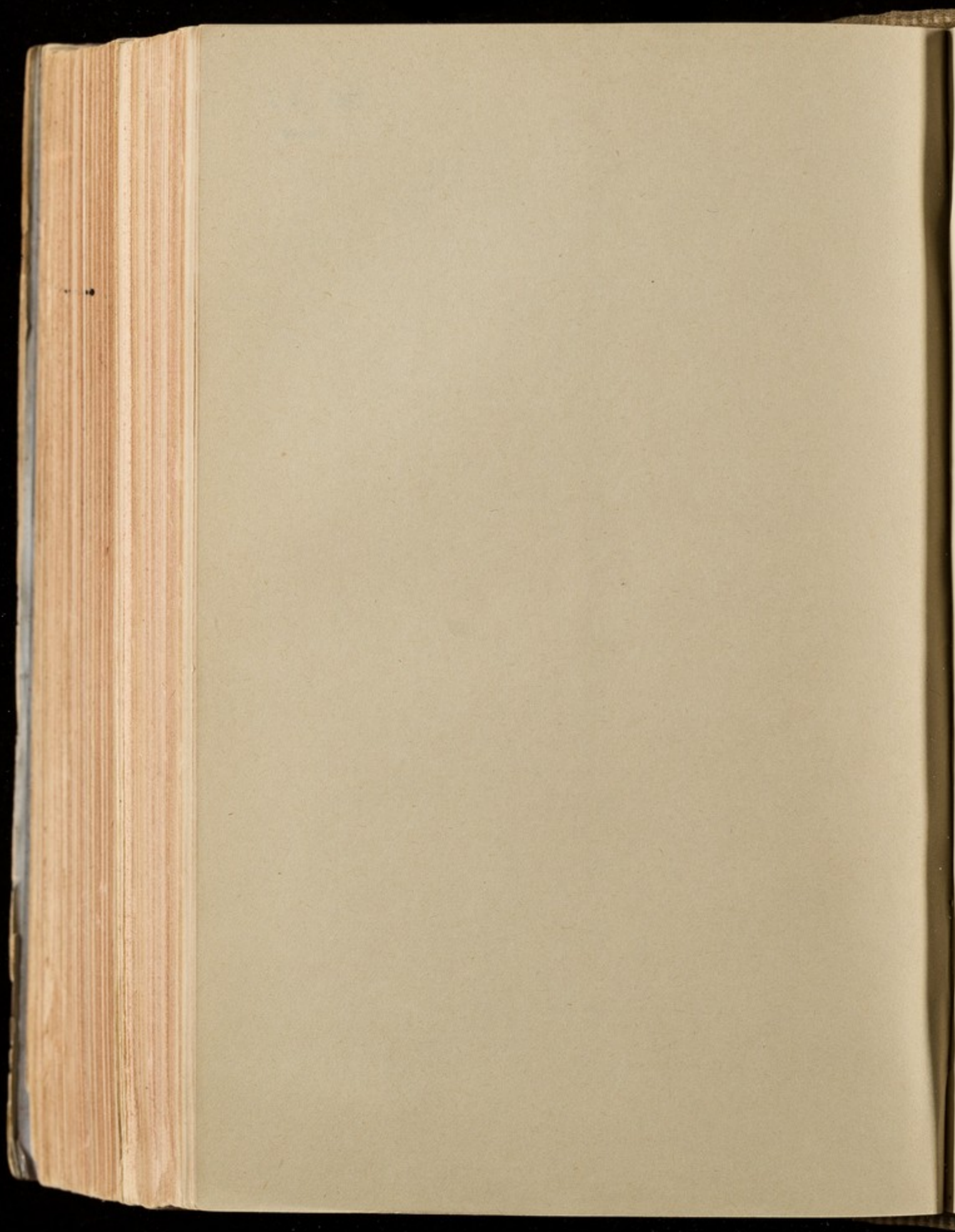






No 30







## SUGGESTIONS AND REASONS FOR IMPROVING THE MEDICAL BRANCH OF THE ROYAL NAVY.

ON Wednesday, the 10th of June, 1874, a deputation from the Parliamentary Bills Committee of the British Medical Association, comprising Sir William Fergusson, Bart., F.R.S., President of the Association; Mr. Ernest Hart, the Chairman of the Parliamentary Bills Committee; Mr. Heckstall Smith; Dr. G. Johnson, F.R.S.; Dr. Paul; Mr. Lord; Dr. Walter Dickson, R.N.; Mr. Farquharson; Mr. Harvey, R.N.; Mr. Arthur Durham; Dr. Ramsay; Dr. Rogers Harrison; Dr. A. P. Stewart, and many others, together with Mr. Francis Fowke, the General Secretary, waited on the First Lord of the Admiralty, to point out to the right honourable gentleman the present unfavourable position of the medical officers of the Royal Navy, which, in the opinion of the deputation, deters young men from entering the service, and renders those who are already in it discontented and unhappy.

The deputation went prepared with the following suggestions, and they were ably advocated one by one by Mr. Ernest Hart.

After that, the First Lord, with great courtesy, listened to the remarks of other members of the deputation,—Staff-surgeons Harvey and Dickson, R.N., Mr. Durham, and Dr. G. Johnson—and, desiring that copies of the papers might be sent to him, thanked the deputation, and assured them that their views would receive full consideration.

[*Vide also* BRITISH MEDICAL JOURNAL, *June 13th*, 1874.]

1. Surgeons to rank with naval lieutenants under eight years seniority, as naval instructors do.—Men who have qualified in their profession, and being on an average twenty-four years of age, will not enter a service where their position is so inferior as at present. Naval instructors, from the date of their entry, rank as lieutenants under eight years' seniority.

Rank of surgeons.

2. The title of staff-surgeon to be altered to that of surgeon-major.—This is absolutely necessary, because the present title carries with it no meaning as to its superior grade.

Title of surgeon-major.



Title of staff  
surgeon.

3. The title of second-class staff-surgeon to be abolished, and that of staff-surgeon substituted for it.—This is a new and most objectionable title, conveying to many minds the notion of inferiority in a professional sense, and has already caused great discontent.

Rank of in-  
spectorial  
grades.

4. The inspectorial grades to rank with their co-relatives according to the dates of their respective commissions, in lieu of "*after so many years' service.*"—This is a simple act of justice to these officers, to be placed on a footing with those with whom they relatively rank. Under present rules a junior may, by chance of service, find himself relatively superior to his senior on the list.

Substantive  
rank on  
retiring.

5. A step of rank to be conferred on all medical officers below inspector-general, on their retirement after twenty years' full-pay service, at the discretion of the Admiralty, such rank to carry with it the widows' pensions and compassionate allowances, but no other pecuniary advantages.—A step of rank is now given, but it is simply honorary in the case of medical officers, whereas, as regards all other classes of naval officers, when superior rank is awarded on their retirement, it is substantive, and carries with it the advantage of increased widow's pension. For example, taking one class alone, there are between forty and fifty paymasters-in-chief, whose widows would be entitled to £90 per annum; whilst out of the same number of deputy-inspectors there is but one whose widow would be entitled to a similar pension. Twenty years' full-pay service is proposed, because, to make it longer would be practically to shut out almost every officer from any benefit.\*

Promotion of  
surgeons.

6. Surgeons to be promoted to the rank of staff-surgeon on the completion of ten years' seniority, provided their conduct and qualifications shall be satisfactory. In other respects the promotion of these officers to be regulated as at present.—Promotion from this lower rank has now come to a dead lock. The senior surgeons are of thirteen years' seniority, and some of them are nearly forty years of age. So long as this state of things continues, it will be impossible to get any men to enter the Navy. The limit of ten years' seniority is proposed because the officer would then be, at the least, from thirty-one to thirty-five years of age, tired and discontented with his inferior position. The principle is acted on in the Indian service, where the attractions of pay, etc., are far greater than can be expected in the Navy.

Promotion  
to surgeon-  
major.

7. The rank of surgeon-major, to be obtained as at present for distinguished service, and in other cases at a less period of full-pay service than twenty years, so as to equalise with the

\* A widow of a flag officer, who has, perhaps, never served as a captain, receives the pension of an admiral's widow; her husband having risen to the rank merely by seniority, probably after being retired from the service for many years.



Army for loss of time on half-pay ; that principle having been accorded in the adjustment of full-pay, per Admiralty Circular, No. 4 W, 8th February, 1867.\*

8. A distinctive uniform to be given to staff-surgeons (present second-class), to mark the grade, this being the only rank in the Navy without a distinguishing uniform. Distinctive uniform.

9. A retirement scheme for inspectors and deputy-inspectors general, the maximum to be fixed at £800 and £650 per annum respectively, after thirty years' service ; the principle of this scheme to be based on the Order in Council of 22nd February, 1870 ; the ages for compulsory retirement to remain as at present.—These are the only officers in the Navy who have no retirement scheme. The present scale of retirement should be taken as a basis for these officers, adding to it £25 a-year for each year served in the inspectorial ranks ; the maximum not to exceed £800 per annum for inspectors-general, and £650 for deputy-inspectors-general ; the minimum being £650 and £500 respectively.† Retirement of inspectorial grades.

10. The retirement scheme of the other grades of medical officers to be revised and adjusted in a more equitable proportion to their pay, as accorded to all other classes of naval officers. The maximum retired pay for surgeons-major to be increased to £500 per annum after thirty years' service. It is felt that the maximum amount of retired pay for surgeons-major, as now fixed, is too little, and contrasts most unfavourably with that of all other classes of officers with whom they relatively rank in regard to both their full and half-pay.‡ Retiring allowance of surgeons-major, etc., to be increased.

11. All medical officers to be allowed the option of retiring after twenty years' full-pay service on the half-pay earned.—This is one of the strongest desires of the young medical officers. It cannot be estimated how many would take advantage of it when the time came ; but this much is certain, that it would satisfy them in the interval, and would be one of the greatest inducements for young men to enter.§ Retiring after 20 years' service.

12. Readjustment of full pay with regard to its increase in some of the grades.—The pay is now considered on all hands to be quite inadequate after passing into the rank of staff-surgeon (present second-class). It is recommended that, in the case of these officers, the pay should graduate from 18s. to 24s. per diem for staff-surgeons, from 25s. to 33s. for surgeons- Increase of full pay.

\* The average time lost on half-pay before getting this rank in the navy is nearly three years.

† Evidence before the Committee of 1865-66, page 144, recommended a higher retirement ; in fact, that they should retire on FULL PAY after thirty-five years' service.

‡ Vide table attached.

§ Evidence before the Committee, 1865-66, page 143.



major, from 35s. to 42s. for deputy-inspectors, and from 45s. to 55s. for inspectors-general.\*

Hospital  
charge  
money.

13. All medical officers in charge of hospitals at home and abroad to be paid a certain sum per diem, in addition to full pay and present allowances, as *charge-money*, to be reckoned according to relative rank, with other naval officers, as per Clause 6, Circular No. 4, W. This is the principle on which all other officers are paid for charge, command, or table-money.†

Extra pay in  
flag ships.

14. A surgeon-major being the senior medical officer of a ship bearing the flag of a flag-officer, or the broad pendant of a commodore in charge of a squadron or station not under the command of a superior flag-officer, to be allowed 5s. a day extra. A staff-surgeon similarly placed to be allowed 3s. a day extra.—This would apply to thirteen officers, five of whom receive the allowance at present. Those who do not get it are the surgeons-major of the flagships at Portsmouth, Devonport, the Nore, Queenstown, Channel Fleet, Detached Squadron, Australia, and West Coast of Africa, all of whom, except perhaps at Queenstown and Australia, have a great deal of very important extra duty devolving on them. The grant of this boon would entail an additional outlay of about £650 per annum, and it would cure an anomaly which is looked on now as a grievance.

Deputy-In-  
spectors-Ge-  
neral for  
foreign  
squadrons.

15. The appointment of a deputy-inspector-general, instead of a surgeon-major, to all ships flying the flag of a commander-in-chief on a foreign station, to perform the medical duties of the ship as well as the inspectorial duties of the squadron.—It is the general wish in the medical branch of the Navy that this appointment should be made; and was strongly expressed by the officers who were examined before the Commission of 1865-66.

Additional  
inspectorial  
officers.

16. The appointment of additional inspectorial officers to the larger naval hospitals in England where, at present, junior officers are performing the duties heretofore performed by seniors.

Appoint-  
ments of  
surgeons-  
major.

17. The restoration of the appointments of surgeons-major to foreign naval hospitals, Melville Hospital, Plymouth division of Marines, and all other home appointments connected with the Navy.—In these cases the practice has crept in of employing officers of inferior rank and standing in positions that were formerly, and still ought to be, held by the seniors and superiors. It may be said that one medical officer is as good as

\* Evidence before the Committee, 1865-66, pages 143, 147. Questions 3410-11-16.

† Evidence before the Committee, 1865-66, page 147. Questions 3387 *et seq.*



another, but this raises the whole question, and might, with equal impropriety, be used in regard to all other classes.\*

18. The appointment of surgeons-major to Greenwich Hospital, and to the Naval prison at Lewes.—It is felt as a grievance that these essentially naval posts should be held by other than naval medical men. The present arrangement cannot be defended even on the score of economy in the case of Greenwich Hospital, and it is felt as a slur on the service.

Greenwich  
Hospital  
and Lewes  
Prison.

19. No appointments to be retained for unlimited periods.—It is not consistent with the nature of a half-pay service that any of its officers should be retained in office for unlimited periods, manifestly to the discouragement and injury of able and deserving officers; a steady flow of promotion and equal chances of employment are thereby prevented.†

Retention of  
appoint-  
ments.

20. All staff appointments to be of equal tenure, and to be fixed at five years instead of at three, as at present.—The limit of five years is recommended, because it is proved that three years is too short a time for an officer to recoup the expenses which he is unavoidably put to in taking up a staff appointment.

Staff ap-  
pointments  
to be held  
for 5 years.

21. All appointments of surgeons and agents of sick quarters to be, as far as possible, conferred on retired naval medical officers.—This is nothing more than fair to these officers.‡

Sick quar-  
ters.

22. Surgeons-major to be entitled to a cabin on the main deck in all ships where there are such.—At present this is not the case, even when they are senior to other officers who have them.§

Cabins.

\* The employment of junior officers in these posts, formerly held by seniors, necessitates the employment of *senior* staff surgeons in sea-going ships. At present, as far as sea service is concerned, the senior has to take his turn as the junior in the fleet would do. There is no necessity for this. It is an administrative mistake, felt by juniors and seniors alike; for the former see in it convincing proofs that there are no comparative resting-places for them to look forward to in which to complete the last few years of their time; and the latter are made to experience the trials and hardships of a sea life in a dark miserable box, dignified by the name of a cabin, when they have arrived at a time of life that physically unfits them for such an ordeal.

† By *renewal* the officer practically holds his appointment for an unlimited period. There are no less than six medical officers who have served continuously in the same appointment from over four to fifteen years. *Vide* Yarmouth Hospital, *Fisgard*, and the Medical Department, Spring Gardens.

‡ An appointment of this kind in a seaport town was conferred on a civilian a few years since in preference to a retired medical officer who applied for and was anxious to obtain it, and doubtless there are several other similar instances. Taking the navy list as an authority, it will be seen that there are about 340 surgeons and agents of sick quarters in the kingdom, of whom only *three* are naval medical men.

§ In ships lately commissioned, officers junior to the staff surgeons have been allotted cabins on the main deck, and the staff surgeons relegated to the lower deck.



## RETIREMENT IN THE NAVY.

[*Vide* BRITISH MEDICAL JOURNAL, May 23rd, 1874.]

The Order in Council of 22nd February, 1870, promulgating the scheme of naval and marine retirements, was expected to produce universal contentment in H.M. Navy; but it has done nothing of the kind. There are nearly four hundred and fifty medical officers directly affected by it, and the whole medical profession is indignant at the invidious and damaging distinction it has made between the medical and the other branches of the Navy.

The discovery of the principle on which this scheme was framed would be curious; for, whilst it substantially benefits every other class in the service, it excludes three out of the five grades of medical officers altogether, and gives to the other two grades only about half the advantages accorded to the other branches of the Navy; in fact, one cannot believe that the framers of this retirement scheme acted in the matter on any logical or intelligible principle whatever, for the awards are neither based on the relative rank of the officers concerned, nor on the amount of their full and half-pay,—that is to say, on the money value of their respective offices.

Excluding flag officers, and the rare instance of chaplains completing their full service time in the double capacity of chaplains and naval instructors, every other class but medical officers gain, by retiring, from 37 to 136 per cent. on their half-pay; four out of fourteen lose from 1 to 25 per cent. on their full pay; five receive an income equivalent to their full pay; and the remaining five are awarded retiring pensions from 10 to 65 per cent. in excess of their full pay.

Two out of the five grades of medical officers receive no advantage on retiring in addition to their half-pay, but lose from 24 to 29 per cent. on their full pay. The staff-surgeons and second-class staff-surgeons gain only 18 and 19 per cent. respectively on their half-pay, and lose 27 and 25 per cent. respectively on their full pay; whilst surgeons who, like the inspectorial ranks, have no addition to their half-pay, actually lose 35 per cent. of their full pay, when, from age or illness, they are no longer eligible for active service. Thus, taking this retirement scheme whichever way you will, it is a clear and indisputable fact that the medical branch of the Navy gains less and loses more on retiring than any other branch of the service, as is exemplified in the annexed Table.

Nor is it alone in the absence of any increase of half-pay on retiring, where the inspectors and deputy-inspectors-general



are so invidiously and unfairly treated in comparison with other officers with whom they respectively rank,—they are made to serve five years longer than officers of the executive branch before they are allowed to retire ; and the effect of this is to debar them, in a great measure, from making that permanent provision for their families by commuting, which others have an opportunity of doing. A rear-admiral may, at fifty-five years of age, commute his pension for a capital sum of £7,154. An inspector-general of hospitals cannot do so before he is sixty years old, and then for only £6,212. A deputy-inspector-general, who ranks with a captain, can commute his retiring allowance, on attaining the age of sixty, for £4,421 : whereas a captain at fifty years of age might receive £6,727. A commander is allowed to retire at forty-five years of age, with only twenty-one years' service, on the same pension as the staff-surgeon, who cannot retire till the age of fifty-five, with twenty-seven years' service. The initiatory part of the career of the former has been greatly at the expense of the State, and he is paid off with about £5,000 ; whilst his compeer the staff-surgeon, whose education has been solely and entirely at his own charge, is bought out with nearly £1,000 less.

These are glaring instances of the inequality of the regulations in their application to officers of the same relative rank ; and, as long as they are permitted to exist, it is in vain to say that there is contentment in the navy.



TABLE.

	Full Pay.	Half Pay.	Retired Pay.	RETIRED PAY.			On retiring, the Officer		
				Less than Full Pay.	More than Full Pay.		Gains on Half Pay.	Loses on Full pay.	
					£	£			
<i>1st Class.</i>									
1. Admirals .....	1825	766	950	875	...	184	24	48	
2. Vice-Admirals .....	1460	593	800	660	...	207	35	46	
3. Rear-Admirals .....	1095	456	650	445	...	194	42	41	
3. { Inspector - General of Hospitals and Fleets	912	693	None	219	...	Same	Nil	24	
<i>2nd Class.</i>									
Captains .....	602	301	600	2	...	299	99	Nil	Retires on Full Pay.
Staff-Captains .....	511	292	450	61	...	158	54	12	
Inspector of Machinery .....	456	292	450	6	...	158	54	1	
Colonel-Commandant .....	702	264	600	102	...	336	127	15	
2nd Colonel-Commandant .....	365	264	600	...	235	336	127	Nil	Gains 64 per cent. on Full Pay.
Lieutenant-Colonel .....	310	200	450	...	140	250	125	Nil	" 45 " "
Deputy Inspector-General of Hospitals and Fleets .....	693	492	None	201	...	Same	Nil	29	
<i>3rd Class.</i>									
Commanders.....	365	182	400	...	35	218	120	Nil	Gains 10 per cent. on Full Pay.
Staff-Commanders .....	401	292	400	1	...	108	37	Nil	Retires on Full Pay.
Chief Engineer .....	401	292	400	1	...	108	37	Nil	Ditto
Chaplain .....	401	292	400	1	...	108	37	Nil	Ditto
Ditto and Naval Instructor...	602	401	450	152	...	49	12	25	
Naval Instructor .....	401	292	400	1	...	108	37	Nil	Retires on Full Pay.
Paymaster .....	602	292	450	152	...	158	54	25	
Staff-Surgeon .....	547	337	400	147	...	63	19	27	
<i>4th Class.</i>									
Lieutenants .....	182	155	300	...	118	145	94	Nil	Gains 65 per cent. on Full Pay.
Navigating ditto .....	401	292	300	101	...	8	2	26	
Captain of Marines .....	211	127	300	...	89	173	136	Nil	Gains 42 per cent. on Full Pay.
Second Class Staff-Surgeons	401	255	300	101	...	45	18	25	
Surgeon .....	310	200	200	110	...	Same	Nil	35	

NOTE.—The *maximum* rates that can be earned by age and service are given in the above table.



# REQUISITIONS

31

OF THE

## NAVAL MEDICAL OFFICERS,

BASED ON THE PRINCIPLE OF EQUALITY  
WITH THE ARMY.

BY

FREDERICK JAMES BROWN,

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HOSPITAL AT ROCHESTER; FORMERLY ASSISTANT-SURGEON IN THE ROYAL NAVY.

"It often falls in course of common life,  
That right longtime is overcome of wrong."—*Spenser*.

LONDON:

PRINTED BY J. E. ADLARD,

BARTHOLOMEW CLOSE.

—  
1865.



REQUISITIONS

OF THE

# NAVY MEDICAL OFFICERS

BASED ON THE PRINCIPLE OF EQUALITY

WITH THE ARMY

FREDERICK JAMES BROWN

OF THE ARMY MEDICAL DEPARTMENT, AND  
OF THE ARMY MEDICAL SCHOOL, WINDSOR, IN THE WEST

It is the duty of the Army Medical Department to provide for the health of the Army, and to ensure that the Army Medical School, Windsor, is the best equipped for the purpose.

LONDON

PRINTED BY J. E. ADLARD

BATHING-ROOM BUILDING

1890



(31)

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PREFACE

SECTION I

The first part of the work is devoted to a general survey of the subject, and to a discussion of the principles which govern the action of the mind. It is divided into three chapters, the first of which treats of the nature of the mind, the second of the faculties of the mind, and the third of the laws of the mind. The second part of the work is devoted to a detailed examination of the various faculties of the mind, and to a discussion of the laws which govern their action. It is divided into six chapters, the first of which treats of the nature of the faculties, the second of the laws of the faculties, the third of the action of the faculties, the fourth of the influence of the faculties on the mind, the fifth of the influence of the mind on the faculties, and the sixth of the influence of the faculties on the action of the mind. The third part of the work is devoted to a discussion of the laws which govern the action of the mind, and to a discussion of the influence of the mind on the faculties. It is divided into three chapters, the first of which treats of the nature of the laws, the second of the influence of the laws on the mind, and the third of the influence of the mind on the laws.



## PREFACE.

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THE public will require at my hands an explanation of the circumstances that have induced me to put forth a pamphlet on the ever-recurring subject of Naval Medical claims.

It might be considered that the changes that have occurred in the Royal Navy since 1849 (the year of my leaving the service), would be too great to admit of my possessing a practical knowledge of the requirements of the medical officers. This would be the case were it not for the affection that I bear the naval service—the Royal Navy in its entirety—and the zeal with which I follow the changes that take place. I hold myself to be fully informed on every point affecting the medical officers, and I crave from the public a patient hearing of the statements that I now put forth on behalf of these gentlemen.

The circumstances that have induced me to bring forward the requisitions of the medical officers of the Royal Navy are the following:



The Admiralty Instructions, dated August 6th, 1861, chap. xii, article 11, state that—

“All combinations of persons belonging to the Fleet, for the purpose of bringing about alterations in the existing Rules and Regulations of the Royal Navy, whether affecting their interests individually or collectively, are prohibited,” &c.

Article 12 states that—

“Every person belonging to the Fleet is forbidden to write for any newspaper on subjects connected with the Naval Service; or to publish, or cause to be published, directly or indirectly, in a newspaper or other periodical, any matter or thing relating to the service.”

These prohibitory clauses of the instructions being in force, there is occasion for some surgeon in civil life, independent of control by the Admiralty, but nevertheless practically acquainted with the naval service (which is my case), to advocate the claims of the medical officers to just treatment; and I take up the subject with a renewal of the fervour with which I prosecuted the struggle of the assistant-surgeons for ward-room position a few years since.

I trust that the Admiralty of the present day are wiser in their generation than the Admiralty of that period, and that they will concede to the doctors the rank and social privileges enjoyed by the medical officers of the army.

I am aware that the great obstacle to the concession of the claims of the medical officers lies in the tenacity



with which the privileges of the executive officers are held, arising from an ill-founded fear that the discipline of the navy is dependent on the restriction of such privileges to executive officers exclusively.

For my part, I think that etiquette is very important, but Progress has the ascendancy in England, and is effecting changes in society that are irresistible. The people resist for a time, then yield perforce to Progress in matters of State policy as well as in domestic usages, and fears of change that were judged to be well founded are proved by the course of daily experience to be groundless.

It is difficult for a Board of Admiralty, constituted as it is of one professional class, to view with equal justice the claims of many professions.

The First Lord, being a civilian, is exempt from professional feeling, and, when acting spontaneously, and unfettered by his professional colleagues, he has on two memorable occasions won for himself lasting fame, by enacting measures worthy of great statesmen. Such were the equalisation of the Medical Department of the Army and Navy in 1805 by Viscount Melville, and in 1859 by Sir John Pakington.

I am certain that naval executive officers feel pride in the professional reputation of naval surgeons, and would scorn to have them esteemed beneath the medical officers of the army in any one point.

Let them hear from me, then, that the only way to retain the services of surgeons of talent and reputation



in the Royal Navy is to place them on an *equality with their brethren in the army*.

In conclusion, I desire to state that whilst I served in Her Majesty's Navy I invariably received courteous treatment from the executive officers, amongst whom I number many friends.

Further, the Lords of the Admiralty showed me personal kindness, though opposed to my views of medical reform.

It affords me pleasure to bear this testimony.

FREDERICK JAMES BROWN.

ROCHESTER; *May 1st*, 1865.



# REQUISITIONS

OF THE

## NAVAL MEDICAL OFFICERS.

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### SECTION I.

#### RANK AND POSITION.

THE naval medical officers complain of *mala fides* practised towards them from the days of Nelson, the friend of the surgeons, to the present time. England's great admiral courteously preferred their request to be placed on an equality with their *confrères* in the army; and Viscount Melville, with "the justice and liberal way of thinking" ascribed to him by Lord Nelson, obtained from King George the Third, in Council, an order that has ever been looked upon as the charter of the naval surgeons.

There is no ambiguity in that order; the medical officers are "to have a similar rank with the officers of the same class in His Majesty's land service."

Whilst equality between the medical officers of the two services was thus ordered by the King in Council, provision was made for discipline, and rank and command were treated *as separate entities*. Thus the order goes on to say that the medical officers are "to be subordinate, however, to lieutenants of His Majesty's ships and vessels wherein they may be employed, during the period of their service, although



their appointments may be of prior date." This disciplinary provision applied to shipmates, and did not imply subjection of one class to the other in the service generally. The assumption of superiority by the executive class had its origin early in the history of the sea service. From the time that the seamen and officers of the navy came to fight as well as navigate their own ships (which was not fully the case until the reign of William and Mary), there arose in their breasts a feeling of superiority over landmen serving on board ship. It is only when united with arrogance of behaviour that such feeling is deserving of reprobation.

Viscount Melville was succeeded in office by Lord Barham, in June, 1805, and *mala fides* was soon shown towards the surgeons, for the new regulations of the Admiralty, issued in January, 1806, contained no allusion to the rank of the medical officers. It is true that the rank was substantive, for surgeons, when made prisoners of war, received the treatment of officers from this period;\* but whilst army surgeons were appointed by commission, their brethren in the navy held only a warrant. It was only in the year 1840, after the report of the commissioners for inquiring into naval and military promotion and retirement, that commissions were granted to naval medical officers, together with the institution of the inspector grades, in imitation of the existing state of things in the army. But there was still a lack of equality between the services, for each grade of inspector in the navy was one degree below that of the same class in the army; and the "with but after" distinction between executive and civilian officers was established in the naval ser-

\* I have since been told that surgeons were always treated as gentlemen, when prisoners of war, by virtue of their profession.



vice, unlike that of the army. The Army Warrant of October 1st, 1853, was followed by the Navy Warrant of May 13th, 1859. By these two warrants equality was very nearly effected between the medical officers of the two services. The difference consisted in a portion only of the assistant-surgeon's time (*viz.*, ten years) being allowed to count for the twenty years of active service necessary for the rank of staff-surgeon (equivalent to that of surgeon-major), whilst in the army the whole of the assistant-surgeon's time counted, and in the circumstance of the staff-surgeon not being in a list distinct from that of the surgeon.

This second equalisation of the services was effected by Sir John Pakington, as was the first by Viscount Melville. But just as the retirement of the noble First Lord in June, 1805, was followed by disastrous consequences to the naval surgeons, so the fall of the ministry of which Sir John Pakington was a member, in June, 1859, occasioned retrograde changes in the position of the surgeons.

An Order in Council of April 16th, 1861, and an Admiralty Circular (No. 472) of May 7th, 1861, lowered the rank of surgeons; and the new instructions of the Admiralty of August 6th, 1861, lowered the rank of deputy inspectors-general of less than five years' standing, placing them on a level with surgeons-major in the army; and lowered the rank of staff-surgeons, by making them doubly junior to lieutenant-colonels, whilst surgeons-major were simply junior.

Evil influences had been at work in the army during this period, and the regulation of juniority of one class to another had been introduced into that service, together with restrictions and deprivations of privilege, that occasioned an outcry resulting in the restitution



of rank by seniority of commission, and of some of the privileges that had been taken away.

Restitution of the rank of naval medical officers quickly followed. An Admiralty circular (No. 55 C) of August 3rd, 1863, conferred equality of rank upon the different grades of medical officers in the two services, with the exception of the staff-surgeon in the navy, who continued to be junior to the commander (who is junior to lieutenant-colonels). Therefore the staff-surgeon retained his double juniority, and he was only permitted to count ten years of assistant-surgeon's time. So much for rank, but there is inequality in other particulars which will be more fully considered further on.

It is a matter of extreme importance that the sources of the discontent of the naval medical officers should be brought into clear light, to the end that they may be eradicated. Discontent has smouldered ever since the neglect of the Order in Council of 1805, occasionally breaking forth like volcanic eruptions, but more mischievous when smouldering, inasmuch as apathy, damaging to the interests of the service, has been engendered, and men of mark are glad to quit the navy, or are deterred from joining it. Medical students and young surgeons compare the army and navy, and choose the former service, because a more gentlemanly spirit prevails in it. Educated similarly, candidates for medical appointments feel that similar position should be accorded them, whichever service they may choose; and, looking at the charter of equality of 1805, they feel that not even the word of a king can secure them from humiliation at the hands of sea lords at any time, and on any occasion. This element of uncertainty is intolerable, as says Mallet—



“Uncertainty !

Fell demon of our fears ! the human soul,  
That can support despair, supports not thee.”

There are two other sources of discontent, viz., the “with but after” distinction (a grammatical absurdity) replaced by the juniority regulation (applicable to officers sentenced by court-martial to remain at the bottom of the list); and restrictive regulations and usages regarding the advantages of the rank nominally held by the medical officers.

The offensive and ungentlemanly term of “superior officer,” flung in the face of civilians (so called) by executive officers, arises from the “with but after” idea.

In an enumeration of the sources of discontent, inequality and insecurity of position hold the primary place; whilst juniority, with its subjection to the “superior officer” class, and restriction of the privileges of rank, follow. *Eradicate these sources, and discontent will cease.*

There will always be grumbling amongst officers, especially naval officers; for, cooped up on board ship, they find relief in dwelling upon grievances, imaginary as well as real. Also there will always occur acts of arrogance and tyranny on the part of men holding authority, for Butler says “authority intoxicates;” but it is easy to submit to the *commanding officer*, whilst it is intolerable to have half-a-dozen “*superior officers*.” It is, indeed, derogatory to the captain of a ship for one officer to arrogate to himself superiority over another, excepting always the officer commanding under the captain. Assumption of command by medical officers is a chimera that haunts the imagination of the executive officers, but command is straitly forbidden by the Admiralty, and is wholly visionary. Rank and com-



mand are separate entities. *Either this fact is not understood, or it is wilfully ignored.*

Nothing in these pages is intended to be understood as favouring the subversion of order and discipline, nor is there any desire to depict the executive officers as insolent tyrants. As a body of men, they are devoted to their profession, gentlemanly in their conduct, and friendly in their intercourse with their brother officers of every class. This pamphlet is placed before the public with the idea of promoting the welfare of the Royal Navy generally, although the interests of one class are prominently set forth; for concord can never subsist whilst the ashes of discontent continue to smoulder. Messmates should assume equality—the equality of gentlemen—whatever their rank, for Milton says—

“Among unequals what society  
Can sort? What harmony or true delight?”

It is a trite saying that “a happy ship is like *a family*, whilst an unhappy ship is a hell afloat.” It is the earnest wish of the writer that men and officers of every rank and degree may serve harmoniously together, each class excelling in its own profession, whether this be Navigation, Gunnery, Engineering, or Theology, Medicine, Tuition, Finance; and that one and all may strive to maintain the ancient fame of the Royal Navy.



## SECTION II.

## RETIREMENT AND PRIVILEGES OF RANK.

THE medical officers of the navy claim to be placed on an equality with their brethren in the army in the matter of retirement and privileges of rank, agreeably to the recommendation of the Commission of 1839, to the effect that it is "expedient to place the medical officers of the navy, with respect to rank, &c., on a scale more nearly corresponding to that assigned to officers of the Army Medical Department."

The following table shows the difference in the compulsory retirement of the medical officers of the two services :

ARMY.	AGE.	NAVY.	AGE.
Inspectors-general .....	65 years.	Inspectors-general .....	70 years.
Surgeons-major .....	55 "	Staff-surgeons .....	60 "

The compulsory retirement of senior officers affords to young men an opportunity of advancement. The medical officers of the navy further ask for optional retirement upon the completion of twenty years' active service (inclusive of all the assistant-surgeon's time).

So much for retirement.

The privileges of rank claimed by the naval medical officers, to bring about an equalisation with the army, are the following :

1. Shore allowances compensatory for loss of emoluments of service afloat.
2. Similar allowances at a higher rate for service abroad.
3. Prize-money according to relative rank.
4. Honorary distinctions to naval medical officers,



on the same principles and as liberally bestowed as in the army.

5. Modification of the existing regulations respecting rank and command, so as to confer social privileges in equal ratio with relative rank.

6. Application to the navy of future regulations (unless retrograde) affecting the medical officers of the army.

1. *Shore Allowances* [see Appendix, art. 10, p. 39].

Whilst naval officers are serving on shore *conjointly with the army*, they receive the same allowances as the land forces; but under other circumstances of shore service they receive nothing but their pay, and are mulcted of rations, fuel, lights, and services of domestics.

The medical officers claim shore allowances compensatory for the emoluments of service afloat, which is the more reasonable as executive officers on full pay employed on detached service receive all their subsidiary allowances.

2. *Shore Allowances for Service Abroad.*

The medical officers claim a higher rate of compensatory allowances when serving in hospitals out of the United Kingdom.

The maintenance of the high character of the naval service, dear to the medical as to every other class of officers, renders a large expenditure necessary in colonies and foreign stations. The request is therefore made for the honour and benefit of the service.

It would be a boon to the medical officers of the navy to grant them, on paying off, one month of full-pay time for every complete year of foreign service, in consideration that all army officers have regulated



leave from foreign stations, and that clerks serving in foreign naval hospitals are entitled to one month's leave per annum.

3. *Prize-money* [see Appendix, art. 11, p. 39].

The medical officers of the navy claim to be treated similarly to their brethren in the army; that is to say, to share prize-money according to relative rank.

The Army Warrant of October 1st, 1858, art. 17, states that "such relative rank shall regulate rates of prize-money." The Navy Warrant of May 13th, 1859, art. 11, states, "Medical officers will share prize-money according to the Proclamations which may be in force at the time being," &c.

The Proclamation of December 29th, 1853, is still in force. According to that Proclamation, a surgeon shares in the *fourth class*, with "an ensign of land forces doing duty as marines," with an "assistant-engineer, gunner, boatswain, and carpenter."

Thus, naval medical officers are placed in a most inferior position as regards prize-money, although their duties and dangers in time of battle and boat action are equal to those of their shipmates, and the responsibility and fatigue attendant upon the care of the wounded, long after the action, presses more particularly upon them.

Surgeons in the army receive prize-money according to relative rank, and thus share with majors.

Surgeons in the navy, ranking equally with majors, share prize-money with ensigns.

It is commonly said, and it is sung in our streets, that sailors are generous. Let these facts speak for themselves.

If seamen be generous, so are not sea lords.



4. *Honorary Distinctions* [see Appendix, art. 14, p. 40].

The medical officers claim the fair carrying out of the Order in Council of May 13th, 1861, which provides that "Medical officers shall be entitled to the same honours as other officers of the Royal Navy of equal rank." A reference to the 'Navy List' demonstrates the fact that medical officers have been overlooked in great measure in the distribution of honours. On the active list there is but one name distinguished by the Companionship of the Bath, and in this instance the officer had attained to the highest grade of his class by war services, thus meriting the K.C.B. instead of the C.B., if rewarded at all.

The 'Army List' shows eleven officers distinguished by the C.B., and in several instances the services that obtained the decoration were rendered by officers of the grade of surgeons. The 'Indian Army List' shows similar examples of the superior consideration afforded to medical officers serving as soldiers.

The Victoria Cross has never been given to a naval medical officer, whilst ten medical officers in the army have been recipients of this badge of humane bravery.

With reference to this inequality of the two services, it may be repeated now, as was asserted by the Naval and Military Commission of 1839, in judging of the comparative unpopularity of the naval medical service, "We feel assured that opportunities for individual distinction are far more frequent in the navy than in the army."

The writer forbears to mention instances occurring in late times, but they are known throughout the service.



War medals are not distributed to medical officers serving in hospitals on shore, *because such officers are borne on the civil establishment of the navy.*

Therefore medical officers of the navy claim to be recognised as always belonging to the military branch of the navy, to the end that they may receive a due recognition of their hospital services.

### 5. *Rank and Command.*

The public naturally regard social position and rank as inseparable attendants upon each other, and will scarcely credit the assertion that the sea lords of the Admiralty have attempted a breach in the fundamental usages of society, comparable to that grammatical absurdity, the "with but after" distinction.

In confirmation of the foregoing assertion, the following extract is made from the Regulations of August 1st, 1861, article 4, section 6, chapter iv :

"If two officers of the civil branch have met together, and an officer of the military branch under whose command the senior of the two is serving be also present, the junior civil officer, whatever his rank and standing may be, cannot, in such case, take precedence of the officer of the military branch, but must assume his position according to his rank and standing after the officer of the civil branch next above him in rank or seniority."

This regulation (scarcely written intelligibly) has subverted the natural connection between rank and social position, and it confers upon the commanding officer social privileges that will never be conceded by the public. It might thus happen that a junior lieutenant might be the senior executive officer; in such case, under the existing regulations, the medical



officer of the highest grade of his class, and ranking with a rear-admiral, would sit at a dinner-table along the side, whilst the lieutenant would take the president's chair.

The Army Warrant of October, 1858, placed medical officers in their right place on all boards (excepting only courts-martial), namely, position at the board according to relative rank and date of commission; but as the internal economy of the two services differs essentially in the constitution of boards, this question can scarcely become a grievance with medical officers of the navy.

The privileges of the medical officers of the army on boards have since been withdrawn.

The social privileges of the medical officers of both services, as regards mess, &c., are still denied to them, constituting a grievance demanding redress.

*The medical officers of the navy require that rank and command shall be regarded as separate entities, and that social position and privileges shall be invariable attendants upon relative rank.*

The Queen's Regulations, page 45, chap. v, article 2, distinctly point out the difference between rank and command *in all relations between the army and navy*. That which is urgently needed is the same regulation for the internal economy of the navy.

"Nothing contained in these regulations is to give a claim to any officer of the navy to assume command of Her Majesty's land forces on shore, nor to any officer of the army to assume command of any of Her Majesty's squadrons or ships, or of any of the officers or men thereunto belonging, unless under special authority from the Government in England for any particular service. But when officers of the navy are employed on shore, on joint service with Her Majesty's



land forces, their relative rank shall carry with it all precedence and advantages attaching to the rank with which it corresponds (except command as aforesaid), and shall regulate the choice of quarters, rates of lodging-money, servants, forage, fuel and lights, or allowances in their stead."

The question of rank and command is worthy of investigation, and the following is an historical sketch of the subject, dating from the first half of the last century. In 1734 there was an Order in Council fixing the marks of respect to be paid by troops in garrison to naval officers down to the rank of commodore.

In 1747 relative rank with the army was for the first time conferred by an Order in Council upon officers of the navy down to the rank of lieutenant.

It was stated in the order that relative rank was given *inter alia* to enable the officers "to support the dignity of their rank in their respective stations."

In these facts the alliance between rank and social privileges is affirmed; but it is clearly shown that *rank* was not the *right to command*, by the 12th paragraph of the Order in Council of 1747:

"That nothing in this regulation shall give any pretence to any land officers to command any of His Majesty's squadrons or ships, or to any sea officer to command at land." This clause continues in force to the present day.

*Rank* was the same, but *command* belonged to each only in his own province.

*Summary of relative rank of naval officers by date of Orders in Council.*

1747 [10th February]. Commissions and relative rank given to executive officers down to lieutenants inclusive.



1805 [23rd *January*]. Relative rank, without commissions, given to medical officers inclusive of assistant-surgeons.

1808 [28th *September*]. Ditto to masters, exclusive of second masters.

1814 [23rd *July*]. Ditto to pursers, now styled paymasters.

1840 [10th *August*]. Commissions and relative rank given to mates, now styled sub-lieutenants.

*Same date*. Commissions in lieu of warrants given to masters, medical officers, and pursers (now styled paymasters).

1844 [1st *January*]. Commissions and relative rank given to second masters.

1847 [27th *February*]. Commissions and relative rank given to engineers.

1852 [3rd *July*]. Commissions and relative rank given to assistant-paymasters.

#### 6. *Future Regulations.*

The medical officers desire that all regulations (unless retrograde) respecting medical officers in the army shall be immediately made applicable to the medical officers of the navy.

Hitherto this has not been the case; much time and labour had to be expended, and much printer's ink used, ere improvements in the army were conceded to the navy.



## SECTION III.

## FULL PAY.

THE question of pay is brought forward by the writer on his own responsibility. The great changes that have occurred in the value of money relatively to the necessities of the social position of officers of the Royal Navy require a rectification of money payments. The increase of pay that has from time to time been given to the junior grades of surgeon has not been afforded to officers of mature years and service, which is *prima facie* evidence that the increase was given rather to induce medical gentlemen to enter the service than to reward medical officers that had served long and well.

It is a prevalent error in the service, that medical officers have received increase of pay during the present century in much higher ratio than executive officers.

An examination of this matter brings out some curious statistics, pointing markedly in the contrary direction. [See the table in the note to Section III, page 34.]

It will be seen that lieutenants have risen in the ratio of 54 per cent. on their minimum pay, and 107 per cent. on their maximum, whilst surgeons have advanced only in the ratio of 50 per cent. on their minimum, and 38 per cent. on their maximum.

In the higher grades there is much greater disparity,



as will be seen by a reference to the table, the ratios running as follows :—

{ Executive officer .....	107
{ Medical       " .....	7
{ Executive     " .....	21
{ Medical       " .....	8
{ Executive     " .....	93
{ Medical       " .....	2

Besides the circumstance of pay, there are differences in favour of the higher grades of executive officer in the matter of table-money, allowances for servants, &c. ;\* also in promotion by seniority after the attainment of a certain rank ; and in retirement (when disqualified for further active service), with a grade of rank, together with its emoluments, unlike the honorary grade bestowed now and then upon medical officers for "distinguished service" on the occasion of their retirement.

For other particulars the reader is referred to the table in the note.

The following is a scheme of the full pay that the writer considers to be adapted to the present period.

#### *Scheme of Full Pay.*

Director-General.—Civil pay of £1000 per annum, and allowance for house, as at present, with the addition of the half-pay of his proper rank, similarly to the Controller of the Navy, who is a naval officer on the civil establishment of the Admiralty, like the Director-General.

This addition of half-pay would be agreeable to the spirit of the Order in Council of 1st April, 1853, viz., that the Surveyor of the Navy (now styled Controller)

\* Table-money and allowances are counted as pay in the comparison between the executive and medical branches.



should receive his half-pay in addition to the salary attached to his civil office.

	Per diem.
Inspectors-general, after 3 years' service in rank .....	£3 3 0
"    "    under 3    "    "    .....	2 12 6
Deputy inspectors-general, after 9 years' service in rank .....	2 2 0
"    "    "    6    "    "    .....	1 17 6
"    "    "    3    "    "    .....	1 15 0
"    "    under 3    "    "    .....	1 10 0
Staff-surgeons, after 25 years' entire service .....	1 10 0
"    under 25    "    "    .....	1 5 0
Surgeons, after 16    "    "    .....	1 2 6
"    "    14    "    "    .....	1 0 0
"    "    12    "    "    .....	0 17 6
"    under 12    "    "    .....	0 15 0
Assistant-surgeons, after 10 years' service .....	0 14 0
"    "    6    "    "    .....	0 12 6
"    "    3    "    "    .....	0 11 0
"    under 3    "    "    .....	0 10 0

It is necessary that the whole of the assistant-surgeon's time shall count for service in the succeeding grades.

For the purpose of equalising the army and navy, it will be necessary to allow the whole of the assistant-surgeon's time to count for pay, promotion, retirement, &c., up to the inspector class. A distinction in the scheme is made between the mode of counting time for the grades of surgeon and that employed for the grades of inspector. The reason is as follows:—Surgeons rise from assistant-surgeon to the rank of staff-surgeon by length of service, whilst promotion to the rank of deputy inspector is given for merit and distinguished service, and may be conferred upon a surgeon of ten years' service in the Royal Navy, and three years' service in the grade of surgeon. Therefore it becomes necessary to give to the deputy inspector that pay which the staff-surgeon (in his highest service) would receive; otherwise the deputy



inspector might be in receipt of less pay than surgeons of longer standing than himself. For this reason the scheme distinguishes the mode of counting time into "service inclusive of all time" for assistant-surgeons, surgeons, and staff-surgeons; and "service in rank" for deputy inspectors and inspectors.



## SECTION IV.

## SUMMARY OF THE REQUISITIONS OF THE MEDICAL OFFICERS OF THE ROYAL NAVY, AS UNDERSTOOD BY THE WRITER.

I. EQUALITY with the medical officers of the army in every particular; consequently—

(a.) A definite order by the Admiralty “to provide a cabin for every assistant-surgeon.”

(b.) The whole of the assistant-surgeon’s time to count for pay, promotion, retirement, &c., in the succeeding ranks.

(c.) The list of staff-surgeons to be distinct from that of surgeons, as is the case with the surgeons-major in the army.

(d.) The relative rank of the staff-surgeon to correspond with that of commanders by date of commission.

(e.) Compulsory retirement of staff-surgeons at the age of fifty-five, and of the inspector class at the age of sixty-five.

(f.)\* Optional retirement of medical officers of any grade after twenty years of active service.

(g.) Shore allowances compensatory for loss of emoluments of service afloat.

(h.) Similar allowances, at a higher rate, for service abroad.

(i.) Prize-money according to relative rank.

(j.) Honorary distinctions on the same principles, and as liberally bestowed, as in the army.

\* This is a requisition of the medical officers of the army as well as of the navy.



(*k.*) Social privileges in alliance with relative rank, without reference to command.

(*l.*) The removal of medical officers from the civil to the military branch of the service, to the end that their services in hospitals at the seat of war may be recognised as military service.

(*m.*) Application to the navy of future regulations (unless retrograde) affecting the medical officers of the army.

II. Suggestions by the writer of changes required to meet the altered circumstances of the age :

(*n.*) The director-general to have brevet rank of a vice-admiral.

(*o.*) The director-general to receive the half-pay of his naval rank in addition to his civil pay and allowances, as is the case with the Controller of the Navy.

(*p.*) An increase of full pay to be given to the medical department, generally, of the army and navy, adequate to meet the increased expenses of society at the present day ; with increase of half-pay at the corresponding periods of service.

At the session of the General Medical Council lately held in London, official returns from the army and navy medical department were presented and read.

These documents demonstrate the fact that first-class and even second-class medical gentlemen eschew the public service of the country.

Notwithstanding the urgent need of medical officers, the army rejected 26 per cent. of the candidates for that service in the year 1864, and the navy rejected 45 per cent.

The competitive examination of the army must be looked upon as more searching than the pass examination of the navy.



It must, therefore, appear tolerably certain that the candidates for the navy were of an inferior description as compared with those that presented themselves for the army examination; and the latter are declared to be only third-class men. The number that passed a good examination for the navy in 1864 constituted one in five. Cheering prospects for our seamen!

The *mala fides* of the authorities of the army and navy towards the medical officers is the main cause of this deplorable state of matters; and the medical profession trust to Parliament, and to *Parliament only*, for position and privileges in the public service of the country, suitable to the requirements of the present day, and based upon *bona fides*.



## NOTE TO SECTION I.

[See p. 9.]

DURING the short peace of Amiens a great number of surgeons availed themselves of the chance of quitting the service, so that on the resumption of hostilities a great dearth of medical officers was experienced. An Order in Council of 22nd May, 1804, conferred improvement on the medical department of the army. On the 10th of October, 1804, the physician and the surgeons of the Mediterranean Fleet, under Lord Nelson, memorialised the First Lord of the Admiralty respecting their position. An address to Lord Nelson was forwarded to him, together with the memorial. Nelson replied graciously to the address, and transmitted the memorial. The following are quotations from the address, and show the deplorable state of the medical department of the navy at that period :

"We are conscious that we can prefer no complaint to you concerning the present degraded and neglected situation of naval surgeons which is not acknowledged by hundreds, and denied by none who have seen even a little service, and whose hearts are not shut against the compunctious feelings of nature. No thinking or feeling man will deny that this department of the public service imperiously and irresistibly calls for reform."—"Nothing, as it now stands, can induce young men to enter into this service but a want of that necessary education which fits him for such an important profession, and the total want of friends. Nothing can support him, even for a short term of years, through the labours and, not unfrequently, the difficulties of this way of life, but a fastidious and determined force [*sic*] of his profession, and an imperious sense of duty above all obstacles. Hardly can anything detain him in a service where he is little honoured and respected."—"Unless Government will remove the invidious distinctions and disparity of encouragement existing between the army and naval medical departments, they can never fix the hopes of young men on the service, nor even obtain from them those voluntary and zealous services which no sense of duty and subordination can produce."—"Men trained to the service as officers find themselves initiated in a way of life full of danger, but replete with honour; from this principle they love it, and they are separated from all other professions by almost insurmountable barriers. But ours is a profession where a thousand ways are opened to ambition, and every situation is lucrative compared with that of the navy; and from year to year our fleets are drained of those whom Government would most wish to retain, as we see daily advertisements neglected, and all flocking to the



standard of the army, where they are made respectable, and their services are better requited. Should this derogatory neglect, which is as unworthy of the English nation as it is hurtful to the service, continue to be extended to the medical department of the navy, it requires no spirit of divination to foretel that ere a few years the British seamen, who are the nerves and defences of the country, shall be more helpless in the day of battle and under the invasion of disease than the peasant employed in his more peaceful labours on shore, when assailed by the afflictions of ill-health."—"Other circumstances are not generally known, and if they were they would not fail to astonish the public mind, and certainly cannot do otherwise than awaken awful feelings in those more immediately concerned."—"Let the man of the most determined spirit think of this, and if he has not that disregard for life which deprives mere animal courage of all praise, let him say with what heart he can go into the midst of battle, where in a few minutes all is confusion and horror; when the dangers of the hour make no distinction with respect to person; when the high and the low are laid side by side, dead or dying, and the surgeon, for the want of the necessary means of information and instruction in the profession, is incapable of administering assistance."—"These considerations acquire additional importance, as they are incontrovertible truths."—"Truths which must make a strong impression on a mind like your lordship's, which has learned from numberless circumstances duly to appreciate the incalculable importance of having men of matured abilities and persevering industry in the navy."—"Might we not with the most submissive earnestness ask, Is it acting with the liberal feelings of Englishmen to suffer the medical class of the navy to be thus unprovided for and disrespected? No; we flatter ourselves that your lordship will agree that every generous argument pleads the reverse, particularly when we advert to the generous national favours so abundantly extended to our most fortunate brethren in the army. Surely, then, it must be allowed that it is a galling and afflicting disparagement, highly calculated to paralyse the ambition and to avert the commendable spirit of emulation which actuates men to an intimate cultivation of medical science and their profession in general."—"From what we have, with deference, ventured to advance, your lordship will readily perceive that men honoured with such a momentous charge in the public service of the state ought to be adequately remunerated, which would incite them to a becoming study of their profession with assiduity and diligence, and they would be proud to support their station in an honorable and respectable rank, by which means Government would at all times command men qualified for any line of service; and this, we presume to affirm, would be as much an honour to the country as the want of it is a discredit, and it would be unequivocally subservient to the state and the purposes of humanity, more grateful to the navy throughout, to see the medical department raised, improved, may we not say created anew? In seeking your lordship's protection we candidly confess that we have no claim to your lordship's patronage."—"We are sure that nothing can be more gratifying



to your wishes and ambition than to see the sick-bed of the brave sailor furnished with comforts and medical attendants of superior abilities."

This was the language of the surgeons of the fleet, addressed to Lord Nelson one year previously to the death of that naval hero at Trafalgar. It was the language of sincere men, conscious of the dignity of their calling and sensible of their wrongs, but earnest in their love to that service that they had chosen, and desirous of securing to their gallant ship-mates the highest benefits of medical science. The gracious manner in which Lord Nelson received the address of the medical officers, and the pleasure he felt in preferring their claims, appear in the words of his lordship's reply :

"VICTORY, at Sea;

"October 12th, 1804.

"GENTLEMEN,—I have received your letter of October 10th, transmitting me a memorial, sent to Viscount Melville, which I shall forward with much pleasure, and to the truth and fair statement of it I most fully agree. I think, from the justice and liberal way of thinking of his lordship, that you have everything to hope for the success of your application, and you may rely that, if I can in any way be useful in rendering justice to such a meritorious set of professional gentlemen as the surgeons of the navy, it will be always embraced by,

"Gentlemen,

"Your faithful and humble servant,

"NELSON and BRONTÉ.

"To Dr. SNIPE, Physician to the Fleet.

„ FELIX, Surgeon H.M.S. Belleisle.

Mr. MAGRATH „ Victory.

„ WATHERSTON „ Royal Sovereign.

„ O'BEIRNE „ Canopus."

From this statement of facts, made by men of such standing in the service, and vouched for by Lord Nelson, it is proved to us beyond doubt that the medical department of the navy was in a deplorable state in 1804.

The surgeons of the fleet, in their memorial to the First Lord of the Admiralty, which was forwarded by Lord Nelson, wrote thus of their relation to the army surgeons:—"That, educated at the same schools, possessing the same share of abilities, embarked in the same cause, and actuated by the same zeal for their profession and love for their country, and suffering equal if not superior labour, difficulties, and dangers to those of their brethren in the army medical department, they see with mortifying concern."

\* \* \*

[Grievances follow.]

"That, without meaning any offence or invidious comparison to a body of men they so highly and deservedly esteem, they humbly presume the character of the naval surgeon stands as high in respect, that his duties



are as estimable and important, and his services to his country as useful and meritorious, as those of the more fortunate army surgeons.

"They therefore submissively claim, and, under your lordship's influence and protection, confidently hope to receive, the same consideration from their country," &c.

On receipt of the memorial of the surgeons of the fleet, the Admiralty applied to the King in Council, praying for changes in the position of the naval surgeons, as follows:—"Your Majesty's naval service having suffered materially in the present war from the want of surgeons and surgeons' mates, and the commissioners for sick and wounded seamen having represented to us that the difficulty of procuring qualified persons being in a great measure to be attributed to the more liberal provision made for the same description of officers in your Majesty's land forces, we directed the said commissioners to propose to us a plan for the better encouragement of surgeons and surgeons' mates of your Majesty's navy, which might in their opinion tend to remove, or at least to alleviate, the difficulty above mentioned, and be consistent at the same time with the economy necessary to be observed in the expenditure of the public money; and they having, with their letter to our secretary of the 8th of last month, submitted to us a plan which they conceived to be adapted to that purpose, in which they represent to have had in view the regulations existing in the medical department of the army; and while, on the one hand, they have taken care not to make any proposal which, carried into effect, might create dissatisfaction in that department, they have, on the other, left no reasonable ground of complaint to the naval medical officers; and the commissioners having further submitted to us the propriety of allowing medical officers to wear a distinguishing uniform during the time of their being actually employed, and of giving them a comparative rank in the service suitable to their situation, to which consideration it is believed they attach much importance, especially as the regimental surgeons are allowed to rank with captains, and their assistants with subaltern officers, we have hereunto annexed a copy of the plans above mentioned; and having taken the same into our consideration, we are of opinion that the adoption of the proposal therein contained will be of great advantage to your Majesty's naval service, and do therefore most humbly propose to your Majesty that the same may be carried into execution; that the said medical officers be also allowed to wear a distinguishing uniform, and to have a similar rank with the officers of the same class in your Majesty's land service, to be subordinate, however, to lieutenants of your Majesty's ships and vessels wherein they may be employed, during the period of their service, although their appointments may be of prior dates."

[Here follows the scheme of pay and of general economy as proposed by the commissioners in their letter dated 8th December, 1804.]



NOTE TO SECTION III (see p. 23).  
*Tabular View of Comparative Increase of Full Pay since the Peace of 1815.*

		YEAR 1815.	YEAR 1865.	INCREASE.
Rear-Admirals and Commodores of the First Class, serving under a Senior Officer .....	{ Full pay .....	£881 5 1	£1095 0 0	Total ..... 107 per cent.
	{ Table-money when serv- ing abroad .....	Nil.	730 0 0	
	{ Table-money when serv- ing at home ports .... }	881 5 1	1825 0 0	
		Nil.	577 10 0	
Captains (Seniors) .....	{ Full pay (maximum) .....	812 6 0	600 14 7	Total ..... 90 per cent.
	{ Command-money .....	Nil.	328 10 0	
	{ Servants' wages .....	Nil.	57 5 10	
		812 6 0	986 10 5	
Captains (Juniors) .....	{ Full pay .....	284 3 9	399 19 7	Total ..... 21 per cent.
	{ Command-money .....	Nil.	91 5 0	
	{ Servants' wages .....	Nil.	57 5 10	
		284 3 9	548 10 5	
Commanders in command of sea-going Ships	{ Full pay (maximum) .....	368 10 9	365 0 0	Total ..... 93 per cent.
	{ Command-money .....	Nil.	68 8 9	
	{ Servants' wages .....	Nil.	48 13 0	
		368 10 9	482 1 9	
Commanders serving under Captains .....	{ Full pay (minimum) .....	261 8 0	365 0 0	Total ..... 31 per cent.
	{ Full pay (maximum) .....	148 12 10	200 15 0	
	{ Command-money .....	Nil.	68 8 9	
	{ Servants' wages .....	Nil.	48 13 0	
Lieutenants in command of Vessels .....	{ Full pay (minimum) .....	148 12 10	317 16 9	Total ..... 107 per cent.
	{ Full pay (maximum) .....	118 12 6	182 10 0	
	{ Command-money .....			
	{ Servants' wages .....			
Lieutenants (Juniors), on promotion .....	{ Full pay (minimum) .....			Total ..... 54 per cent.
	{ Full pay (maximum) .....			
	{ Command-money .....			
	{ Servants' wages .....			

MILITARY OR EXECUTIVE BRANCH.



MEDICAL BRANCH.		YEAR 1815.	YEAR 1865.	INCREASE.
Physicians of Hospital or Fleet, with ten years' service in rank.....	Full pay	£ s. d.	£ s. d.	
		766 10 0	.....	
		.....	821 5 0	Total ..... 7 per cent.
Physician to Hospital or Fleet, with three years' service in rank.....	Full pay	574 17 6	.....	
		.....	620 10 0	Total ..... 8 per cent.
		500 0 0	.....	Total ..... 2 per cent.
Surgeons of Hospitals, on promotion.....	Full pay	500 0 0	511 0 0	
		.....	.....	
		500 0 0	500 0 0	Nil.
Surgeons serving afloat.....	Maximum full pay	328 10 0	456 5 0	Total ..... 38 per cent.
		182 10 0	273 15 0	..... 50 "
		.....	.....	.....
Assistant-Surgeons.....	Maximum full pay	136 17 6	237 5 0	Total ..... 73 per cent.
		118 12 6	182 10 0	..... 54 "
		.....	.....	.....



A comparison of the figures in the per-centage column shows that the increase in the two branches has taken place unequally, there being but slight advance in the upper grades of the medical branch, whilst it is very great in the higher ranks of the executive branch. This circumstance is mainly due to the allowances given to executive officers. In other matters besides full pay there is inequality between the branches, as will appear on perusing the following table.

*Tabular View of Inequalities of Executive and Medical Branches as regards Good Service Pensions, Court Appointments, &c.*

GOOD SERVICE PENSIONS.	In 1815 four Senior Captains held sinecures as Colonels of Marines. In 1837 these sinecures were commuted for Good Service Pensions. In 1865 twenty-one Captains, on the Active List, hold Good Service Pensions of £150 per annum.	GOOD SERVICE PENSIONS.	In 1865 three retired Inspectors-General hold Good Service Pensions of £150 per annum.
NAVAL AIDES-DE-CAMP.	In 1830 the rank or office of Naval Aides-de-camp was instituted. In 1865 there are six Captains, on the Active List, holding the appointment, and receiving £182 10s. per annum.	HONORARY PHYSICIANS AND SURGEONS TO THE QUEEN.	In 1865 there are eight Honorary Physicians and Surgeons to the Queen, but this appointment does not carry with it a salary, as is the case with that of Naval Aides-de-camp.
COURSE OF PROMOTION.	By course of service, Commanders attain to the rank of Captain with tolerable certainty, for the List of Captains (300 in number) is completed from the List of Commanders (400 in number). Promotion goes forward with certainty from the Captains' to the Admirals' List, provided that a certain amount of service be performed.	COURSE OF PROMOTION.	By course of service, Medical Officers can count with certainty upon retirement as Staff-Surgeons. Promotion to the grades of the Inspector class occurs by selection, and is consequently uncertain. The Active List contains— Seven Inspectors (five on full pay, and two on half-pay); sixteen Deputy Inspectors (twelve on full pay, and four on half-pay). The Active List contains 286 Surgeons. These figures show that the prizes of rank are few, and that the number that attain to the Inspector rank can scarcely exceed one per cent. of those that enter the Medical Branch of the Service.



## APPENDIX.

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ADMIRALTY ; 30th May, 1859.

*(Medical Officers, Royal Navy—Pay, Half-Pay, Rank, &c.)*

HER MAJESTY having been pleased, by Her Order in Council of the 13th instant, to establish the following regulations with regard to the pay, half-pay, rank, &c., of the medical officers of the Royal Navy, my Lords here make known the same, for the information of all whom it may concern.

1.—There shall in future be four grades of medical officers, viz.—

1. Inspector-general of hospitals and fleets.
2. Deputy inspector-general of hospitals and fleets.
3. Surgeon, who, after twenty years' service on full-pay, ten of which in the rank of surgeon, shall be styled staff-surgeon.
4. Assistant-surgeon.

2.—No candidate shall be admitted to the examination for a commission in the medical department of the Royal Navy who does not possess such a diploma as would qualify a civilian to practise medicine and surgery ; and no such candidate shall receive a commission as assistant-surgeon until he shall have satisfactorily passed an examination in naval surgery and hygiene before a board of examiners appointed by the Lords Commissioners of the Admiralty.

3.—No assistant-surgeon shall be eligible for promotion to the rank of surgeon until he shall have passed such examination as the Lords Commissioners of the Admiralty may require ; and shall have served on full-pay, with the commission of assistant-surgeon, for five years, of which two, at least, shall have been passed on board one or more of Her Majesty's sea-going ships.

4.—No surgeon shall be eligible for promotion to the rank of deputy inspector-general of hospitals and fleets until he shall have served ten years in the Royal Navy, on full-pay, of which three at least must have been passed in one of Her Majesty's ships, on some one or more foreign stations, with the rank of surgeon.

5.—No deputy inspector-general of hospitals and fleets shall be eligible for promotion to the rank of inspector-general until he shall have served five years at home, or three years abroad, in the rank of deputy inspector-general.



In cases of emergency, however, or when the good of Her Majesty's service may render such alteration desirable, it will be competent for the Lords Commissioners of the Admiralty to shorten the several periods of service above mentioned, in such manner as they shall deem fit and expedient.

6.—The rates of full-pay for the medical officers of the Royal Navy will in future be in accordance with the following schedule :

RANK.	After 30 years' Ser- vice on full-pay.	After 25 years' Ser- vice on full-pay.	After 20 years' Ser- vice on full-pay.	After 15 years' Ser- vice on full-pay.	After 10 years' Ser- vice on full-pay.	After 5 years' Ser- vice on full-pay.	Under 5 years' Ser- vice on full-pay.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Inspector-General of Hospitals and Fleets .....	2 5 0	2 5 0	*2 0 0	..	...	...	...
Deputy Inspector- General of Hos- pitals and Fleets }	1 14 0	1 10 0	*1 8 0	...	...	...	..
Staff-Surgeon .....	...	1 5 0	1 2 0	...	...	...	..
Surgeon.....	...	...	...	0 18 0	*0 15 0	...	...
Assistant-Surgeon...	...	...	...	...	0 13 0	0 11 6	0 10 0

7.—Every medical officer on the active list, now on half-pay, and those who may be placed on half-pay, subsequently to the 13th instant, will be allowed the half-pay to which his period of service on full-pay shall entitle him, according to the following schedule :

RANK.	After 30 years' Ser- vice on full-pay.	After 25 years' Ser- vice on full-pay.	After 20 years' Ser- vice on full-pay.	After 15 years' Ser- vice on full-pay.	After 10 years' Ser- vice on full-pay.	After 5 years' Ser- vice on full-pay.	Under 5 years' Ser- vice on full-pay.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Inspector-General of Hospitals and Fleets .....	1 17 6	1 13 6	*1 10 0	...	...	...	...
Deputy Inspector- General of Hos- pitals and Fleets. }	1 5 6	1 2 6	*1 1 0	...	...	...	...
Staff-Surgeon .....	...	0 18 6	0 16 6	...	...	...	...
Surgeon.....	...	...	...	0 13 6	*0 11 0	...	...
Assistant-Surgeon...	...	...	...	...	0 10 0	0 8 0	0 6 0

\* Or on promotion, should these periods of service not have been already completed.



8.—With a view to maintain the efficiency of the service, all medical officers with the ranks of staff-surgeon, surgeon, and assistant-surgeon, will be placed on the retired list when they shall have attained the age of sixty years. Deputy inspectors-general will be placed on such retired list when they shall have attained the age of sixty-five years, and inspectors-general when they shall have attained the age of seventy years. Officers thus superannuated will receive the rates of half-pay mentioned in the preceding schedule.

9.—The relative ranks of the medical officers of the Royal Navy will be as follows

An assistant-surgeon will rank as a lieutenant in the army, according to the date of his commission, and after six years' service on full-pay as a captain in the army, according to the date of the completion of such service.

A surgeon will rank as major in the army, according to the date of his commission, and a staff-surgeon as lieutenant-colonel, but junior of that rank.

A deputy inspector-general of hospitals and fleets will rank as lieutenant-colonel, according to the date of his commission, and after five years' service on full-pay as deputy inspector-general will rank as colonel, according to the date of completion of such service.

An inspector-general of hospitals and fleets will rank as brigadier-general, according to the date of his commission, and after three years' service on full-pay as inspector-general will rank as major-general, according to the date of completion of such service.

Provided always, that no medical officer, while borne on the books of one of Her Majesty's ships, or employed in establishments on shore, shall be deemed superior in rank to the officer appointed to command such ship or establishment; but such commanding officer shall, under all circumstances, be held to be superior in rank and precedence to every officer under his command.

10.—When medical officers of the navy may be employed on shore, on joint service with Her Majesty's land forces, such relative rank will carry with it all precedence and advantages attaching to the rank with which it corresponds, and shall regulate the choice of quarters, rates of lodging-money, servants, forage, fuel, and light, or allowances in their stead; but medical officers serving in the fleet, notwithstanding the relative rank thus conferred upon them, will, in all such details, and also in all matters relating to the duties of the fleet and to the discipline and interior economy of Her Majesty's ships, be subject, as heretofore, to the authority of any executive officer of the military branch, while on duty, under the general regulations which may from time to time be prescribed by the Lords Commissioners of the Admiralty.

11.—Medical officers will share prize-money according to the proclamation or proclamations which may be in force at the time being, for regulating the distribution of the proceeds of prizes in the Royal Navy.

12.—Medical officers will be entitled to the same allowances on account



of wounds and injuries received in action as combatant officers holding the same relative ranks.

13.—The families of medical officers will in like manner be entitled to the same allowances as granted to the families of combatant officers holding the same relative ranks.

14.—Medical officers will be held entitled to the same honours as other officers of the Royal Navy of equal relative rank.\*

15.—A medical officer retiring, after a full-pay service of twenty-five years, may, in cases of distinguished service, receive a step of honorary rank, but without increase of half-pay.

16.—Good service pensions will be awarded to the most meritorious medical officers of the Royal Navy, under such regulations as shall from time to time be determined upon.

17.—Four of the most meritorious medical officers of the Royal Navy will be named "Honorary Physicians," and four "Honorary Surgeons" to Her Majesty.

By command of their Lordships,

H. CORRY.

To all Commanders-in-Chief, Flag-Officers,  
Captains, Commanders, and Commanding  
Officers of Her Majesty's Ships and  
Vessels.

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\* This clause does not extend to the compliments to be paid by garrisons or regimental guards, as laid down in pages 29 and 30 of Her Majesty's Regulations for the army, nor to corresponding honours paid on board Her Majesty's ships.



## POSTSCRIPT.

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SINCE the issue of the pamphlet from the press, my attention has been directed to the paper "relating to the proposed alterations in the government of Greenwich Hospital, and in the appropriation of its income."

In the Bill which is now before Parliament it is contemplated to manage the Hospital somewhat on the model of Haslar, accommodating 600 sick and infirm pensioners in time of peace, and 1710 additional men in time of war, if requisite.

The staff of officers is to consist of—

- 1 Captain-superintendent.
- 2 Lieutenants.
- 2 Inspectors-general of Hospitals.
- 2 Deputy " "
- 1 Surgeon and medical storekeeper.
- 4 Assistant-surgeons.
- 1 Agent and steward.
- 2 Chaplains.
- 6 Clerks.

Out-pensions are to be given to 5000 seamen and to 188 officers.

It is contemplated to sell the advowsons of the livings in Northumberland and Cumberland belonging to the Hospital, and to grant out-pensions to those chaplains of the navy on whom the presentations are now bestowed.

Gratuities are to be given to the widows of seamen and marines killed or drowned in Her Majesty's service.



The list of officers nominated to receive out-pensions is as follows :

Retired  
list.

20 Flag-officers (10 at present).

16 Captains (10 at present).

24 Commanders (15 at present).

80 Lieutenants (50 at present).

24 Masters (15 at present).

15 Paymasters (0 at present).

0 Surgeons (0 at present).

0 Engineers (0 at present).

9 Warrant officers (0 at present).

Pensions to Chaplains (livings at present).

Table of number of officers of the specified classes on the active list.

	Number on active list.	Number of pen- sions to officers on retired list.	Value of each pension.	Gross amount.
Flag officers	102	20	£150	£3000
Captains .....	300	16	80	1280
Commanders ...	399	24	65	1560
Lieutenants .....	781	80	50	4000
Masters .....	373	24	50	1200
Paymasters .....	300	15	50	750
Warrant officers	900	9	25	225
Chaplains .....	156	(Proposed to be pensioned by the sale of livings)		
Medical officers	600	Nil	Nil	Nil
Engineers .....	244	Nil	Nil	Nil

In reply to a question put to him in the House of Commons, Mr. Childers stated that it was not contemplated to deprive the medical officers of their appointments in the Hospital.

Truly not. The numbers will even be increased. The medical officers will continue to do their duty as heretofore, and, I trust, in as efficient and praiseworthy a manner.

Hear what the Commissioners appointed in 1859 to inquire into Greenwich Hospital state in their Report, in May 1860.



The words of the Duke of Somerset, in the paper from which I am quoting, are as follows :

“The portion of Greenwich Hospital which is devoted to purposes of an infirmary and helpless wards, is admitted to be successfully administered. The Royal Commissioners report that in this department, the dietary, the dormitories, the dress of the patients, the attention bestowed on their comfort, leave nothing to be reformed. This establishment is, they state, conducted in a manner which is worthy of a great national institution.”

Great praise, coming from such a source ! Yet medical officers are excluded from any participation in the proposed distribution of out-pensions from the funds of the Hospital that they serve so well.

It is sophistry to say that medical officers on the active list, performing laborious and responsible duties in the Hospital, for which they receive their bare pay and lodging, are deriving emolument from Greenwich Hospital. If it be true of one class it is true of many, and admirals, captains, lieutenants, &c., should have been denied out-pensions heretofore because officers of such classes were employed in the active service of the Hospital.

The contemplated alterations in the Hospital are unfair, for they exclude surgeons and engineers ; moreover, the ratios of the numbers of pensions to the numbers of each class are unequal.

Verily this Greenwich Hospital Bill is a fit corollary to my pamphlet. It manifests the same spirit of injustice towards the medical officers of the navy that I have portrayed as existing from early times ; and it furnishes the medical profession with evidence of an irresistible kind, that no reliance can be placed upon the Admiralty for just and proper treatment of naval surgeons.



One more remark I have to make. It appears to me that the funds of Greenwich Hospital should be expended on the seamen and marines, and on the warrant officers and non-commissioned officers, *and not on commissioned officers*. Greenwich Hospital would then provide a splendid patriotic fund that would meet all the cases of necessity that might arise during war; it would also furnish gratuities and pensions to widows, and afford relief to the survivors of shipwreck, and to the families of those lost at sea.

How is it that money left to posterity for the use of the poor always becomes diverted into the pockets of the rich? It is the ravening spirit of covetousness—that sin of mankind.

But if it should be decided to grant out-pensions to the commissioned officers, agreeably to the purport of the Bill now before Parliament, then I demand, *as a matter of right*, that the medical officers of the navy shall participate in the same.

Table of good-service pensions (not connected with Greenwich Hospital) already enjoyed by officers:

7 Flag-officers at .....	£200 per annum.
21 Captains .....	150 „
3 Marine officers, viz.—	
1 General .....	300 „
2 Colonels .....	150 „
3 Medical officers (with rank of flag-officers) at	100* „

F. J. B.

June 5, 1865.

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Wrongly stated to be £150 at page 36 of the Pamphlet.



THE CASE  
OF THE  
MEDICAL OFFICERS OF THE ARMY  
FAIRLY STATED,

IN A LETTER TO THE  
RIGHT HON. EARL DE GREY AND RIPON,  
SECRETARY OF STATE FOR WAR.

BY  
A RETIRED DEPUTY INSPECTOR-GENERAL OF HOSPITALS.

*Inveni portum; spes et fortuna valet,  
Nil mihi vobiscum, ludite nunc alios.*

LONDON:  
CHARLES GRIFFIN AND COMPANY,  
10 STATIONERS' HALL COURT.

1864.



THE HISTORY OF THE  
CITY OF BOSTON  
FROM THE FIRST SETTLEMENT  
TO THE PRESENT TIME

By SAMUEL JOHNSON, LL.D.  
OF THE UNIVERSITY OF OXFORD.  
IN TWO VOLUMES.  
VOL. I.  
LONDON: Printed by J. JOHNSON, in Pall-mall.  
1790.

The City of Boston, situated on a neck of land between the harbor and the bay, was first settled by a company of Puritans, who, in 1630, arrived from England, and founded the town of Boston. The city has since that time increased in population and importance, and is now one of the most populous and flourishing cities in North America. It is situated on a neck of land between the harbor and the bay, and is surrounded by water on three sides. The city is divided into several wards, and is governed by a mayor and aldermen. The city is famous for its trade, and is one of the most important ports in the world. It is also famous for its education, and is one of the most important centers of learning in North America. The city is situated on a neck of land between the harbor and the bay, and is surrounded by water on three sides. The city is divided into several wards, and is governed by a mayor and aldermen. The city is famous for its trade, and is one of the most important ports in the world. It is also famous for its education, and is one of the most important centers of learning in North America.



## LETTER.

MY LORD,

The motto prefixed to this Letter is intended to indicate, at the very outset, that I have no personal interest in the question to which I am about respectfully to invite your Lordship's attention. My "haven" is indeed "found." I have nothing to hope or fear from any measures affecting the present state or future prospects of the service that may be determined on. In thus venturing to obtrude my opinions on a statesman charged with the high responsibilities of office I am actuated by no motive of personal ambition. I desire to see an indispensable branch of the public service, at present rapidly becoming disorganized, restored to a state of efficiency. I desire to see the breach that now unhappily exists between the Medical Officers of the army and their combatant brother-officers finally closed. I desire to see such an arrangement made as will once more restore confidence in the good faith of the civil and military authorities of the army in quarters where it has been altogether destroyed—viz., the Schools of Medicine in the three kingdoms—so that the public service may once more offer such reasonable attractions to young men of superior parts and acquirements as to make them seek eagerly for a career in its ranks. Finally, I desire that our soldiers, in peace and war, at home and abroad, may have, what it is the intention of the country they should have, the best possible advice and assistance when disabled by sickness or wounds; and it is because I honestly believe that a dispassionate statement of facts may contribute in some degree to bring about such desirable ends, that I venture to address your Lordship.

I need not take up your Lordship's time in laying evidence before you of the existence of discontent in the Medical Department of the army, because it everywhere abounds. The opinions



of the Professors and Teachers in Medical Schools and Colleges, the debates in the Medical Council, the leading articles and correspondence in the Medical Journals and Reviews, and, above all, the impossibility, in the present state of feeling in the profession, of recruiting the ranks of the service with properly qualified young Medical Officers, have combined, only perhaps too forcibly, to make this discontent known to you.

There is a general rumour that dissatisfaction has arisen in official quarters at the expression that has been given to this discontent in the current professional and other publications by the Medical Officers of the army. Because they have printed their grievances, they are said to be "insubordinate." Because complaints have poured in from many quarters, a "combination" is said to exist among them. It may be quite true—indeed, it is true—that it is contrary to the letter of the Queen's Regulations for officers, soldiers, and non-commissioned officers, on full pay, of Her Majesty's army, to make known their grievances through the press; but no one knows better than your Lordship that practically this is done every day in the year. I do not know how many newspapers and journals there are in this country devoted almost exclusively to the discussion of military and naval matters,—there are at least three or four; but this I know, nearly two-thirds of the space in these papers is taken up by letters from men of all ranks, or comments upon them by the editors: and so far from this practice being confined to "Doctors" and other non-combatants, their complaints make up but a small proportion of the whole. I do not defend—on the contrary, I reprobate—unjustifiable attacks on those who are charged with the administration of military and naval affairs: in a country like this, and with a press such as ours, attacks of an unjustifiable nature would not be tolerated; but nothing short of a press law as stringent as that of France will suffice to prevent Englishmen from making known their grievances, and temperately seeking redress in the way most in accordance with the habits and traditions of a free country. As for Medical Officers, take away this resource, and they must be helpless indeed. Not a single concession has ever been made to them in the army or navy except under the pressure of enlightened public opinion, called forth by temperate discussion in the press. Let combatant officers be touched, or even threatened, on any point affecting their



interests, privileges, or even their prejudices, and a dozen powerful voices are raised in their defence in both Houses of Parliament. Your Lordship's parliamentary experience will remind you how seldom the authorities are troubled in this manner when only the grievances of "Doctors" are in question. As to "combination," in the offensive sense, attributed to the Medical Officers of the army, nothing, I feel assured, having even the semblance of this exists, or ever has existed among them. The nature of the service makes combination all but impossible. Medical Officers are scattered, broken up, and dispersed in small numbers all over the world. The effect of the regimental system has ever been to centre the *esprit de corps* of the army surgeon more in his regiment than in his department. The discontent which has at last found vent in the professional press is a proof, therefore, not of combination, but of dissatisfaction widely spread and deeply felt.

In a journal which (rightly or wrongly, I cannot say) is regarded by the public as the semi-official organ of the present Government, it has been said that the discontent of Military Surgeons dates only from the recall of certain privileges which were conceded to them "by mistake," and that this discontent has its root in a desire for military command and a puerile craving for such military baubles as "spurs," "brass scabbards," and such like trivialities, which ought to be beneath the notice of professional men.

It is not difficult to give a satisfactory reply to these so-called explanations. And, first, to show that the discontent of Medical Officers with their position was antecedent to the publication of the Warrant of 1858, and, indeed, led to the granting of that now famous document, it is only necessary to glance at the then condition of the department. For this purpose I ask your Lordship to take up the Minute by the Most Noble the Governor-General of India on the Indian Medical Service—a Minute the writing of which was almost the last official act of the late Lord Dalhousie, and which was concurred in by His Excellency the Honourable G. Anson, Commander-in-Chief in India. I take this Minute, which refers more particularly to the Indian Medical Service, because that Service was, in almost all particulars, better off than the Medical Department of Her Majesty's Service. Indian Medical Officers were better paid; and they had numerous staff



appointments open to them, the emoluments of which were considerable. The climate of India made their services so essential to all classes that men, whatever their rank and station might be, were glad to be on good terms with men to whom they, and those most dear to them, could alone look for assistance in the hour of utmost need. The feudal prejudice against those who profess the healing art did not press on Indian Medical Officers with the galling force so much complained of in the Royal service, for the simple reason that all the branches of the Indian service were, as a rule, drawn from the upper ranks of the middle classes; and civil and military Medical Officers being for the most part the sons, brothers, or near relations of members of other branches of the public service, held a social position in India very much higher than that accorded to their brethren of the home service in England. Add to the above, the various "Funds" established in the three presidencies, which secured a comfortable provision for their widows and children in the event of death, and a considerable addition to their pensions in the way of a life annuity on retirement. Such being the conditions of service, it cannot be wondered at that, in the words of Lord Dalhousie, the Indian medical service never wanted "many men of the highest capacity and value, who elsewhere would have won an European reputation." So much was admission into this service at one time sought, that Lord Dalhousie mentions in the same minute that, "twenty years ago, I (Lord Dalhousie) asked for a "medical appointment from one of the directors. I was told that "it was as difficult to obtain an appointment in the medical "service as in the civil service; and in point of fact it was only "obtained for me on that occasion by an exchange." Lord Dalhousie then goes on to state the grievances under which the medical service suffered—grievances which he deemed real, and which, in his opinion, "ought to be removed." "I refer," wrote his Lordship, "to the inequality which now prevails between the "position of a medical officer and that of his brother-officers, in "respect of pension, honours, and rank.

"I respectfully submit that such inequalities are founded on no "sound grounds of justice, expediency, or policy: no valid reason "ever has been or can be alleged for maintaining them. Their "effect is to depress the spirit of the medical officer, to depreciate "a profession and class of service which ought to be held in the



"utmost respect, and supported equally from motives of prudence and gratitude.

"All such inequalities should be at once removed, and the medical officer, in respect of real rank, dress, honours, and promotion, should be placed on a footing with his brother-officers who hold commissions like himself." And a little farther on his Lordship, the Governor-General of India, urges the Court of Directors to represent "strongly and perseveringly to Her Majesty's Ministers the claims of their medical officers to share reasonably, and in a far larger proportion than they do at present, in the military honours and decorations which are granted for service in the field."

On the question of rank Lord Dalhousie wrote—"But the most galling, the most unmeaning and purposeless regulation, by which a sense of inferiority is imposed upon medical officers, is by the refusal to them of substantive rank. The surgeon and assistant-surgeon rank invariably with the captain and lieutenant; but the rank is only nominal wherever medical officers and others are brought together on public duty. The former has no rank at all, and the oldest surgeon on the list must, in such case, range himself below the youngest ensign last posted to a regiment.

"It is impossible to conceive how such a system as this can have been maintained so long, on the strength of no better argument than that 'it has been,' therefore 'it ought to be.' - It is impossible to imagine what serious justification can be offered for a system which, in respect of external position, postpones service to inexperience, cunning to ignorance, age to youth—a system which gives a subaltern who is hardly free from his drill, precedence over his elder, who perhaps has served through every campaign for thirty years—a system which treats a member of a learned profession, a man of ability, skill, and experience, as inferior to a cornet of cavalry—a system, in fine, which thrusts down gray-headed veterans below beardless boys."

I have taken this graphic description of medical grievances as they were in India when Lord Dalhousie wrote this Minute, because it exactly describes the condition of the Royal Medical Service prior to the issue of the Warrant of 1858; and because this very Minute formed part of the evidence laid before the



Royal Commission on the sanitary state of the army: and if this be not enough to satisfy the writer in the semi-official newspaper, I would refer him to that part of the Report of the Royal Commission in which they embodied the result of their inquiries into existing grievances. The result was the Warrant of October, 1858. So far from that document, or any part of it, having conveyed privileges to Medical Officers "by mistake," as alleged, the Royal Commission grappled with the whole question, laid down the principles on which the Warrant was based,—and none knows better than your Lordship that every clause of the Warrant was made the subject of anxious deliberation by men the most competent this kingdom could furnish to advise Her Majesty on the subject. How far in its letter and spirit this famous Warrant was obeyed is another question, on which I shall have something to say presently.

The next assertion put forward by the semi-official journal is that Medical Officers desire, under cover of the rank given by the Warrant of October, 1858, military command. Now, my Lord, this has been repeated so much and so often that perhaps those who first put it forward to prejudice the public against army surgeons have at last persuaded themselves of its truth; and it is consistent with my knowledge that, until better informed, your Lordship's predecessor in office, the lamented Sir George Cornewall Lewis, believed that Medical Officers did really aspire to military command. I have heard that out of somewhere about two thousand Medical Officers of the General and Indian staff, one or two may have been silly enough to put forward certain pretensions of this kind; but it is equally well known that by no class of officers were such pretensions more bitterly ridiculed than by the whole body of the department. The Queen's Regulations—nay, the Warrant itself is so precise on this point, that none but a very silly man, probably under some momentary irritation, could think of putting forward any such claim. What Medical Officers do claim is the observance of Clause 17 of Her Majesty's Warrant of October, 1858—a clause which has practically, in most of its provisions, been set aside or explained away.

What has perhaps given rise to this, I would charitably hope, misapprehension about command, is the dissatisfaction that has arisen of late, since the publication of the Warrant, from the practice of designating Medical Officers of the army as "Civil



"Officers." Now the absurdity of this must be evident to all who take the trouble to reflect on the matter for a moment. Military surgeons are non-combatant officers,—it is not their business or duty to fight, or, more properly speaking, to direct those who are fighting: but for all that they are not civilians; they wear military uniform all the time that they are on full pay; they are subject to the Mutiny Act; they can sit as members of courts-martial, instances of which have occurred in my own time; and, to quote once more from Lord Dalhousie's Minute,—"The medical officer comes constantly under fire like other men. Every campaign which is fought exhibits the names of Medical Officers in the lists of killed and wounded; and the returns invariably show that they still more often fall victims to their own exertions on behalf of their suffering comrades.

"Proof can hardly be required of such well-known facts. If it be, the fatal record of the service which our countrymen have been performing during the last year and a half in the Crimea will more than bear out the statement I have made."

One medical officer from each regiment mounted the heights of the Alma with the attacking columns; an assistant-surgeon saved the life of the present Commander-in-Chief in the midst of the fight at Inkerman; and the surgeons of the army took their tour of duty in the trenches before Sevastopol as regularly as their combatant brother-officers. The late Inspector-General of Hospitals, Dr. Macleod, when attending to the wounded in the trenches before Badajos, was for the moment blinded by his brother's brains, a captain in the regiment in which he served. It is well known all over India that at the battle of Corriegaum, one of the most brilliant feats of arms in the annals of British India, nearly all the artillery officers were killed, and at the most critical period of the action Assistant-surgeon Wylie directed the fire of the guns against the enemy in such a manner as materially to contribute to the success of the day. For this he was in after years rewarded with the Companionship of the Bath, and to the day of his death was known in the Madras army, to which he belonged, as the "Hero of Corriegaum." Surgeon A. Home rescued the wounded under his charge at Lucknow from falling into the hands of the enemy, barricaded the houses into which he had them conveyed, defended the post for two days, and with his own hand killed many of the assailants. For this gallant act he was



rewarded with the Victoria Cross. In the late operations on the frontier in India, Assistant-surgeon Pile, on duty with a picket in an exposed position, when the combatant officer in command sought safety by deserting his post, remained with a gallant young ensign, and fell nobly doing his duty to the wounded around him. In a late despatch from New Zealand, General Cameron mentions the gallant conduct of Assistant-surgeon Temple in the discharge of his duty, in such terms that it is well known this medical officer has been set down for the Victoria Cross. The number of Medical Officers of both services who lost their lives during the Mutiny in Bengal, and the operations for its suppression, was greater in proportion than among any other class of officers in the service.

My own experience in war, as compared with that of some of my old brother-officers of my own standing, has not been great; yet I have often been out at night on picket duty immediately in front of the enemy; I have landed more than once with troops under fire; I have served with the advanced guard under fire; the commanding officer of my regiment was killed within a few feet of me; the captain of the light company was slain while in the act of conversing with me; and a few minutes after, while attending to a wounded officer, a shot struck the parapet so closely above my head as to cover us both with the debris of the crushed bricks and mortar. The *proportion* of Medical Officers at this day wearing the Victoria Cross is greater than among any other equal body of officers in Her Majesty's service.

I could fill pages with similar examples, but enough, it is hoped, has been said to explain why Medical Officers object to be classed as civilian hangers-on to the rear of an army, and to be treated as a superior class of "camp followers." I have given these examples, not to show that army surgeons have anything to do with fighting, but in proof of the fact that they cannot discharge their own peculiar duties without sharing largely in the honourable dangers of the field. Marshal Radetzky—no mean authority on such a point—declared, when commander-in-chief in Italy, "that the difference between officers as combatants and surgeons as non-combatants must cease. I see everywhere military officers and surgeons equally exposed to the fire; and therefore the surgeons shall enjoy advantages and distinctions in every respect equal to those of the combatant officers." Paymasters, chaplains, commis-



sariat officers, except under the rarest possible circumstances, are not exposed to the risks of war,—their duties are in the strictest sense civil; and if it be the wish of the authorities that military surgeons are to be treated as civilians, they (the Medical Officers) have a right to expect that their duties and risks shall be regulated accordingly.

As regards the matter of dress, about which there have been so many sneers, it need only be said that dress in the army is the outward and visible sign of rank, and so long as it is the pleasure of the authorities that army surgeons shall wear military uniform, they have a right to expect, not only that they shall not be made to wear a dress which shall give rise to invidious distinctions in the eyes of their comrades, but that their uniform, while it sufficiently marks the class to which they belong, shall at the same time both indicate unequivocally their relative rank, and be suitable to the professional duties which they have to perform.

I need not detain your Lordship by going into the terms of the Warrant of October, 1858. I have already said that document was not issued, as some pretend, in haste and without due consideration. On the contrary, every part of it had been carefully considered; it was a large and liberal measure of justice graciously conceded to those who had laboured well and waited long. The effect on the department was magical. Discontent ceased, men thankfully accepted the status in the army they felt to be their due, and turned from the hateful necessity of urging their grievances on the unwilling ears of those in power to the more congenial duties of their profession.

In the civil ranks of the profession the Warrant gave equal satisfaction; and as its healing words passed from mouth to mouth in the Schools of Medicine, the rising generation of well-educated students saw at last an honourable career open to them in the army. Candidates with high qualifications came forward in sufficient numbers to compete for commissions; professors and teachers in the Schools of Medicine encouraged their best students to prepare for the examination; and when the late lamented Lord Herbert opened the first session of the Army Medical School, he saw on the benches before him the first-fruits of a wise and generous policy.

I have now arrived at the most painful and distasteful part of



my subject. I have now to relate how this gleam of sunshine proved to be only

"The uncertain glory of an April day."

To the astonishment of the Medical Officers of the army, they soon found that the Warrant was a source of extreme dissatisfaction to the military authorities, and, I am sorry to add, to many of their combatant brother-officers also. I say they learned this with surprise, because they naturally expected that, as no class of public servants were so dependent on the skill and professional ability of army surgeons as combatant officers, it might naturally have been expected that they would rejoice over concessions certain to attract into the service a superior and more highly educated class of men than had, as a general rule, been found in it before. Medical Officers expected this all the more because the Warrant, while it improved their own position, deprived combatant officers of no advantage or privilege enjoyed before.

The Queen's Warrant of October, 1858, bearing the signature of General Peel, was hardly promulgated ere that long series of attacks commenced, some open, some covert, which never ceased until the very name of it became offensive to the ears of those for whose benefit it was intended.

There are somewhere about 75,000 British troops serving in India, with a medical staff proportioned to such a large number serving in an unhealthy climate; and yet, from the time it was published until now, Medical Officers serving there, whether belonging to the Home or Indian services, remain, in point of pay and substantial privileges, exactly as they did before the Warrant was published.\* The assistant-surgeon of both services, of six years' standing, is treated as if he ranked with a lieutenant, as when Lord Dalhousie's Minute was written; and a surgeon-major of the Indian army, with the nominal rank of lieutenant-colonel, when he comes to England receives the pay of a captain. Memorials, remonstrances, petitions, questions in the House of

\* While these sheets are passing through the press, a document purporting to be the India Office scheme for the re-organization of the Indian Medical Service is going the round of the press. Whether this is published by authority or not, I have no means of judging, but as it refers mainly to matters of pay, and is silent as to the constitution of the new Indian Medical Staff Corps, it cannot be said to describe the re-organization of the service. Under any circumstances the text correctly describes the state of matters in India up to the present time.



Commons, have alike failed to obtain redress. ~~X~~ The Warrant of 1858 remains in 1864 a dead letter in a part of the world where nearly one-half of the British army is constantly serving. ~~X~~

Need I weary your Lordship with the pitiful details of breaches of faith nearer home? Need I relate the thrice-told tale, and tell how all that was valuable in Clause 17 of the Warrant was either shamelessly abrogated or disingenuously explained away, either by circulars issued in the name of the highest military authority, or by orders in answer to references by generals commanding in all parts of the world. I regret to say that the civil administration of the army was not a whit behind the military in putting unfavourable interpretations and strained meanings on very plain passages. I have no patience to dwell on the small slights and petty affronts to which military surgeons were, as it would appear, in the mere wantonness of military authority, subjected;—how surgeons coming mounted to parade, as they were entitled according to their rank to do, if that rank was anything but a delusion and a snare, were ordered, in the face of whole brigades, to dismount;—how the right of surgeons to contribute to mess and band funds as field officers was graciously conceded, while their right to the place due to the same rank on social occasions of ceremony was by the decision of a general officer politely denied.

~~X~~ When the clamour raised by certain combatant officers was at its height, in an evil hour the then Secretary for War, by a new Warrant, deprived regimental and staff surgeons of the rank conferred on them by the Warrant of October, 1858—that is to say, making them, while still retaining the rank of major, to remain permanently *junior* to all majors, regimental and brevet.

~~X~~ Your Lordship's predecessor in office was pleased to recall this second Warrant, from seeing that its issue was a fatal mistake; but, as your Lordship knows, the effect of the concession has not been sufficient to restore confidence to the department, or to the profession from which alone its ranks can be recruited.

The steps taken by the War Office, the India Office, and the Horse Guards have thus undone the work of Her Majesty's Sanitary Commissioners, broken faith with those who entered the service under the Warrant of 1858, disorganized the department, and sowed such discontent and distrust in the schools and colleges, that a commission in the medical branch of the British army is at this moment at such



a discount in the intellectual labour market, that 200 vacancies exist in the general and Indian services together as these sheets are passing through the press. The scarcity of Medical Officers in India is such that the service, even in this time of profound peace, can hardly be carried on. And what, my Lord, suffer me respectfully to ask, are the measures taken to restore confidence? The profession knows of but one. An advertisement signed by the Director-General has appeared in the newspapers, inviting medical men to come forward *without examination*, to act as army assistant-surgeons for home service on ten shillings a day. In the face of all that has occurred, qualified candidates, willing to enter the service through the gate of the examination at Chelsea and the course of instruction at the Military Medical School, are not to be had, and an attempt is being made to gather from the highways and byways of the profession a sufficient number of men to whom ten shillings a day is an object, to carry on the service.

Gentlemen are invited to enter the service by one door,—let me for distinction's sake call it the front door. The conditions are a strict examination, followed by a course of hard study and strict discipline at the Military Medical School of Netley; the reward, when all this is done, being ten shillings a day, *unlimited foreign* service in every climate, with the good faith and treatment I have ventured to describe; while the same pay, with *home* service, are to be had without examination or disagreeable questions asked,—entry by the back door in Whitehall Yard.

Is it expected, my Lord, that such a measure as this will allay discontent and restore confidence?

But what of the Queen's soldiers? How are sick officers and men to fare at the hands of these "Acting Assistant-Surgeons?"

About officers I have not much to say: at home, at all events, they can provide for themselves. But as regards the men the case is different.

Perhaps your Lordship has not had time to read the debates in the Medical Council on the subject of medical education. In the course of the debate some strictures were made on the examination for admission into the Medical Department of the army. Some of the speakers were of opinion that such an examination was not necessary, seeing that all who were received as candidates at the Chelsea examination had already been examined by one or more of the licensing bodies. This brought up Dr.



Parkes, a member of the council, and well-known to your Lordship as Professor of Hygiene in the Military Medical School, and one of the most experienced medical examiners in London. The disclosures made in the course of his speech were startling. Dr. Parkes had in his hand a series of the written examination papers of rejected candidates for medical commissions in the army, from which the learned Professor, without, of course, mentioning names, or the schools whence the men came, quoted largely, and conclusively established the fact that unless an entrance examination was exacted before admission to the army, the most frightful consequences would ensue. Men offered themselves for examination so ignorant of anatomy and surgery that, if they had performed the operations they were called on to do on the dead body, before their examiners, in the same way on the living body, the instant death of their patients must have been the necessary result. Others did not know the commonest doses of the commonest medicines, nay even the drugs themselves when presented to them. In answer to the question, What becomes of men of this kind in civil life? Dr. Parkes replied by quoting a passage from an Address of one of his colleagues, Dr. Maclean. I give the passage below.\*

\* "If we are correctly informed, objection has been taken to the principle of competition in relation to medical commissions in the army; not only is it by some desired that we should return to the old system of nomination, but it is proclaimed that an examination test of any kind prior to admission is an injustice to candidates or nominees, a work of supererogation, and an insult to the licensing bodies and universities of the kingdom. It is argued that as nothing but a degree or a diploma is required of a civil practitioner, nothing more should be demanded of those who are to follow the same profession in the army; that the life of a soldier is not more valuable than that of a civilian. It is curious that those who so argue do not see that the two cases, put in this way, will not bear comparison. Is it true that civil practitioners enter at once into the confidence of the public, and the rewards resulting therefrom? Is it not rather the case that there is for them a trial, a competitive examination, if you so choose to call it, so stringent, so chilling, so long-continued, that in comparison with it that which stands at the threshold of the public service, and bars the way to incompetence, sinks into insignificance. Into the cold and rapid river of public life those who seek public confidence must adventurously plunge; in that swift stream the strong swimmers only live; the idle, the dissolute, the incompetent, sink in its waters, or are swept away, and heard of no more. To drop metaphors—the public can protect themselves. With the soldier it is different: he has no choice, no freedom of selection, and the State must protect him. If the authorities could so far forget their duty to the sick or wounded soldier as to throw open the public service without a preliminary test, the Medical Department would soon become the refuge of the intellectually destitute, and the



Now, my Lord, these are the men who may, and who probably will, enter the service by the backdoor now opened for them. There is no reason why the very men who exhibited such frightful ignorance as Dr. Parkes disclosed should not enter the service and maltreat the Queen's soldiers.

And now, my Lord, what, it may be asked, are the remedies for these evils?

They are few and simple. If your Lordship has followed me so far, you cannot but see how little mere money has entered as an element into these painful discussions. The whole profession, in the service and out of it, including the most eminent Professors and Teachers in the Schools, Universities, and Colleges of the kingdom, declare that, constituted as the Army Medical Service is, it is not a service in which honourable and highly educated men can serve without losing what such men will not sacrifice for any consideration, pecuniary or other—their self-respect.

Let, then, the Warrant of October, 1858, and Clause 17 in particular, be restored in all its integrity; let the Government give a simple assurance that in future it will repress firmly all attempts, covert or open, to explain away by circulars or alterations in the Queen's Regulations its plain, honest, and obvious

hope of the professional lounge, to whom the struggles of private practice offered nothing but starvation. In a brief time a department so constituted would become a national reproach; public indignation would be kindled against it and consume it away.

"Not only has objection been taken to an examination test, but the one now in existence has been objected to on the score, not only of severity, but of partiality. It has been said that the Examining Board display hostility to the graduates of a particular University. A more reckless and unfounded charge was never brought against honourable men. Far be it from me to offend those distinguished men by defending them from a charge that refutes itself, least of all is any defence necessary here, in the presence of gentlemen who know from personal experience how unfounded it is.

"The simple truth is, that at a time when the service is, for reasons into which I need not enter here, under what I hope and believe will prove only a temporary unpopularity, certain men, with slender qualifications, attempted to run this wholesome blockade, and as the examiners had the firmness not to lower their standard to meet a temporary difficulty, these contrabands of medicine were unsuccessful, and like others of whom we have read and heard, they forthwith raised a clamour at the partiality of their judges. I trust the Examining Board will excuse me for noticing a charge that might safely have been left to fall to the ground by its own weight. I would not have done so, but for the reason I have given." (*Address by Professor Maclean at the opening of the Military Medical School at Netley, on the 1st October, 1863.*)



meaning and intention. If any Medical Officer, presuming on this clause, should be silly enough to put forward any the smallest claim to military command, your Lordship may rely with confidence on the Queen's Regulations and the Mutiny Act in the hands of military commanders to repress such pretensions should they arise, without having recourse to exceptional regulations injurious and affronting to the whole department.

Let such pressure be put on the India Office by Her Majesty's Government as shall insure the extension of the Warrant in its integrity to India.

Make retirement optional on a fair pension after twenty years. The nature of the military medical service is so trying to health that many after that time, for the most part spent in unhealthy climates, are incapable, without much risk and suffering, of further duty.

Make retirement at twenty-five years also a matter of right, at the full rate of pension for this period of service.

Let a few simple alterations in the dress of Medical Officers be made, so that, while there will be no difficulty in recognizing them as members of the Medical Staff, what is offensive in the details of the present dress may be done away with.

Let the pay of Medical Officers, beginning say at *12s. 6d. per diem*, increase in some regular progression at stated periods until the rank of surgeon-major is attained, with the present pay of *25s.* a day.

Finally, let assistant-surgeons be promoted at the end of ten years' full pay service.

These measures will keep hope and energy alive in the service, banish discontent, restore confidence in the Schools, and promote the highest interests of the public service.

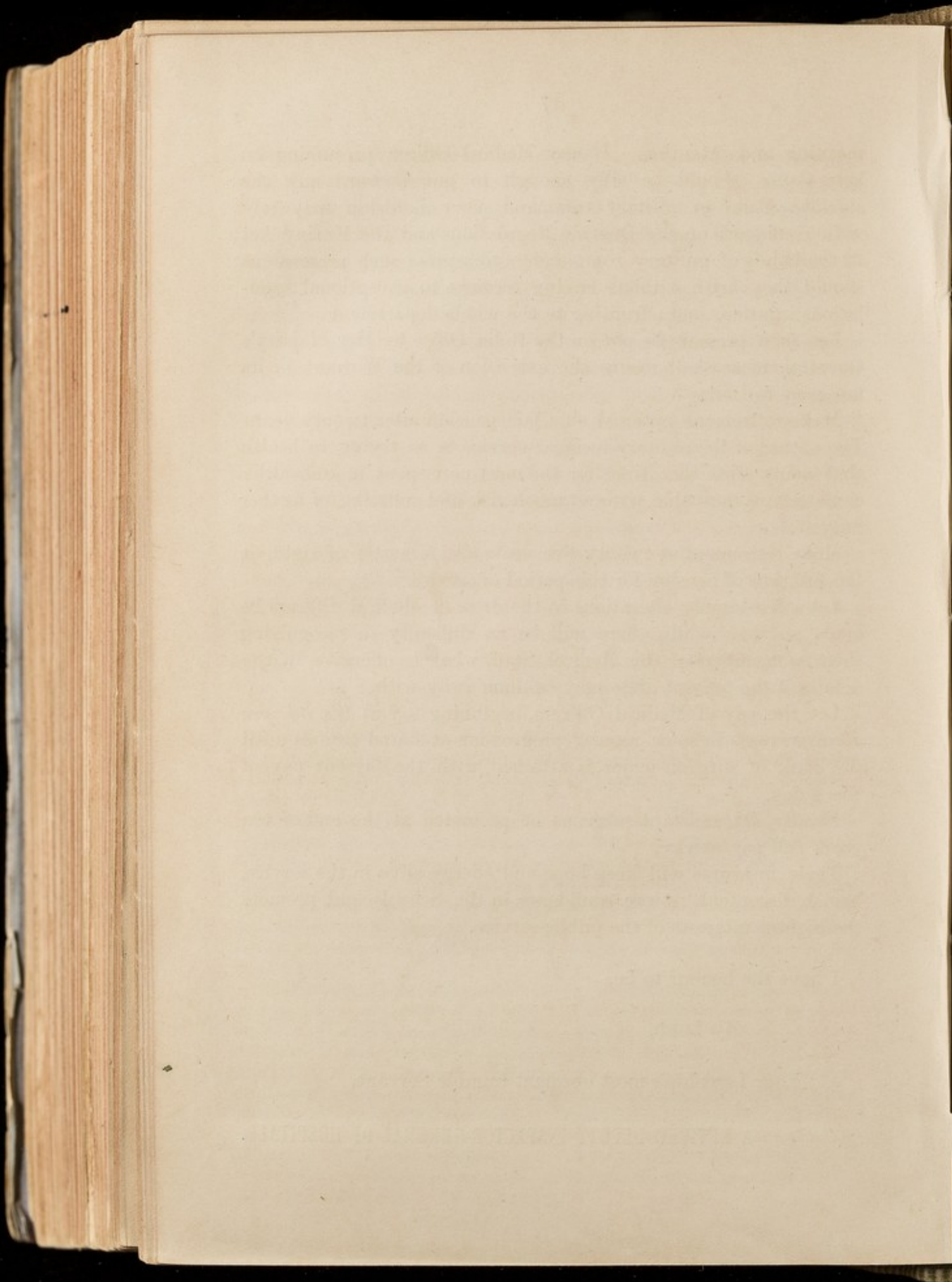
I have the honour to be,

My LORD,

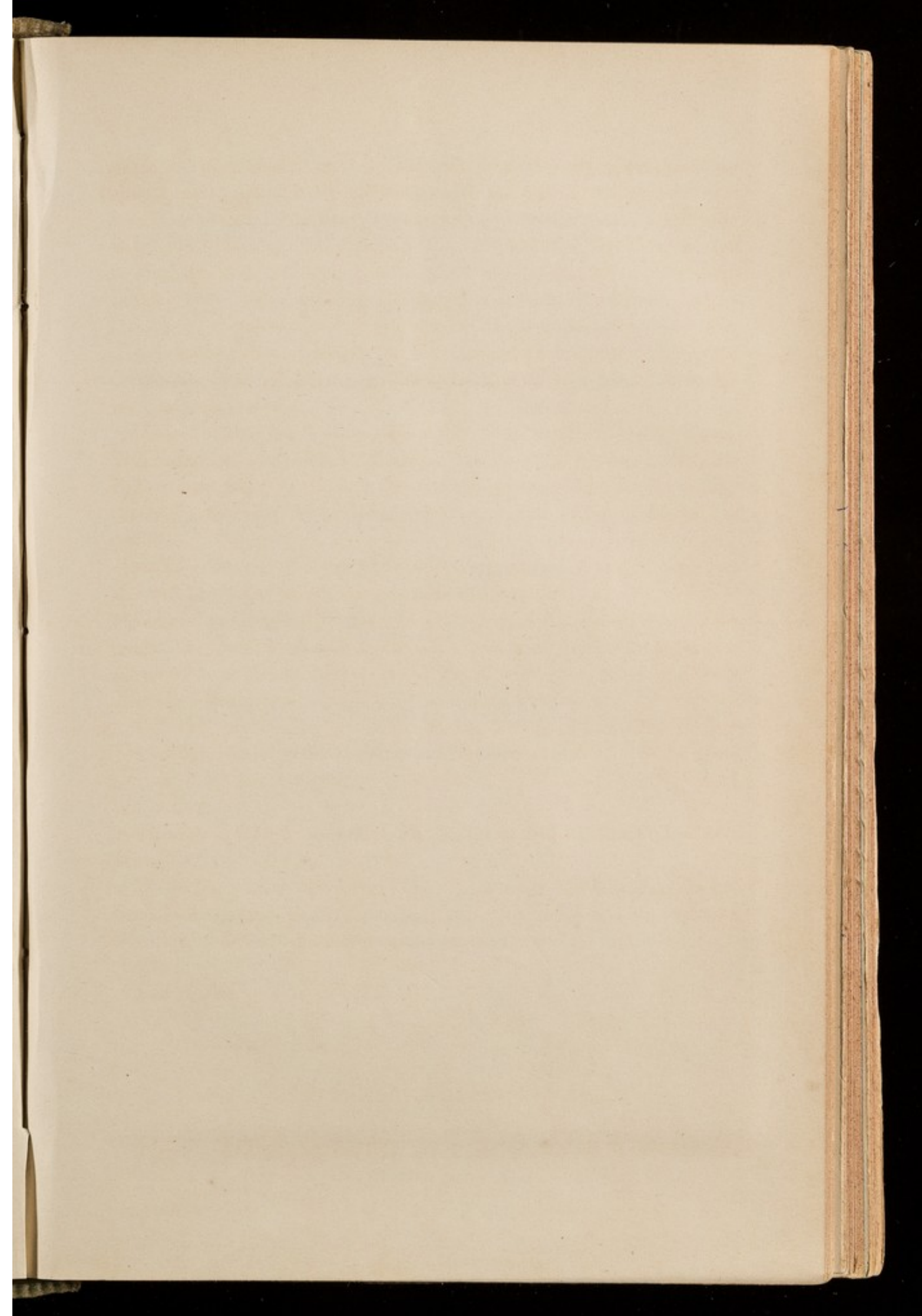
Your Lordship's most obedient humble Servant,

A RETIRED DEPUTY INSPECTOR-GENERAL OF HOSPITALS.

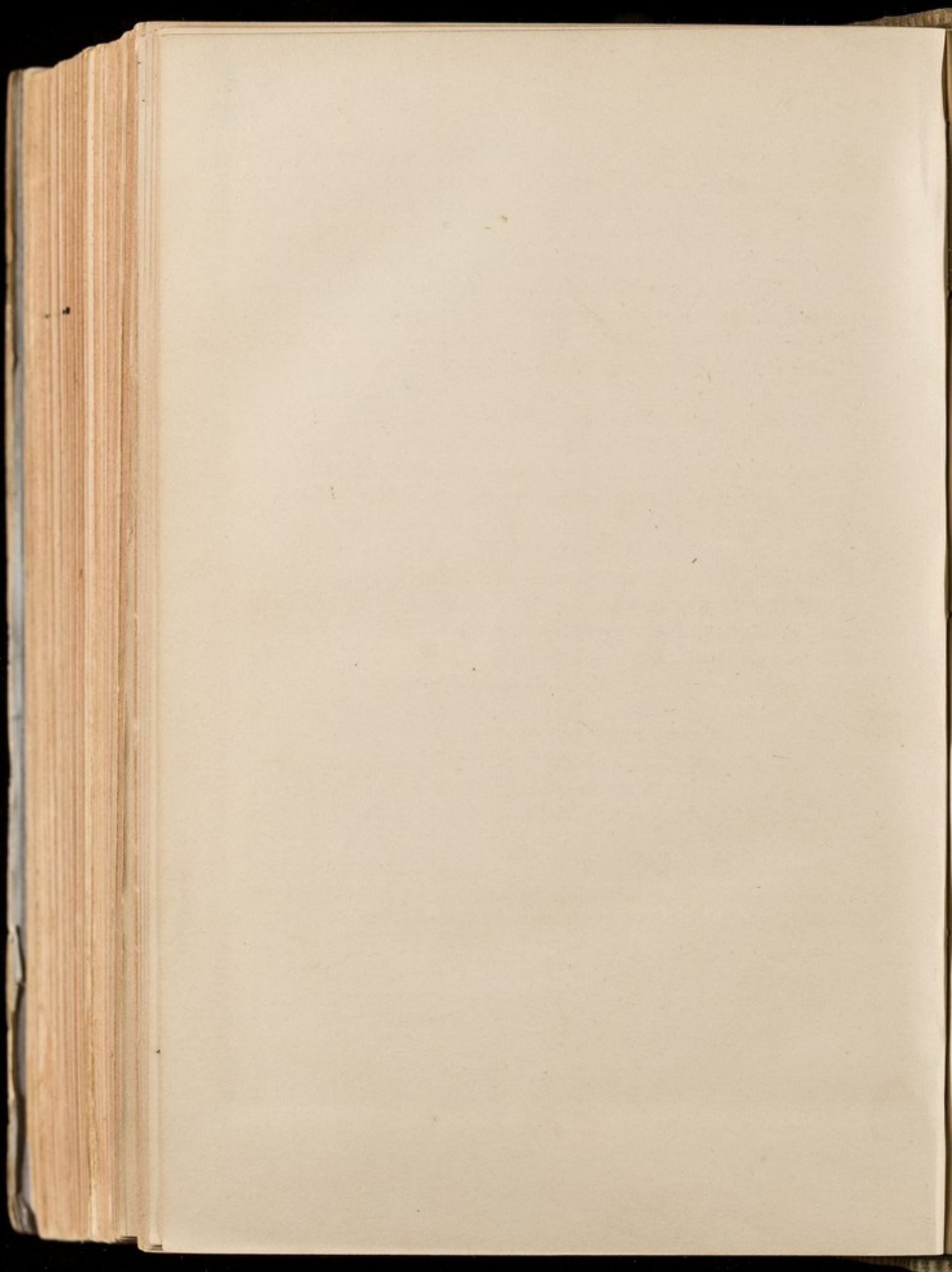














# REMARKS ON THE ROYAL WARRANT

REGULATING THE

RANK, PAY, PROMOTION, AND RETIREMENT

OF

ARMY MEDICAL OFFICERS:

(OCTOBER, 1858.)

ADDRESSED TO

THE RIGHT HONORABLE GENERAL PEEL,

Secretary of State for War.

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“Le vray caractère d'un parfait homme de guerre doit être la crainte du Dieu, l'amour du souverain, le respect des lois, la préférence de l'honneur aux plaisirs et à la vie même.”

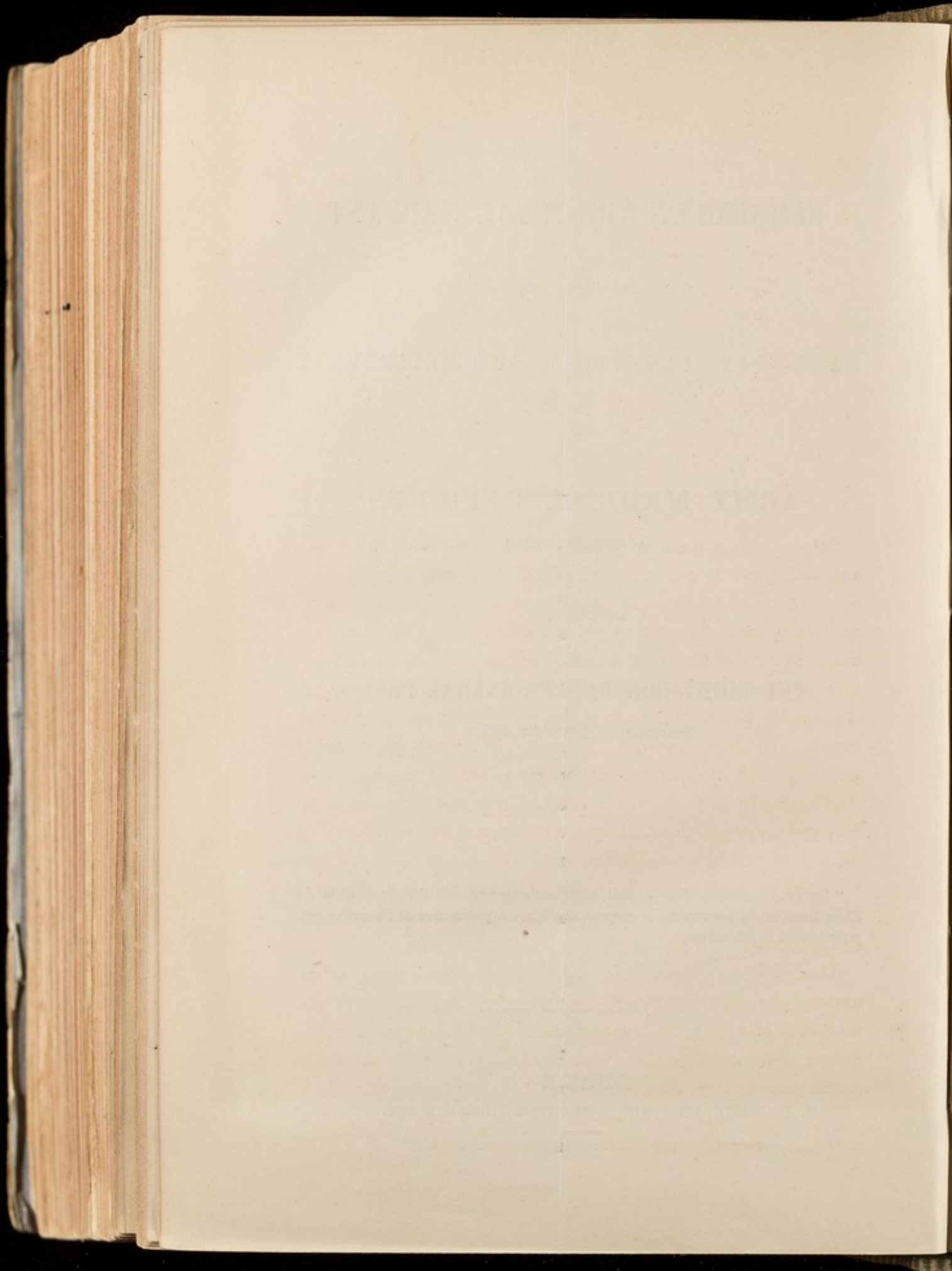
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DUBLIN:

R. D. WEBB AND SON, GREAT BRUNSWICK STREET.

1866







## REMARKS,

&c.

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SIR,—If the preceding extract is to apply to medical officers, and along with the maxims therein inculcated, they are to be the best and most scientifically educated that the British medical schools can afford, it is advisable that the promise made by you at the close of last session should be carried out even in more than its entirety. The recommendations of Sir Alexander Milnes' Committee do not really point out the evils of the above warrant. The medical officers are "a body peculiar in themselves;" therefore they require peculiar laws. Any one can perform the duties of any other of the Civil Departments, as these duties are constantly delegated to officers of the line on foreign stations. There they are not ashamed to become civilians for the time being, for it is a question of allowance. But who can the surgeon's duty be delegated to? To no one!

The Medical Department by their exertions, even when uncared for, unthought of, and unknown, have reduced the mortality of the army one half, and have done something to relieve the ennui of the soldier's existence. They certainly merit some reward for their labor.

Promotion is at a stand-still. At the present rate it will take at least forty years before those now entering can expect



it. There are about 800 assistant-surgeons—at the outside twenty promotions annually. It is a simple matter of division to determine the result.  $800 \div 20 = 40$ .

A great deal of additional work has been of late years imposed upon medical officers—rifle practice, women's hospitals, the entire charge of the Meteorological Department, sanitary inspection, sanitary enquiry. The assistant-surgeon in the army now-a-days should not only be an expert physician and surgeon, but must be also a perfect chemist and physical geographer. In fact, he should be in the fullest sense of the term a scientific officer. Such men do not now enter the service. It is ridiculous saying there is competition, when the candidates hardly number the vacancies. In fact, the present competitive examination is a farce. It is only a *dernier resort* of the schools; any one who can get better not thinking of it.

Why is it not like the entrance into Woolwich? or the Civil Service examinations for India? or even for the Indian Medical Service? Simply for the fact the army surgeon has nothing to hope for in it. By long service he does not gain rank, which carries with it social position. No subaltern would exist on five shillings per diem, if he did not look forward to being a colonel at least, and perhaps a general officer, so carrying with him in retirement an importance which the surgeon can never obtain. The honorary rank of D.I.G. is as about as useful as it is ornamental.

To him who becomes a physician in the presence of suffering humanity, all human passions must quit their hold on his heart. He must enter its presence a "calm intelligence." He is disabled for his mission if he suffers aught to obscure the keen, quiet glance of his science. Age or youth, beauty or deformity, innocence or guilt, merge their distinction in one common attribute, human suffering, appealing to human skill. These, and the most solemn obligations of his glorious art, are the only principles which render the



thanklessness of army service bearable to the scientific physician.

Mr. Punch is the only one who seems to recommend what is really useful, and points out in his quaint way the root of the evil. With his permission, I will quote two of his articles in extenso. They are so apropos.

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### SNObS AND SURGEONS IN THE ARMY.

Pray don't imagine, *Punch*, that the Surgeon-Famine in the Army is the fault of the Swells. I suppose I am what is called a Swell. My ancestors came in with CANUTE. They have never exercised any branch of industry, and have always lived sumptuously on the labour of others. I myself am in the Army simply because I think I ought to be something more than a Swell, and am fit for nothing else so much as for a soldier. Now, of all the fellows in a Regiment, I assure you, I consider the Surgeon to be, generally, the most of a gentleman. He is at least as much of one as any of them, and he has, if regularly appointed, been made as much more of a gentleman than the rest, as much better education than they have had could make him. The indignity which Army Surgeons are treated with proceeds not from pride of rank and birth on the part of any of their brother officers, but from a consciousness of the want of those advantages on the part of some of them. In this commercial country many a fellow enters the Army who never had a grandfather that he could give any account of, and the best that such a fellow can say of his pedigree usually is that his father was a tailor. More commonly an officer of that class of fellows is the son of a large mercantile rogue, or a swindling railway jobber. Well, he cannot help that; and he is rich, and his own money at least was not ill-gotten; and he might be a gentleman if he chose. But instead of that, he is too often a purse-proud Snob. This is the sort of fellow that thinks it necessary to assert his position by insisting on the abasement of Army Surgeons. It is not the Swells in a regiment, *Punch*, who are insolent to the Surgeon, but only the Snobs. Mushrooms these Snobs are called by men who have less respect for a mushroom than I have, for I consider it an excellent ingredient, not an objectionable one, in a mess. Those who term them mushrooms, will further say that, inasmuch as they peculiarly abound in



the Cavalry, the majority of them are Horse Mushrooms ; but, comparing these bloated and extremely offensive Snobs to fungi, I would rather name them Toadstools.

I consider the Surgeon quite as much a combatant officer as myself. We don't in these days charge with lances in rest, and we no longer brandish battle-axes and maces. He is as likely to be struck down at any time by disease, sometimes by shot, as I am. I wish no invidious distinction to be made between him and myself. I would not assign him the uniform of a Beadle. Let him wear that of his relative rank in the Army, or be allowed to dress in plain clothes, so that he might, as perhaps he would like to, be distinguished from a combatant fool.

#### A CHAT ABOUT THE NETLEY MONUMENT.

SCENE—*Inside a First Class Carriage. Swell and Surgeon passengers.*

*Swell.* Deuce! (*Winking and blinking violently; presses his fingers to his eye*) Ah!

*Surgeon.* Something in your eye?

*Swell.* Cinder from engine.

*Surg.* Let me take it out.

*Swell.* Thanks.

*Surg.* Where do you feel it?

*Swell.* Here—just here.

*Surg.* Under the upper eyelid. Wait a minute—must evert the lid. Don't be alarmed (*taking out pocket case*); only want this thing. (*Accomplishes the operation by the help of a small probe*) There! Out?

*Swell.* (*winks and blinks*). Out! thanks. By Jove! (*Observing case returned to pocket.*) Lucky to have a Surgeon in the train.

*Surg.* That is lucky, sometimes.

*Swell.* Too often. Every train ought to carry a Surgeon.

*Surg.* Yes, and an Assistant-Surgeon, to operate if necessary on the other. A man can't cut off his own leg.

*Swell.* That is one of those things that no fellow can be expected to do. A surgeon in a railway-train is as liable to be smashed as any other fellow. He is like a surgeon under fire. Right and proper, that Netley Monument.

*Surg.* To the fifty-four medical officers who fell in the Crimea.

*Swell.* Monument will be a rather fine thing.



*Surg.* Yes; but it won't do.

*Swell.* Why?

*Surg.* It won't encourage fifty-four more, or any number of fellows, to fall in the Crimea or elsewhere on the present terms.

*Swell.* Ha! Yes. There's a regular Surgeon-Famine in the Army. It's a great bore.

*Surg.* The famine might be relieved easily enough.

*Swell.* What do the surgeons want? Better pay?

*Surg.* Well, yes; but more than that; better treatment. Fraternity and equality.

*Swell.* Ah yes? I understand. To stand on the footing of brother officers and gentlemen.

*Surg.* That's all. It isn't much.

*Swell.* Well, you see, a Queen's warrant was issued to give them that. But the combatant officers wouldn't stand it.

*Surg.* So when the doctors had been hooked in, the warrant was coolly rescinded.

*Swell.* It certainly was an awful swindle.

*Surg.* Talk of combatant officers! Isn't a fellow who may have to take up an artery in a shower of bullets as much a combatant officer as a General who as often as not directs strategic operations at a safe distance from them; if not exactly as the showman says, "him taking good care to keep out of 'arm's way?"

*Swell.* That was "BONAPARTE," I think.

*Surg.* "NAPOLEON BONAPARTY." Wasn't THOMSON, who was left on the field in charge of the wounded all night, which killed him, a combatant officer?

*Swell.* As much so as any fellow who ever won the Victoria Cross.

*Surg.* There was a time, to be sure, when Army-Surgeons were a rough lot.

*Swell.* In short, when Surgeons were Snobs. It's odd how long prejudice survives. The tradition of the Army is, that they are Snobs still.

*Surg.* Yes; and good care is taken to keep them Snobs by refusing to treat them as gentlemen. Able Surgeons won't accept the position of Snobs. So the authorities have absolutely been reduced to advertise for Acting-Assistant-Surgeons.

*Swell.* Certainly the cleverest way to get the compound of Surgeon and Snob which they appear to want. Only I'm afraid it doesn't answer. Have an idea! As they are resolved that the medical officers



in the Army shall be Snobs they should head their advertisements :—" Wanted Snobs for Surgeons."

*Surg.* They will most assuredly get no Surgeons but Snobs, unless they give in. Decent fellows, men of education, steadily refuse to compete for the service. Doctors do agree on this point ; and their unanimity is wonderful.

*Swell.* It is very plucky of them, and does them the greatest credit. I admire their spirit, by Jove. The medical profession hanging together in this way—though you'll say the legal ought rather to do that—is just what proves that they are not Snobs ready to underbid one another, like bagmen.

*Surg.* I think we've shown the Horse Guards that we are independent gentlemen, anyhow. Surgeons in the Army must have their claims conceded, or the Army will have to do without Surgeons.

*Swell.* The thing is to remove the absurd prejudice against Surgeons. Ha ! Have an idea ! The way would be to place the medical profession on a level with the military, and with the legal. Make a distinguished Surgeon a Peer.

*Surg.* When you have found your distinguished Surgeon.

*Swell.* Ha ! By Jove ! Well, I think I have. Fine idea. Will mention it to PALMERSTON. (*Train stops.*) Got a card ? Thanks ! Here's mine. Deuced glad to have met you. *Au revoir.* [*Exit.*

*Surg.* (*reading card*). The EARL OF PLINLIMMON. Well, to be sure ! I thought that young fellow was a gentleman.

After these preliminary remarks I will point out those clauses of the Warrant which require modification, and trust that their inconsistencies will be seen by the "Honorable and Gallant Member" under whose auspices they were framed.

*Clause 1.*—The following are more appropriate, as better designating the exact position of medical officers.

1. Surgeon General.
2. Assistant Surgeon General.
3. Surgeon Colonel, 25 years' service,
4. Surgeon Lieutenant-Colonel, 20 years' service.



5. Surgeon Major, or Regimental Surgeon of 15 years' service, or on promotion.

6. Surgeon Captain or Assistant Surgeon.

This should be the lowest rank, as there is no reason why "Apothecaries," Commissariat Officers, Chaplains, should rank as Captains, and Medical Officers not do so. The cadets at the school might rank as Surgeon-Lieutenant.

As far as medical officers are concerned the term "Department" should be done away with, and the medical staff removed from the civil to the military portion of the Army List immediately after the Royal Engineers.

A scientific corps of Royal Surgeons formed, whose internal discipline should be similar to that of the Royal Engineers; the officers composing it being under the immediate command of their own chiefs, subject as in former corps to the local command of superior officers of higher rank by date of commission. When such officer is junior to an officer of "Royal Surgeons," the latter by express and defined regulation is in no way to interfere, except in the immediate command of his own hospital and subordinates, who should be in all cases under his supreme control, as in the case of men of the Commissariat Staff Corps. A portion of the Military train to be formed into an Ambulance Corps, under the command of specially trained Medical Officers, as recently suggested in the *Army and Navy Gazette* by a "Retired Lieutenant Colonel."

By this means no interference with the military command of other officers could take place. A highly popular scientific corps would be formed, which would be eagerly sought for, and the tender point of "Non-combatant" done away with, at least in name, although not in reality. It would soon number among its members many more than at present of those qualified by birth and education to the name of "*Gentilhomme*."



*Clause 6.*—Promote to rank of surgeon after a definite period, as in Indian Medical Staff Corps. Twelve years, or, at furthest, 15 years full-pay service.

*Clause 7.*—Every alternate promotion to inspectorial rank to go by seniority. If the senior Captain of Engineers is equal to the duties of promotion to Colonel, there is no reason why medical officers should not likewise. The alternate one might go for the present by selection. The grounds of selection to be stated, to show that such selection was really due to intrinsic merit or distinguished public service.

*Clause 8.*—The rates of pay are quite inadequate. Ten shillings a day, &c. is too little for risking all climates and all diseases.

Rank.	Under 5 Years.	Above 5 Years.	After 10 Years.	After 15 Years.	After 20 Years.	After 25 Years.	After 30 Years.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Assistant Surgeon or Surgeon Captain ..	10 0	12 6	15 0	17 6			
Surgeon Major ..			*17 6	20 0			
Surgeon Lieut.-Colonel					*25 0		
Surgeon Colonel ..						30 0	
Assist. Surgeon General					*35 0	40 0	45 0
Surgeon General ..					45 0	50 0	†60 0

\* Or on promotion. † Same as Commissary General.

*Clause 9.*—Add to last part of this clause, if serving in a colony, no matter what the force, and at head of his Corps, a charge pay of 5s. per diem. This is given to Commissariat, &c. The latter part of the clause should run, "If serving in a Colony with a force of any less number, 5s."



*Clause 10.*—Any medical officer placed on half pay by reduction, by ill-health caused by wounds, or brought on by climate or discharge of his duties, allowed following half pay *independent of his service*, as it is not fair to turn a man on the world when he cannot earn a livelihood.

Rank.	30 Years.	25 Years.	20 Years.	15 Years.	10 Years.	5 Years.	Under 5.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Surgeon General --	42 0	35 0	31 6				
Assist. Surgeon General	31 6	28 0	24 6				
Surgeon Colonel --		22 6					
Surgeon Lieut.-Colonel			*20 0				
Surgeon Major --				14 0	12 0		
Surgeon Captain --				12 0	10 6	8 6	6 0

\* Or voluntary retirement at this rate, after completing this period of service, if from ill health.

*Clause 11.*—All under inspectorial ranks at 50 years, all of that rank at 60 years, to hasten promotion.

*Clause 12.*—Right to retire after 20 years service on 18s. 6d. per diem. If from ill-health after inspection by Medical Board at £1 1s. The rate of half pay not to depend upon so many years service in a rank, but to be given at the rate corresponding to that rank. Double service in Western Africa to count to rank of Surgeon Lieutenant-Colonel as well as retirement.

*Clause 14.*—This clause to be done away with. If a medical officer misconduct himself, let him be tried by Court Martial, and their award carried out; and not interfered with, as in the recent case of Dr. Cross, 58th Foot, who was not only placed on half pay for 3 years, thereby losing that



much service, but also only got 5s. per diem instead of 13s. 6d. to which he was entitled by clause 10, having completed more than 15 years' service. Other cases of this kind have also occurred.

*Clause 16.*—Ranking according to name, as Surgeon Colonel as Colonel, Surgeon Major as Major, &c. according to date of commission.

X *Clause 17.*—No invidious distinction, on all courts taking rank by date of commission, only where an officer of "Royal Surgeons" is attached as Surgeon to a regiment. The Colonel of such regiment, being peculiarly his own, will take choice of quarters; after him the Surgeon, provided his commission dates anterior to the other officers. X

*Clause 19.*—The families of medical officers to be entitled to following allowances as granted by the warrant of 15th June, 1855, viz.:—By warrant of July, 1830, marriage must be registered in War Office within six months of taking place.

Rank of Officers.	Widow's Pension.	If killed in action. To Widows in lieu of ordinary Pension.	If killed in action To Mothers or Sisters.
General Officers --	£120	According to Case.	£120
Colonels -- --	90	£200	90
Lieutenant-Colonels --	80	200	80
Majors -- -- --	70	120	70
Captains -- --	50	70	50
Lieutenants -- --	40	60	40



## COMPASSIONATE ALLOWANCE TO LEGITIMATE CHILDREN.

Rank.	If Officer Killed in Action.	If Officer was not Killed in Action.
Generals    ..    ..	£25 to £40 each.	£16 to £20 each.
Colonels        ..    }	£18 to £25    „	£14 to £16    „
Lieutenant-Colonels }		
Majors    ..    ..	£16 to £20    „	£12 to £14    „
Captains        ..    ..	£12 to £16    „	£9 to £12    „
Lieutenants    ..    ..	£8 to £14    „	£5 to £10    „

Circular, (122 V.R., Widows of Officers, 18th July, 1857) reduces qualifying full pay service to 5 years, provided died from effects of foreign service while on full pay.

The foregoing should be distinctly stated, as when an officer dies, his family often have great trouble in obtaining their allowances.

*Clause 20.*—Field allowance on following scale, giving the staff allowance as in commissariat.

			Ordinary.		Extraordinary.	
			s.	d.	s.	d.
Surgeon-Captain	--	--	2	6	--	3 6
Surgeon-Major	--	--	3	0	--	5 0
Surgeon Lieut.-Colonel	--	--	3	0	--	5 0
Surgeon-Colonel	--	--	4	6	--	7 6
Assistant Surgeon-General	--	--	6	0	--	10 0
Surgeon-General	--	--	9	0	--	15 0

✕ *Clause 21.*—No stoppages of pay for cavalry surgeons and assistant-surgeons for forage. ✕

✕ *Clause 23.*—Medical field officer to be entitled to similar honors as regimental or other field officers. On all occasions to appear mounted on parade. ✕

*Clause 24.*—On retirement, to receive step of honorary rank as heretofore, with the substantive title if preferred.



*Clause 25.*—The number of good service pensions to be increased. The following additional clauses require to be added.

*Clause 27.*—All medical officers who pass recruits to get equal remuneration as the adjutant. No medical officer to be required to pay a recruit's expenses, under any pretence.

*X Clause 28.*—Two months leave annually to be granted in such a manner, that the unfortunate medico can really enjoy it, and not have to pay a civilian to do his duty. It is morally impossible that a man can live on his pay, and at the same time give it to another. *X*

*X Clause 29.*—Band and mess subscription to be paid but once. *X*

*X Clause 30.*—The presence of a medical officer not necessary when deserters are branded. *X*

#### UNIFORM OF CORPS OF ROYAL SURGEONS.

The following changes are thought by all to be necessary.

Tunic.—Staff pattern and embroidery.

Cocked Hat discontinued for all except inspectional ranks; and chaco replacing it.

Regimental officers to wear the head-dress of their respective corps.

The black belts, which are quite sufficient as a distinctive mark, to be ornamented as recently suggested at Netley, by a single wavy line of embroidery for Captain-Surgeon, a double do. for Surgeon-Major, a treble do. for Surgeon Lieutenant-Colonel.

In cavalry regiments, &c. the ordinary dress belts to be regulation, similarly distinguished by wavy lines of black velvet. Star on belts to be discontinued. Sword belt to be worn under tunic.



A blue patrol jacket, staff pattern; the regulation forage cap ornamented with gold band.

X To qualify for foregoing changes, cadets in Army Medical Schools should get physical as well as mental training. By this means their physique and general appearance would be much improved, and by passing through the ordinary company drill and gymnastic exercise, they would be much better able to appreciate what a recruit has to undergo, and so really understand his wants. X A drill and gymnastic instructor appointed, and a certain time told off for the purpose. One examination yearly would be much better than the present system, retaining the cadets for instruction during eight months, in order that they may really understand what they are taught, and not run over it. Four months are quite inadequate. At the termination prizes might be publicly distributed by the Director-General or Commander-in-chief as in Woolwich.

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These remarks are a mere compilation of those which from time to time have appeared in the medical and other journals; and as expressing the wishes of over a thousand officers, are deserving of consideration. The *Saturday Review* says, "Nothing can be more absurd or reprehensible than the common observation, that a grievance is to be disregarded simply because it is a grievance. The nature of a grievance depends mainly upon the characters of those who suffer it. Some men feel a wound to their self-love or their self-esteem far more keenly than they would feel any injury to fortunes. It is the same with classes." Therefore I trust that the accomplished and gallant officer to whom these remarks are addressed, will read them in the spirit in which they are offered. I am confident by adopting them the Medical Staff would become a scientific corps d'elite.

"Honi soit qui mal-y-pense."



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*F. Langmore* (34)  
A REPLY

TO

MR. HARDY'S CHARGE OF WANT OF UNANIMITY  
AMONG MILITARY SURGEONS, AND A PLEA  
FOR JUSTICE AND EQUALITY

BY

F. R. C. S.

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'It pains me to think that the services rendered by Medical Officers to the public  
have been so ill-requited.'—*Sir James Outram.*

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DUBLIN  
FANNIN & CO., GRAFTON STREET  
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1875



# A REPLY

TO THE  
MEMORIAL OF THE  
MEMBERS OF THE  
IRISH PARLIAMENT

PRESENTED TO THE  
HOUSE OF COMMONS  
IN THE YEAR 1841  
BY  
THE  
MEMBERS OF THE  
IRISH PARLIAMENT

DUBLIN STEAM PRINTING COMPANY.

THE  
MEMBERS OF THE  
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PRESENTED TO THE  
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(34)

## A R E P L Y, E T C.

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To ascertain the general wish of the medical profession upon the question of Army Medical Grievances is not to resort to the ideas of *individual officers*, but to the series of resolutions agreed upon by large bodies of military surgeons. A perusal of these last, and the various memorials from the Royal Colleges and Universities of England, Ireland, and Scotland will show at once, that upon the vital point of *pay, promotion, retirement, relative rank, leave of absence, and allowances*, there has been no want of unanimity, for the demand is universal that these should be placed upon a better and proper footing. The question of organization now, *sub judice*, is altogether beside these points, and one which time and experience can alone solve.

### WARRANT OF 1858.

ix On the 8th April 1857, the Council of the Royal College of Surgeons of England resolved that—'*It was their imperative duty to request the attention of the Secretary for War to the claims of medical officers of the army to a position and remuneration more commensurate with their position as men of*



scientific acquirements, and the importance of their services to the country. X The Council of the Royal College of Surgeons of Edinburgh—‘*That in order to place this most valuable branch of the service upon a proper footing, your memorialists are of opinion that it is most desirable to raise the position of medical officers of the army—a most meritorious class of Her Majesty’s servants.*’ The Council of the Irish College expressed it as their decided opinion—‘*That the position of the medical officers of the army was incommensurate with their professional claims.*’ In their fifth resolution the Royal College of Physicians of Edinburgh said—‘*Considering the valuable services which, by universal acknowledgment, were rendered by the medical officers during the late campaign, their self-sacrifice, moral courage, and devotion to their arduous duties under trying circumstances, and the risks of climate, war, and pestilence to which they were exposed, the present seemed a suitable opportunity for the recognition of the claims of this important branch of the service to higher status and emoluments.*’ X The King and Queen’s College of Physicians, the University of Dublin, the University of Edinburgh, the University of Glasgow, the University of Aberdeen, and the Faculty of Physicians and Surgeons of Glasgow all concurred in the expression of similar opinions. X The latter body concluded its memorial by saying—‘*We also deem it essential to the full and permanent efficiency of the medical department of the service, that the path to honours be made equally accessible to the medical as to the military officer.*’ The concluding paragraph of the Report of the Select Committee of the Medical Department of the Army during the Crimean War was as unanimous in its praise of services rendered by the civil and military medical officers : ‘*Your Committee, in the*



*course of their inquiries, have incidentally brought before them the admirable manner in which the army and civil surgeons performed their duties in the East, and your Committee are glad to take this opportunity of recording the high opinion they entertain of their merits.'* That Committee was presided over by Mr. Sidney Herbert, and numbered amongst its members several distinguished civil and military officers. The then new warrant was the result of much thought and careful inquiry, and its provisions should not have been lightly disturbed, for it was manifest to all that they were the *very least* which the members of the medical profession then serving in the army could expect after the very strong opinions expressed in their favour. ~~X~~ Previous to the issue of the warrant of 1873 it was long known that changes were impending. If the Government of the day had had the wisdom to reserve to the service all its former rights and privileges, and at the same time carry out a few of the most necessary reforms, much of the ill feeling and sense of injustice subsequently felt would never have arisen. ~~X~~

~~X~~ The warrant of the 1st March 1873, was *unanimously condemned* by the military surgeons who considered its several provisions, not because it was a reorganization warrant, but because the whole of its clauses were considered retrogressive, and in direct violation of the provisions of the Royal Warrant, 1st October 1858, clause 17; and those of the Royal Warrant, pay and promotion, 3rd February 1866 and 1870. By the first of these warrants, the relative rank of medical officers was directed to regulate 'choice of quarters, rates of lodging-money, servants, *forage*, fuel and light, or allowances in their stead, detention and prize-money, as



well as allowances granted on account of wounds or injuries received in action, and pensions and allowances to widows and families,' and because the clauses and spirit of the new warrant lowered the status of the medical officers in the service as well as the prestige of their profession. ~~X~~ Such, at least, was the opinion of those whom it affected.

~~X~~ It was further objected to, because—

1. It deprived surgeons of 15 years' service of 2s. 6d. per diem, which was only restored after much ill-will had been created.
2. Placed them junior to regimental officers of the same relative rank.
3. Deprived them of forage as an appanage of that rank, restored but in part.
4. Introduced selection instead of seniority as the rule of promotion in the executive grades.
5. Gave no pecuniary return for loss of regimental outfits and previous expenses.
6. Did away with compulsory retirements at fixed ages.
7. Did not increase the rate of voluntary retirement after 20 years' service.
8. Made no provision for promotion after 15 years' service; and
9. Imposed, at the same time, non-professional duties, by which their work and responsibilities were much increased, *without any commensurate advantages.* ~~X~~

The following short retrospect will show that upon these important points *there was not, or never has been, the least want of unanimity upon the part of the profession in or out of the services.*



At a meeting of medical officers held at Aldershot, 14th May 1874, *numbering upwards of forty*, it was *unanimously* resolved that—

The rate of 17s. 6d. daily pay after fifteen years' service should be restored to officers who might not be promoted.

That the relative rank of the three higher grades of medical officers should be—

Surgeon-General as Major-General according to date of commission.

Deputy Surgeon-General as Colonel according to date of commission.

Surgeon-Major after twenty years' service as Lieutenant-Colonel according to date of commission.

That forage should be continued to those medical officers hitherto entitled to it; and that those medical officers attached to cavalry and horse artillery, who draw no extra pay equivalent to that received by combatant officers in these corps, should not be subject to any stoppages.

That regimental appointments should be for five years.

That, with a view to secure a reasonable flow of promotion, all officers of the administrative ranks should be placed on the retired list at the age of sixty years.

That the rates of half-pay on reduction of establishment or report of a Medical Board be—

18s. per diem on completion of twenty years' service.

£1, 1s. per diem after twenty-five years' service.

That the voluntary rate of retirement at twenty years' service should be—

16s. 6d. per diem.

That, in consideration of the greatly increased duties



imposed by the recent regulations and small prospect of promotion to the administrative ranks, Surgeons-Major of twenty-five years' service, including ten years abroad or three years with an army in the field, be entitled to retire at the lowest rate of half-pay of the highest grades.

That, as in *other branches of the service*, a certain number of retirements, at an increased rate of pay, be offered annually to the three higher ranks of the department.

*IX* That, with a view to prevent the ever-recurring 'block in promotion,' and to provide for the emergency of sudden war, the organization of a Medical Reserve, composed of officers of over twenty years' full-pay service, be carried out, such officers to receive £1 per diem, and full-pay and allowances of their rank if called out. *X*

That the Medical Department should have no direct responsibility regarding anything outside the hospital and not actually in use in the wards, or the care of any non-medical stores.

*IX* That medical officers who are called upon to expose their lives in all climates, may be placed on the same footing regarding sick-leave as regimental officers.

That all medical officers be entitled to sixty-one days' leave of absence annually, without any deduction whatever, and the same advantages as to short-leave as regimental officers. *X*

At the Curragh meeting, held on the 19th May, at which were present all the staff and regimental surgeons and surgeons-major, it was *unanimously resolved* that a petition be presented, praying for the restoration of the 2s. 6d. per diem to all unpromoted officers of fifteen years' service ; that a Surgeon-Major of twenty years' service should not be



junior of his relative rank ~~X~~ that choice of quarters should be according to army, not regimental seniority, *medical officers being no longer regimental officers*; that forage be continued as an appanage of rank; that the first step of promotion at least be given by seniority; that officers removed from regiments be compensated for outlay in uniforms, band and mess contribution; that the ages for compulsory retirement be restored; that the existing stagnation of promotion be removed by offering liberal terms of retirement; that medical officers be relieved from all charge of stores and equipment, and that '*the chief authority, which it is so necessary that medical officers should exercise in all matters of hospital discipline and administration,*' should be secured to them. ~~X~~

On the 19th July a meeting of medical officers was held at Colchester, at which the Report of the Aldershot meeting was unanimously agreed to with the following rider:—

'With a view to secure a reasonable flow of promotion, all officers of the administrative rank should be placed on the retired list at fifty years of age, and that the term of office of Surgeon-General be limited to five years.'

The medical officers who met at Malta gave unqualified approval to the propositions adopted at the Curragh, and the proposals of the Parliamentary Bills' Committee, of the British Medical Association of the 18th May, and the memorial of the Irish Medical Association; objected to the imposition of the charge of stores, and considered an improved retirement after twenty years, and a certainty of promotion to the rank of Surgeon-Major at from twelve to fifteen years' service, as essentials. A memorial, forwarded to the War Office from India, and numerous signed, was in the same tenor.

\*



The Council of the Irish Medical Association presented a memorial in May 1873, to the Secretary-at-War, objecting to the recent warrant, because 'so far from improving the position and prospects of the medical officers of the army, it had an injurious effect upon their interests by disturbing their status and relative rank, and by depriving them of many important concessions made to them by former warrants.' The Association commented adversely upon the withdrawals of pay; rights of their relative rank in choice of quarters; forage; objected to the transfer of the duty of recommending deserving officers for promotion from the Director-General to the Commander-in-Chief; the re-imposition of the charge of stores; the permission to retain in employment officers who, from their age, were required to retire, which would '*act most injuriously by stopping the promotion of those in the rank below them.*'

The King and Queen's College of Physicians in Ireland also appointed a Committee of some of their number to report upon the recent changes. Their report, an able and exhaustive document, was equally condemnatory. The Committee showed the absurdity of ranking Surgeons-General with Brigadiers-General, a local appointment; the injury and injustice of rating *staff officers*, according to *regimental seniority*, for choice of quarters, as the medical officer would in future be only in *temporary charge of a regiment*, he must always be junior of his relative rank for choice of quarters. 'As one obvious effect of this regulation was to interfere with the comforts and to lower the status of medical officers, and as it was in direct violation of Article 17 of the warrant of 1st October 1858, annexed, which was



cancelled by the warrant now under consideration, the Committee recommend that every effort should be made to have it modified, so as that the right of the medical officers to choice of quarters shall depend upon his relative rank and the date of his commission.' The Committee pointed to the sum of twelve shillings voluntary half-pay after twenty years' service as being 'wholly inadequate as an inducement to retire,' stagnation in promotion being the consequence, an effect which the Committee thought might be obviated by offering '*a retiring pension of one shilling a day for every year of full-pay service.*' The Committee further considered it 'their duty to point out that the pay of the army medical officers of the higher ranks was inadequate,' the pay of Surgeons-General being £2 a day, *the same as it was fifty years ago*, whilst the Director-General, *who was charged with the administration of the whole department, received £1500, the pay of such officer half a century ago being £2000, with less duties and responsibilities*, and that the withdrawal of forage allowance at once deprived surgeons of the status of field officers, and corresponding social privileges; also of the advantage of a groom, and in certain cases of a stable and stable allowance, all of which they heretofore enjoyed *as a matter of right*. The Committee were of opinion that, 'for the honour of the profession, the Army Medical Department ought to have supreme control over its own hospitals, subject only to the military head of the district, untrammelled by the possible interference of officers who cannot be supposed capable of judging of the affairs of such institutions.'

The Royal College of Surgeons of Edinburgh, the Faculty of Physicians and Surgeons of Glasgow, the University of



Edinburgh and University of Aberdeen, also sent remonstrances to the War Office authorities against the then retrogressive legislation.

**X** On the 20th June 1873, an influential deputation of the British Medical Association waited upon Mr. Cardwell, and a second deputation of the same Association upon Mr. Hardy on May 9th, 1874. Through their chairman, Mr. Ernest Hart, the Association submitted the following proposals:—

- (a) Surgeon to rank as Captain after two years' service.
- (b) Junior of rank in case of Surgeons-Major of twenty years' service to be abolished.
- (c) Deputy Surgeon-General to rank as Colonel on appointment.
- (d) Surgeon-General to rank as Major-General.
- (e) Director-General as Lieutenant-General.

Ranks to be as follows:—

Surgeon under two years as Lieutenant.

Surgeon over two years as Captain.

Surgeon-Major under twenty years' service as Major, according to date of commission.

Surgeon-Major over twenty years' service as Lieutenant-Colonel, according to date of commission.

Deputy Surgeon-General as Colonel.

Surgeon-General as Major-General.

Director-General as Lieutenant-General.

Horse allowance to be restored as an appanage of rank, and a consolidated allowance in lieu of forage; a stable and a groom to be granted, as is the case of the Royal Engineers. (A field officer of Royal Engineers gets 2s. 4d. forage and stable allowance, and 1s. 6d. for a groom.)



A right to retire after twenty years' service on 18s. 6d. per diem.

Pay of Surgeons unpromoted after fifteen years' service to be 17s. 6d. per diem.

Precedence to be in accordance with relative rank.

All Surgeons-General and Deputy Surgeons-General who have completed thirty-two years' service—equivalent to a sixty years' retirement—to be removed from the active list.

Office of Surgeon-General to be limited to a five years' tenure.

Administrative officers compulsorily retired, to be eligible for office of Director-General up to 65 years of age.

Bonus retirements for a certain number of each rank to be granted annually.

Medical officers attached to regiments under the new regulations to be honorary members of the mess, and only liable for current monthly subscriptions.

Army Hospital Corps to be commanded and officered by medical officers.

Special rewards to be granted for foreign service.

Surgeons-Major ranking as Major to be eligible for promotion to the relative rank of Lieutenant-Colonel for distinguished service.

Medical officers to be liberated from the charge<sup>2</sup> of un-professional stores and equipment.

Military surgeons to be solely responsible in hospitals.

Rate of retirement of administrative officers to be increased.

Deputy Surgeons-General compulsorily retired to be given 37s. per diem. X



No ambiguity to be possible in the wording of any warrants affecting the department.

From these suggestions and memorials it would not be difficult to form a warrant which would give universal satisfaction, end the present discontent, and allow the members of the department to settle down to their legitimate work, which they will not do as long as the question remains an open one. That a demand for something more than equality is not unreasonable, is shown by the one great fact which cannot be disputed, that no matter how zealous, conscientious and devoted to duty a military surgeon may be, he is, except in very rare instances, shut out from all prospect of military rank and fame, and leaves the service not one whit better than when he entered it. He must be *always second—he can never be first.*

**IX** In granting any new warrant, the aim of the State should be to so arrange its provisions that they should be encouragements to professional culture, and incentives to increased work, a more strict attention to duty, a greater sense of departmental discipline and responsibility, and a real wish on the part of the officers to advance her interests, while at the same time letting it be thoroughly well understood that an opposite course of life was a positive bar to even the first step in promotion. The State can only gain these important objects by getting rid of the useless, discontented, and inefficient, and by encouraging a strong professional *esprit de corps*, uniting her military *infirmiers* to the officers under whose orders they serve in hospitals, and rescuing the latter from the supervision of the hundred-and-one subordinate combatant officers who should at least



allow military surgeons to manage their own affairs; it is quite time enough to interfere when they fail to do so. X

'I have served,' said Mr. Lawson, Inspector-General of Hospitals, in reply to a farewell address from the medical officers of the Aldershot division, 'many years in the army, as you all know, through good report and bad report, but I have always had only one object in view—that the public, whose servant I was, should have the full value of my services as far as my ability allowed. You are aware, on matters of duty I have been strict, and I hope impartial, but I trust I have never forgotten the one essential to harmonious official intercourse—gentlemanly feeling. I have found from experience that no mere strictness and fairness in an administrative officer availed in the long run for good in carrying on duty, if he failed to inculcate and respect the gentlemanly and professional feelings of everyone under him. X *In the changes which are impending over the department, I would beg in leaving, to express my opinion that the able and conscientious discharge of professional duty would command greater respect to medical officers than military distinction, and in the end secure a higher status for the Army Medical Department in the estimation of the country.*' X Words like these coming from an officer whose scientific acquirements and lengthened experiences are well known, are a fitting conclusion to this short retrospect.

Accepting the unification of the hospitals and *personel* of the Army Medical Department as an accomplished fact, the following embrace all the essentials to ultimate success :—

X The professional heads of the department should be placed once and for ever above the varying and often rival influences



of the Horse Guards and War Office. X He should have a positive *veto* upon all appointments and exchanges as being the officer best fitted to judge of their being confirmed or refused. He should be supported by the officers under his command, and he should be equally firm in sustaining the rights and ancient privileges of the profession in which he has passed his whole career. The administrative officers of districts as local heads of the department should, as other heads of departments, be present with the general officer commanding at all public parades, balls, and festivals. They should see that a proper proportion of invitations to all these are sent to their subordinate officers, and by their presence and a judicious hospitality support the local *prestige* of the Military Medical Profession. They should be firm in supporting the rights of their officers, object to unnecessary interference upon the part of combatant officers in the hospitals under their supervision, and remember that high rank has its duties as well as its rewards.

The medical regulations should be clear and distinct upon every rule affecting the officers of the department.

A firm but impartial departmental discipline should be exercised throughout all ranks ; nothing should be tolerated which tends to lower the status of the Medical Profession ; and the doctrine that the warrant of 1873 absolved the junior officers from a sense of respect and subordination to their superiors in rank and experience, be firmly suppressed.

A year's probation at Netley, or at a large military hospital, should be required from all candidates before being commissioned as surgeons.

The seniors or Surgeons-Major, as of longest service and



experience, should be given the more responsible charges. They should be considered the mounted officers of the service, provide themselves with horse furniture, and appear mounted on parade as ordered by the regulations following the warrant of 1866. They should never be placed upon the same roster for duty with officers ranking as Captains and Subalterns, neither should they be attached to regiments in charge of an officer junior in rank

The officers of the Medical Staff should be granted a handsome uniform and horse furniture, shorn of all offensively distinctive badges and funeral trappings; and all officers should have a suitable dress for mounted duties, and *be required to keep it up and learn to ride.*

X The Army Hospital Corps should be commanded by men who have, by their good conduct, risen from the ranks of the corps and not by apothecaries. The officers should take their orders and be entirely subordinate to the Director-General and his local representatives, and be in charge of all stores and equipment. Detachments of the corps should be allowed to march past with the ambulance at reviews, and the officers and men should wear the traditional scarlet uniform of the Hospital Corps. X

X The *public* honours should be equally open to the medical and combatant officers. The fact of being a military surgeon should not be an almost positive bar to the obtaining of these; and the decorations bestowed on the Royal Anniversary should not be conspicuous by the absence of the name of any military or naval surgeon amongst them. The honour of Knighthood or a K.C.B. should be conferred upon every Surgeon-General who retires on *completing sixty years of age.* X



The ranks should be Surgeon-General, ranking as Colonel and Major-General; Surgeons-Major as Major and Lieutenant-Colonel; Surgeon as Lieutenant and Captain, *according to date of commission*. Officers attached to regiments should retain the privileges of their relative rank in choice of quarters, servants, presidency of boards, and place at mess. Only one officer should be attached to a regiment, all others to the station. The officer attached to a regiment should not be called upon to pay band or mess subscriptions as long as he is a staff officer.

X A guarantee should be given that no junior officer should have to serve longer than fifteen years at furthest without promotion; and that, when promoted he should have all the privileges and allowances of his new rank, as laid down by clause 17 of the Royal Warrant of 1858. X

Retirement should be compulsory at such fixed ages that the prizes of the service may be in practice open to all.

Every medical officer should be able to *earn* a retirement of one shilling a day for every year's service if invalided, for disease contracted in the army, and not due to his own misconduct. Voluntary retirement should be granted at 16s. 6d. at twenty years, 21s. at twenty-five years.

A certain proportion of foreign service should be required as a qualification for administrative rank.

The leave regulations should be the same for combatant and medical officers.

Regulations should be made whereby officers ranking as Lieutenants may be raised to the relative rank of Captain, and Majors to the relative rank of Lieutenant-Colonel for distinguished service.



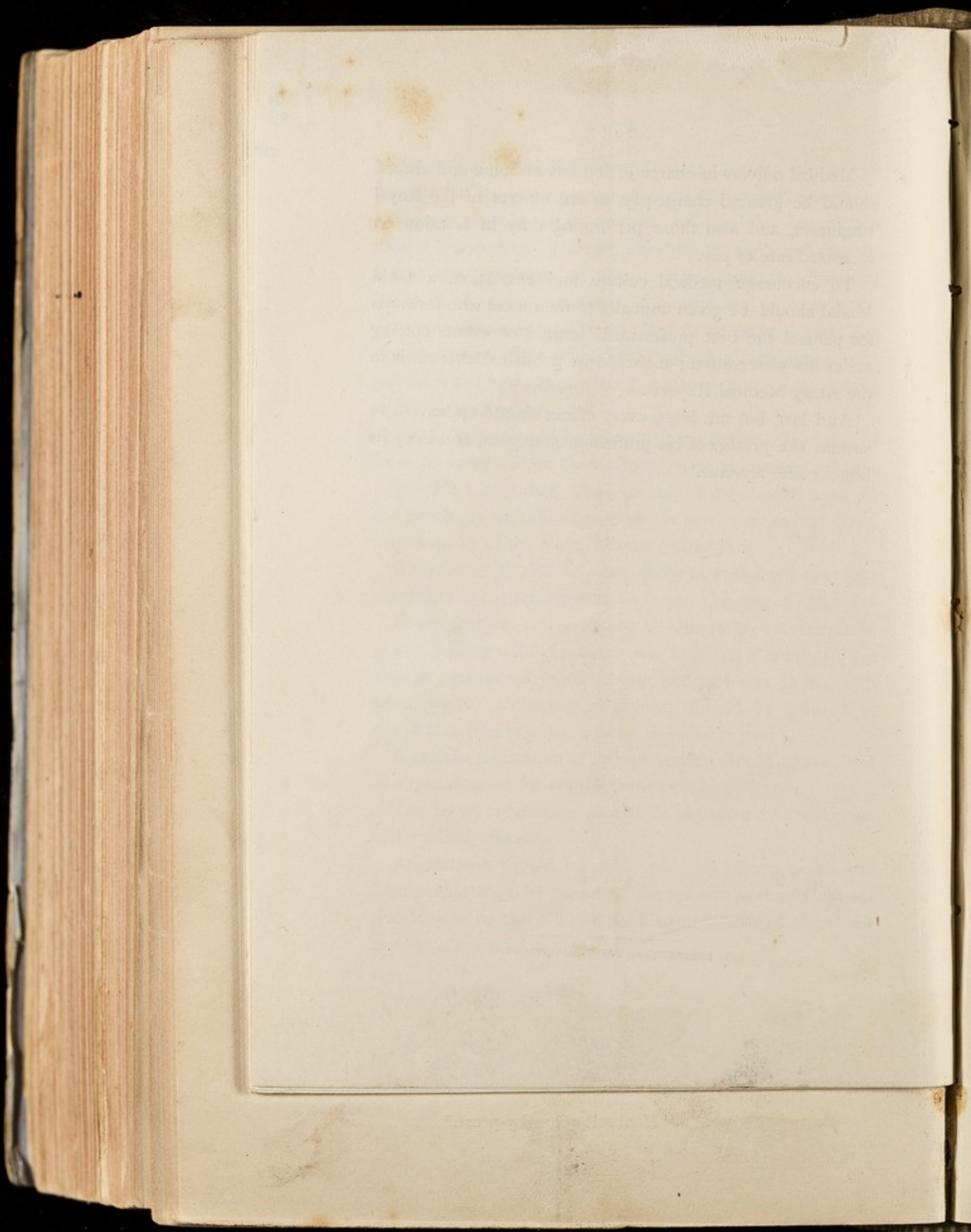
Medical officers in charge of stations at home and abroad should be granted charge-pay, as are officers of the Royal Engineers, and also those performing duty in London an increased rate of pay.

To encourage medical culture and emulation, a Gold Medal should be given annually to the officer who forwards for perusal the best professional journal of events coming under his observation ; it should be published afterwards in the Army Medical Reports.

And last, but not least, every officer should endeavour to sustain the *prestige* of his profession *sans peur*, and keep its honour *sans reproche*.

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# Proposals for the Re-Introduction

OF THE

## REGIMENTAL SYSTEM,

IN A MODIFIED FORM,

AND

Suggestions for the Removal of some of the  
Grievances of Officers of the  
Army Medical Department.

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BY

SURGEON-GENERAL MOUAT, C.B., V.C.

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Proposals for the re-introduction of the Regimental System, in a modified form, and suggestions for the removal of some of the Grievances of the Army Medical Department.

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THE changes effected by the Warrant of last year, in the internal economy of the Medical Department of the Army, have been productive of so much discontent, both among Medical Officers, Commanding Officers, and the rank and file of the Army in general, and press so heavily upon the Executive of the Department, that, as one of the oldest Administrative Officers in the Service, I trust I may be excused for presenting the following scheme, planned with the view of removing some of the most reasonable complaints against the new system, while retaining those portions of it which are advantageous to the Service.

The principal grounds of discontent may be considered under three heads:—

1. Those referable to the introduction of the *new system, termed "Unification,"* by which the old Regimental Hospital System was abolished, and new duties of an unprofessional character, at variance with the recommendations of the late Lord Herbert, of Lea, were imposed on the Department. <sup>1</sup>

2. *The slowness of promotion,* due to the great increase in the numbers of the department rendered necessary during the Crimean War and Indian Mutiny, further increased by the insufficient inducements to retire held out to the higher ranks.

3. Grievances chiefly of a *professional and social character,* including the subject of dress, social *status,* forage and other allowances, to which may be added *invidious distinctions as to leave,* the inequality of home and foreign service, etc.

With regard to the first paragraph, admitting the unsuitability of the purely Regimental Hospital System in time of war, excellent as it always has been in peace, and assuming the objects of the new plan to have been, to assimilate the Hospitals and the Service thereof in time of peace, to what they must necessarily become in time of war; the questions to be solved are: How to retain the advantages of General and Station Hospitals without altogether foregoing the advantages of the Regimental System? and, How to relieve Medical Officers from the charge of stores and other duties not strictly

<sup>1</sup> Vide Lord Herbert's letter, 9th July, 1858. Para. 7. Page 10. *Medical Regulations.*



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professional,<sup>1</sup> without restoring the Purveyors' Department, the constitution of which was faulty? I apprehend these changes can be effected without difficulty, and without materially altering the present plan, in fact, I believe such a system as I propose was carried on partially in China in 1859, and more extensively in New Zealand during the years 1860 to 1864; in the latter campaign so far satisfactorily, that I can with confidence appeal to the General Officers in command, whether the Medical arrangements then made met the requirements of the sick and wounded of an army of 17,000 men, (including Militia and Naval Brigade) scattered over a large area, necessitating no less than seventy Hospitals, containing from ten to two hundred beds each, and designated *Detachment, Field or General Hospitals*. The plan followed was simply to increase the Medical Staff and the Medical Officers of Regiments to a war footing, giving the P. M. O. full power to move Medical Officers wherever their services were required, and the only difficulties that arose during the Campaign were attributable to the circumstance, that the Purveyors were independent of the Medical Department instead of being subordinate to it. X

I would suggest a reversion to the Regimental System, so far as to give each Regiment at home a Surgeon-Major and Surgeon, and each Regiment abroad a Surgeon-Major and *two* Surgeons; in time of peace the juniors would perform the Barrack duty, examine prisoners, attend women and children; in time of war he would invariably accompany his Regiment into camp and into action; in time of peace the others would do duty in the Station Hospitals, but in time of war the second Medical Officer would do duty in the Field Hospital of the Brigade, the senior in the General Hospital of the Division. This plan would render every Division taking the Field, complete in its Medical arrangements, as follows:—Supposing the Division to have four Brigades, and each Brigade to be composed of six Regiments, (including Cavalry and Artillery) there would be

1. A Divisional General Hospital in the rear with twenty-four Regimental Surgeons Major doing duty.
2. Four Field Hospitals, *i.e.*, one to each Brigade, six Regimental Surgeons doing duty in each.

<sup>1</sup> Dr. John Sutherland says, —(28th Nov., 1866)—“The present Purveying System in its relation to the present Medical System, is the result of a long enquiry, made in 1857, by a Royal Commission, on which I had the honour to serve. Acting upon the recommendations of that commission, the S.S. for War directed that its decision should be embodied in separate regulations.—There are two codes of regulations, therefore, that bear upon this point: the one, the Medical Regulations, for the guidance of Army Medical Officers, and the other the Purveyors' Regulations for the guidance of the Purveyor and his Officers. These were so arranged with regard to one another, as to embody the great principle which was absolutely necessary, as he considered, for the future well-being of the soldier, both at home and in the field, especially the latter, *viz.*—separating completely and distinctly the responsibilities of the Medical Officer from the responsibilities of the Purveying Officer, so that the Medical Officer should have nothing to do but to attend to the Medical or Surgical well-being of his sick, and that the Purveying Officer should furnish what was necessary, according to fixed scales.”—*Report of Committee on Transport, 1867.*



3. One Regimental Surgeon in the Field with each corps always, *i.e.*, Six Surgeons with each Brigade in the Field.

Taking the number of Regiments to be provided for as 200, and allowing three Medical Officers to each Regiment abroad and two to each Regiment at home, would absorb about 500 out of the number now in the department, leaving 500 Staff Appointments for those who prefer Staff to Regimental life, so that Officers could serve with Regiments, or in Station or General Hospitals, as they deemed preferable. This system, leaving the Administrative Medical Officers to be appointed by the Director General, would, probably, with some extra men at the base of operations to meet casualties, etc., meet all requirements, as well as, or better than, any other plan. Medical Officers would again have all the advantages of Regimental life secured to them permanently in time of peace, a temporary severance to no great distance in the rear being required on active service only.

The Soldiers, now discontented at the loss of their tried and valued friends, would again be satisfied; for, whether they were admitted to the Station Hospital during peace, or the Hospital of the Brigade or Division in the field, they would always find one Regimental Doctor who knew their habits, character, constitution, and previous history, ready to interest himself in their welfare; benefits, lost in the new system under which the constant change of Medical Attendants, must be injurious.

Peace with us is the rule—war is exceptional and rapid, no arrangement we can make in peace time will ever be equal to the emergencies that will then arise. General Hospitals, Civilian Medical men, Volunteer Ambulances, added to our own Department, will all be insufficient to relieve the horrors of a European Battlefield in future; and those who delude themselves with the idea that 1000 Doctors on the Staff will work harder and prove more efficient than the 500 Staff and 500 Regimental we have hitherto had, are resting upon a broken reed; what we want, is, better organization, and more power to ensure perfect arrangements and sufficient supplies, carriage, etc. It is the administration that is vacillating and imperfect. The Executive Medical Officers will always be in the same degree useful whether styled Staff or Regimental.

Young Officers should, as a rule, be posted to Regiments where they would acquire habits of discipline and learn the routine duties of the Service under a Senior, the moral effect of a well-conducted Mess are too well known to be despised by any administrator having the welfare of the department at heart. To carry out this plan it would not be necessary to abrogate the late warrant, or to restore to Regiments, Hospitals, Hospital Sergeants, or Orderlies, these, with Compounders, etc., would belong to stations as at present, and, by having permanent Surgeries, there would be no loss or destruction of property by conveyance from place to place of Medicine Chests, etc.

The Station Hospitals would continue to receive all the sick of *Garrisons*, but arrangements could easily be made to admit of Medical



Officers, treating and looking after their own men, in contiguous beds and wards, <sup>1</sup> as far as practicable and consistent with classification of diseases, but all under the superintendence of a Senior Medical Officer, who should be a Deputy Surgeon General in large Hospitals.

Now that the Purveyors' Department has been abolished and the Army Hospital Corps raised, its strength should be much increased and arranged in *Two Branches*; the first an Hospital Store Branch, whose duty it should be to receive in gross, from the Control Department, the various supplies of provisions and stores necessary for an Hospital, their issue in detail, and the proper accounting for such issues. The ranks should be

1. Hospital Store-keeper.
2. Steward.
3. Assistant Steward.

The second branch charged with the personal care, feeding, and nursing of the sick, consisting of

1. Wardmasters.
2. Compounders.
3. Orderlies.
4. Cooks.

If Officers of the Army Hospital Corps are necessary, they should be Captains and Lieutenant of Orderlies, or better still, Quartermasters who could be appointed in such proportions and at such stations as were deemed necessary; they would be charged with the payment and discipline of the Corps, be responsible for all *equipments, stores, and supplies*, the cleanliness of wards, passages, and buildings generally, and responsible that everything necessary for the sick were punctually supplied, leaving to the Apothecaries the duties they originally performed. These Officers should clearly understand they are merely aids to the Principal Medical Officer, and not independent of him.

Privates for the Army Hospital Corps should not be enlisted direct, but should be taken from Regiments, after two years service in the ranks, when they have acquired habits of discipline. Old Soldiers of good character might also, if fit for Hospital duties, be allowed to complete their service as Hospital Orderlies at home, instead of going abroad with their Regiments.

But if the Army Hospital Corps were specially constituted, having a code of its own, with peculiar punishments in the shape of fines,

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<sup>1</sup> Sir George Ballingall says—"Independently of the usual and most important arrangements of patients according to the diseases under which they labour, it may be useful to subdivide the sick according to the Divisions, Brigades, or Regiments, to which they belong; so that Medical Officers, of Divisions, and Brigades, when serving in these General Hospitals, may have their respective charges concentrated as much as possible; while by the mere juxtaposition of men belonging to the same Regiment, the steady Soldier or Non-Commissioned Officer who feels for the character of his Corps, may have a vigilant and controlling eye over those who may be disposed to irregularities, idleness, or malingering."—*Military Surgery*. Page 84.



to be inflicted by the Senior Medical Officer. Any serious offence which a pecuniary mulct could not deal with, to be *visited by immediate* transfer to a Regiment, or dismissal, then there would be no difficulty in giving the entire charge of the Corps to the Medical Officers of the Department, and the present necessity for a Military Commandant at a General Hospital, and the anomaly of the position of Captain of Orderlies would be avoided. In which case Sergeant Majors would be the highest rank, and there could then be no clashing of authority.

The Hospital Store-keepers, or holders, should not rank as Officers, but have Warrant rank, these appointments should be given as prizes to the Non-commissioned Officers of the Army Hospital Corps, in the ranks of which men perfectly qualified can be found. The appointment of these subordinates would relieve Medical Officers of much unprofessional labour, and leave them more time to devote to their strictly medical duties. <sup>1</sup> All these branches, as well as the Medical Staff, would be under the Principal Medical Officer, who should be the supreme authority in an Hospital, in fact, a sort of "Medical Controller and Commandant combined."

Medical Officers are as well qualified to exercise authority over the Army Hospital Corps as Control Officers over the Army Service Corps, they do not desire power, but if responsibility is exacted, the necessary authority to ensure successful administration should be granted. <sup>2</sup>

During war, an Officer of the Control Department should be detailed for the express purpose of supplying food and stores, in bulk, to each large Hospital, and another to the Hospitals of each Division.

With regard to the second paragraph, which refers to the "*slowness of promotion*," it is felt that some special measure is at the present time needed to remedy the stagnation complained of, such as has been necessary in the Royal Navy, the Royal Artillery, the Indian Army, etc.

A bonus should be offered to a certain number of the Senior Officers, *annually*, to induce them to retire, the scale of retirement for all ranks should be revised, and the terms proposed by the British

<sup>1</sup> Sir Charles E. Trevelyan says,—“This short summary of the French Hospital system clearly indicates the causes of our failure at Scutari. Our administrative staff was totally insufficient, the sick and wounded were attended by convalescent and other Soldiers, who were attached to the Hospitals because they were unfit for Military not because they were fit for Hospital duty; and our Medical men were embarrassed by having to add to the absorbing cares and anxieties of their own profession, the inconsistent duties of Steward and Purveyor. Two classes of functionaries must be combined to produce efficiency in a Military Hospital; the Medical men who prescribe medicines, and direct the mode of treatment and the description of food; and the intendants and their agents whose care it should be to see that all things necessary to carrying out the Medical prescriptions are punctually supplied.”—*Report of Committee on Transport*, 1867.

<sup>2</sup> In the instructions for Military Hospitals, issued at Berlin in 1869, the rule is thus laid down:—“The Chief Surgeon has command over the Field Hospital. The Military, Medical, and Administrative *personnel* must obey him unconditionally.”



Medical Association for the Medical Officers of the Royal Navy might be extended to Army Medical Officers. This, with a limited number of permissive retirements, annually, in the executive ranks, where the Officers have become inefficient from ill health or age, at one shilling per diem for each year's service, would tap the top of the Department, secure a steady flow of promotion, and do much to restore the hopes and prospects of the juniors who are now despondent, and have little or no chance of promotion to the higher grades.

It may be urged that these schemes for retirement have failed in the Navy and elsewhere, and have put a number of young men out of active employment; but I only propose to extend the bonuses and permissive retirements to old and worn-out Officers who have lost their health in the Service, so that the objections do not apply. The number of Beneficial Appointments in the British Medical Department are too few, there being only about 40 Administrative to about 1100 Executive Officers. In the French Army there are 87 superior appointments to 1190 or more than double our proportion; I would therefore propose an increase in the number of Deputy Surgeons General, and give one such Officer to Ceylon, one to Mauritius, one to Jamaica, another to the West Coast of Africa, adding to their administrative duties, in small stations, the professional care of the Staff and Departments; I would also recommend that a Deputy Surgeon General be appointed Senior Medical Officer of each large Station Hospital, both at home and abroad, containing 200 beds, there would then be a fair proportion of Administrative Officers ready to take the field in the event of war, which we certainly have not now. <sup>1</sup>The Senior Surgeon-Majors should go through a course of instruction to qualify them for administrative duty in the field. I know of one Officer qualified to impart this instruction, but the Government have lost his services by allowing him to retire without honour or reward, after many years of faithful and valuable service.

The ages of compulsory retirement might remain as at present, but a limit ought to be fixed for the tenure of office in the highest rank, so that no one Officer could hold a lucrative employment more than once. If the measures proposed are carried out liberally, I am of opinion that the old average of promotion for Surgeons after 9 years will soon return, while I fear if promotion, after 12 years, were made the rule, it might subsequently be adhered to. I consider that 12 years is too long to keep Surgeons without a step.

With respect to paragraph three and the question of "*dress*," Medical Officers should, I venture to think, wear the dress of the Corps to which they are appointed, with the *distinctive professional dress belt*, doing away with the useless cocked hat, which in the Cavalry and Artillery is particularly inconvenient; it might, however, be retained for the administrative ranks *only*. In most Foreign Armies all ranks wear the same head dress, generally a Helmet. In the

<sup>1</sup> Who might be termed Staff Surgeon-Majors or Brigade Surgeons.



Indian Army this is universal, and no inconvenience results; but to dress 800 men in one way and the 801st in a different way, makes a man conspicuous and ridiculous; and to this Medical Officers object. The stars and crowns worn by Medical Officers might be of black velvet on scarlet coats, and of scarlet velvet on blue coats, so that they should not be mistaken for other Officers, which they do not desire.

In action, the red cross would sufficiently distinguish all.

In the matter of *status*, the rank and position of Medical Officers should be more clearly defined, and they should have all the advantages of other Officers of corresponding rank. In private life, the advancement of the Medical profession in influence and authority is more fairly acknowledged, although not yet what it ought to be; but the social position and influence of the Army Surgeon, though rising day by day, is not so satisfactory, for we find that any redress of our grievances, which public opinion at one moment forces on the Authorities, is as speedily as possible thereafter nullified; in fact, our grievances are less occasioned by curtailment of emolument than by curtailment of those rights and privileges which the Authors of previous Warrants have tried to give us; I feel sure, that if the Military Authorities would concede to the Officers of the Department absolute equality with the combatant branches, we should hear of few complaints; but we shall probably have to go through a prolonged and disastrous war before the necessity of a change so opposed to present ideas and conceptions becomes apparent. We were led to believe that the relative rank conferred upon us by the Royal Warrant of 1858, carried with it all the advantages of corresponding ranks, such as precedence, choice of quarters, and allowances; instead of which, on going to India, the Warrant was found to be null and void in the most important matter of pay, so that an Administrative Officer received only the pay of the rank below him, and the other advantages were abrogated one by one by illiberal interpretations. Medical Officers only ask that they shall be treated in all respects as other Officers are, and that they should pay mess and band subscription as other Officers do once on appointment, but when removed from a Regiment for the convenience of the Service, remission might be made. Forage allowance should be given to every Officer possessing Field Officer's rank, every Regimental Surgeon-Major should be mounted; for Staff Officers the forage allowance might be included in a consolidated pay, which should include the pay of a groom; Deputy Surgeons-General should, on appointment as Principal Medical Officer, rank with Colonels, promotion bring to them no increase of rank or allowances, the latter being on the same scale as for Officers of 15 years service. <sup>1</sup> The step of honorary rank, given on retirement,

<sup>1</sup> At present neither the Surgeon-General or Deputy Surgeon-General obtain their proper rank on promotion, this is contrary to the established use of the Service both in the Army generally and in the Civil Departments.



should carry with it Widow's pension and compassionate allowances but no other pecuniary advantage. In the above sketch, I have endeavoured to reconcile the two systems, with the view of improving the position of the Department at little cost, while its efficiency is augmented by the recovery of such advantages as the old system possessed. In fact, all the proposed advantages and improvements could have been carried out without the hasty separation of Medical Officers from their Regiments, an ill judged measure which has produced more despair in the Department than anything I can remember.

Day by day, Medical Officers are ordered to India and elsewhere, and many experience for the first time the difference it makes going abroad on the Staff instead of as formerly with their Regiments; in the one case they are alone and neglected, passage for their wives and families often refused on the ground that there is no room for them; in the other they carried their homes, friends, and servants with them, and transportation was thus robbed of at least half its discomfort. Why the wives and families of Regimental Subalterns and Quarter-Masters should be provided with passages in troop-ships, and the wives of Medical Officers be left behind (as has happened lately,) is somewhat difficult to explain, except that at present no one seems to take any interest in the Officers of so unfortunate a Department.

Medical Officers who have had a fair share of Foreign Service should be allowed to exchange as other Officers do; but I do not advocate continual exchanges by Officers every time they come near the top of the Roster, by which some have hitherto secured for themselves almost continuous home service at the expense of the health and lives of their brother Officers. These Officers should either go abroad when their turn came, or retire on the half-pay they have earned.

In regard to leave, Regimental Medical Officers should be on the same footing as other Officers of Regiments, one at a time should be allowed to go on long leave ( $2\frac{1}{2}$  months) after the General Inspection, as the other Officers do, provided he can be spared and no inconvenience results; of this the Commanding Officer, the Principal Medical Officer, and the General, should be the judge; but to limit one Officer of a Regiment to 60 days and to allow his brother Officers twice and thrice as much, if they wish it, is an invidious distinction which produces discontent, more especially as the Medical Officer has often to make a private arrangement for the performance of his duties during his absence. Officers of other Departments, in addition to their 60 days, can generally calculate on 52 Sundays every year; but on this day Medical Officers have no rest from their labours; a frequent holiday is therefore absolutely necessary for their efficiency. When Medical Officers are serving at home they should be allowed every indulgence in the matter of leave; for when they go abroad leave to them is generally impossible, or, if possible, useless, from the distance. Then as to sick leave, a Medical Officer returning from abroad is placed upon half-pay, or removed from his Regiment, if unable to



rejoin in six months ; while an Executive Officer, who, perhaps, comes home with him, may have his sick leave extended to two years or more without being placed on half-pay or removed from his Regiment.

There are still some other points of considerable importance, which, in the interests of the Department, are worthy of consideration, and which have been a source of much heart-burning and discontent : I allude to the unsatisfactory manner in which the roster for Foreign Service has been kept, by which a favoured few, by renewal of appointment, have been able to obtain an undue share of Home Service, of course at the expense of their less fortunate brethren, and this without losing any of the substantial advantages of the Service ; on the contrary, some have secured by their stay at home, promotion over the heads of their seniors serving abroad. On the subject of the Roster I can speak feelingly, having been myself summarily placed on half-pay, shortly after my return home from a long tour of Service in the Field abroad, while temporarily indisposed ; the reason assigned being that I was first on the Roster, while there was an Officer of my own rank who had not been out of London for nearly 15 years, who did not go abroad in his turn. This is by no means a solitary case, but it is one of the abuses calling for redress. Complaints regarding the Roster are so numerous, and the principles on which it is managed so little understood, that a wish exists in the Department that the Rules on which it is conducted should be printed and promulgated, that the list should be kept hung up in the Army Medical Office for every one's inspection and information, and that it should be rigidly enforced. As the average of Home Service for all ranks little exceeds three years, it seems to me only right that every Officer holding a Staff-appointment in Whitehall-yard, or elsewhere, should at once be placed on the Roster for Foreign Service and obliged to go abroad in his turn, or be placed on half-pay. Many would choose the latter alternative, but promotion would be accelerated in either case, for those who retired would give a step and the mortality among those who elected to go abroad would be greater than if they remained at home. In fact, according to Dr. De Chaumont's exhaustive statistical paper, the mortality in the Army Medical Department is more than double that of the same age at home, hence the more than unfairness of allowing Officers under any pretext a renewal of appointment and a comparative exemption from Foreign Service, as has too often been the case. A stroke of the pen would remedy this, give general satisfaction to the working members of the department, and do no injustice to any one. Regimental Medical Officers would, as formerly, take their tour of Foreign Service with their Regiments ; and as Regiments have now usually 10 years abroad and 5 at home, there would be no difficulty in equalizing the proportion of Foreign Service among all ; of course, a Medical Officer who had completed a tour of home service on the Staff, should not be appointed to a Regiment arriving home, as is too often the case now, due regard should be paid to the Foreign Service of others, perhaps less impor-



tunate. It is also felt that some limit should be fixed for the occupants of the professorial chairs (which are at present unlimited) and that the appointments should not be for life, unless the professors were seconded and removed from the list of Effective Officers. The question of promotion should be placed on a more definite and satisfactory footing, while long and faithful, perhaps unobtrusive service, should always entitle to promotion by seniority,<sup>1</sup> there should be special promotion for distinguished service in the Field, which is one of the best tests of a Medical Officer's professional capacity, and administrative ability; if such promotion were in future made supernumerary to the establishment, Officers would obtain their just reward without detriment to their brother Officers.

For distinguished conduct or personal bravery in the Field, there are other rewards which could be given to those who deserve them, but it should not be promotion which ought, as far as practicable, to be given for good service, exceptional professional acquirements, zeal and proficiency. This would limit selection which is dangerous ground in such a department, it being almost an axiom in Medical Ethics that no one Medical man is competent to express an opinion as to the professional qualifications of any other. Good character and conduct are not alone sufficient to warrant selection.

I venture to think that it would be well were there on the part of the authorities a careful consideration for the feelings of men, often highly educated for a learned and invaluable profession, entering the service comparatively late in life, who should be placed on a footing similar to that of Officers of the scientific branches of the service, if this were so, we should not see a Medical Officer holding the relative rank of a Major-General, with a Lieutenant-Colonel placed over him *in an Hospital* as Commandant, nor would the head of the largest Department in the service be rewarded with the salary of £1,500 a year, which is £500 less than he received forty years ago when money was proportionately more valuable, and when the Department was less than half its size. The late Sir A. Smith considered that a Private Secretary should be attached to the Director-General, and I believe the appointment of such an official, to confer with Officers in his absence, would be satisfactory to the Department generally and set the clerks in the office free to attend to their clerical duties.

I have good authority for saying that some eminent men in the profession who are probably not aware of our difficulties, have asserted that we do not, as a rule, keep up our knowledge, "*au courant du jour*," without, however, admitting this assertion, which I feel confident a perusal of the records in the office of the Medical Department as well as of the Departmental Blue Books, would go far to disprove; I would remark that it is well-known good men have for many years past been

<sup>1</sup> The late Sir J. Hall, when asked his opinion as to promotion, by seniority or selection, replied, "If made by seniority, God help the department; if by selection God help the man who makes the choice."



selected by the Examiners for the Medical Department of the Army, and if they become, after a long tour of Foreign Service, somewhat behind their professional brethren in civil life in London, who have daily intercourse with each other and all the advantages of large Hospitals, Libraries, and good Schools, it is the conditions of the service to which they must submit, their isolated position and wandering life that is to blame more than the individual. Perhaps it is not generally known that Medical Officers have, at their own expense, established, and by means of monthly subscriptions among themselves, keep up Medical Libraries at all the large stations, both at home and abroad, and I would suggest, for the consideration of the Government, the advisability of encouraging and fostering so praiseworthy an effort by voting a small sum annually to supply these Libraries with the best Standard Medical Works as they are published; this is the more necessary, as the quantity of Baggage allowed to each Officer is necessarily fixed at as low a scale as possible, and allows a very small margin for the carriage of professional Books or Instruments.

Although the Confidential Reports have been amended, they are still somewhat inquisitorial in character, there is no good reason why the character and conduct of Medical Officers should not be reported on by Commanding and General Officers as other Officers are, this would relieve Medical Men from the unpleasant duty of periodically reporting upon each other, a duty which is exceedingly distasteful. When reports are prejudicial, the Officer should be informed of the grounds of complaint, that he may have an opportunity of explanation, which has not always been the case hitherto.

I am aware that the advocates of the new system expect from it a considerable saving of expenditure, but I believe experience will prove these expectations to be fallacious, and that what is saved in one direction will probably be spent in another; for example, it will cost many thousand pounds to procure barrack accommodation for the men displaced, to give the Surgeon a waiting-room and office in each Barrack in Great Britain, not to estimate the enormous cost of providing such accommodation in the Colonies and India. However, this may be, as it is not proposed to go back to the system of giving each Regiment a separate Hospital, as was the case formerly, and as there is little or no increase in the strength of the Department, or its pay, the proposed changes involve no further expenditure over the present, beyond the trifling bonuses required to induce a few old worn-out Officers to retire; an expenditure in the right direction, and essential to facilitate retirement and accelerate promotion.

But even were the expenditure greater, I would ask is economy

<sup>1</sup> There are over 3000 men in ———; and the entire Medical care of the sick is in the hands of three Surgeons; while no fewer than ten others are in the place, only one of whom has any Hospital work.

<sup>2</sup> The Unification System is in full working order here, and I am in a fair position to judge of its effects, as I am in charge of the new Station Hospital, at ———. The scheme has succeeded in filling our wards, not so much with very sick as with



to be preferred to the efficiency of the service? is the welfare of the Soldier to be sacrificed for a few pounds? Would any man of sense, when ill, prefer a stranger to his family Physician, because he saved a trifle thereby?

So far as the Southern District is concerned, the working of the new system has shewn a marked increase in the number of admissions into Hospital, and also an increase of the time each Soldier is under treatment. If this continues and is the case elsewhere, the expenditure of the Hospitals will be very materially increased, and the number of men in Barracks to a corresponding degree diminished. This was just what happened during the Peninsular War, when the Sick and Wounded are described as hurrying to the General Hospitals in the rear by hundreds and thousands. On this subject the late Commissary General, Sir E. P. Coffin, says "Regimental Hospitals were found to work so advantageously in the Peninsular, and were, consequently, so much preferred and encouraged by the Duke of Wellington during the latter years of that war, that they ought not to be kept out of sight. A Soldier sent to a General Hospital used to be considered as *nearly lost to the Army*, while those capable of being treated in the Ambulatory Hospitals moved with each Regiment, were for the most part speedily restored to the ranks, as malingerers there could find no refuge, while good men were spared the misery of the middle passage between the Army and the General Hospital, enough to make patients of even those who were sound, and serving to aggravate slight cases into serious ones."

Sir James McGrigor says "By making every Corps keep up an Establishment for itself, we could prevent the General Hospital from being crowded. Much severe and acute disease was treated in its early and *only curable* stage, and no slight wounds or ailments were ever sent off from the Regiment; *by which means the effective force of the Army was kept up, or perhaps increased by several thousand men.*"

This proves a necessity for the careful examination of men, by men in the sick lists, who, under the Old System, could be rendered available for work—more especially in the Cavalry and Artillery; indeed this class is increasing to such an extent that if some cure is not adopted I scarcely think the duties of mounted Corps can be carried on. I could, already, almost fill a pamphlet with instances of suffering to individual Soldiers, caused by the New System, but *ex uno disce omnes*.—The night before last a man of the ——— Regiment was taken ill, at ——— with symptoms of colic, he was promptly seen and prescribed for, by Surgeon ——— late of the Corps, who, after prescribing the necessary remedies to, he found in the field companion, with fomentations from the cook house; finding the man was getting worse, had him conveyed to ——— Hospital, on arrival there every bed was found occupied, and the poor man was conveyed to ——— Hospital, where he died, last night. Now, doubtless he might have died in his own Regimental Hospital, but he would not have died among total strangers, he would have had comrades and friends, and familiar faces around him, and then the survivors would have had the satisfaction of knowing that everything had been done for him that human aid could do. Cases like these frighten the good old Soldier; but they do not deter the schemer or the man who does not like the "Drill Sergeant" or the "rough rider."



experienced Regimental Surgeons before they are passed to the rear in an Army like ours, the strength of which is limited, and the reinforcements for which are not likely to be over abundant, and that however suitable General Hospitals may be for nations possessing large Armies, where any number of men can be procured by conscription to replace the sick, they are not wholly suitable for us, who must keep every available man to the front, and jealously watch those anxious to go to the rear.

The clerical labours of the Officers of the Department should be reduced as much as possible, the absurdity of the Surgeon being required to write the extras he prescribes for a patient, first on the man's diet sheet, verified with his initials and signature on discharge, and again in the Medical Register, is an unnecessary repetition without object, now that the diet sheets are retained in the office of the Principal Medical Officer, where they can always be referred to, and do not go to the Control Department as formerly.

The number of medical books, forms, returns, etc., should be lessened—they are considerably increased by the new system. A weekly state of sick of each Regiment should suffice for all purposes. Four weekly states would then give the monthly sickness, and fifty-two weekly states would give the annual sickness, if required, but this compilation should be made in the statistical branch of the Army Medical Department at Head Quarters.

The amount of irritation at present caused in the Department by the unnecessary returns which record little or nothing is immense, for Regimental Surgeons have been deprived of their Hospital Sergeants who used to assist in the preparation of these documents; if the returns as at present are to be continued, then each Regimental Surgeon should be allowed a *paid writer* to prepare them, not a fatigue man only.

The Medical Regulations should be carefully revised, all that is obsolete expunged, while any of the Purveyors' regulations, which still apply, should be extracted and embodied in one volume.

An ambulance train of picked men should be formed, thoroughly trained and exercised in their important duties, a small nucleus of this train should be attached to each large Station Hospital. Railway ambulance trains should be organized, and it should be decided in peace time whether these trains, with their equipment, are to be in the charge of the Transport or Medical Department. The arrangements for removing wounded Soldiers out of action, and for the various transport duties connected with Hospitals, are at present in a very unsatisfactory state, a great deal is left uncertain until we take the field, when much has to be improvised, no one exactly knows his place or his duty, and confusion of course prevails; the whole tendency of the service at present appears to be, to prevent a Medical Officer becoming a man of business, and to confine him to the expression of a professional opinion when required, <sup>1</sup> yet, when war

<sup>1</sup> Even on Sanitary Committees the Medical Officers are not members, but merely attend to give an opinion, if required.



breaks out, and he is more than ever occupied with the cares and anxieties of his own profession,<sup>1</sup> all sorts of additional duties are thrust upon him and he is expected to become all at once a skilled administrator, to organize carriage for sick, allot transport, forward medical supplies, examine and report as to the fitness of sites and buildings for Hospitals and Camps, and perhaps, in addition, have to act as Purveyor and Steward. If he fails he is ruined, he receives the blame, not those who permit such a system to exist. If he succeeds his reward is probably in his own conscience, for he is very likely to be over-looked in the distribution of rewards. In the New Zealand Campaign of 1860, the only Officers whose services were not recognised were the Medical—a marked contrast to what took place in a similar war about the same time.

I have not gone into the question of the accumulation of disease in General Hospitals, which is objectionable in principle, because diseases are aggravated, and Pyæmia, Gangrene, and other contagions generated, and mortality, of course, multiplied, because I intend to discuss this in a professional paper;<sup>2</sup> it is sufficient for my present purpose to bear in mind that General Hospitals have always been necessary evils, in which men acquire slovenly, irregular, and unsoldier-like habits, where misconduct is not easily repressed, particularly in war time, and where malingerers find refuge when their services are most required in the field.

The modified plan proposed by me will tend to remove some of these objections by securing, as far as possible, the treatment of each Soldier by a Doctor in whom he has confidence, and who knows all about him.

It is not contended that the above suggestions contain anything very novel, or all that should be done to ameliorate the condition of the Department, but if they contribute in any degree to assist in removing the discontent now existing, by inducing the Government to look into the well-founded grievances of the largest and not least important scientific Department of the service, I shall not regret having undertaken the unpleasant task of bringing the subject to notice, and in doing so I trust I have not in any way exceeded my duty.

J. MOUAT, Surgeon-General.

Portsmouth, November, 1874.

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<sup>1</sup> Guthrie, in his Preface to the 6th edition of his Commentaries, speaking of the Surgeons of the Army, then in the Crimea, says "They have thus proved that if the administrative duties of the Medical Department of the Army have not been free from animadversion, that its practical and scientific duties have merited public approbation, which, I am satisfied from what they have already done, they will continue to deserve."

<sup>2</sup> To be read before the Southern Branch of the British Medical Association,



## ADDENDA, &c.

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It is now some weeks since the foregoing scheme for the Re-introduction of the Regimental System was placed in the hands of the Medical Department in Whitehall Yard, and in private circulation, and although I have received numerous letters from Medical Officers of all grades, there has only been one dissentient voice, and that came from one of the Professors at Netley, and was based on an erroneous view of the time I proposed the professorships should be held,—I merely maintained they should not be for life, unless the occupants were seconded and removed from the effective list. The new system has now been in operation for some time at all the Home and some of the Foreign Stations, with pretty much the same results, viz. :—general dissatisfaction to both Medical and Commanding Officers, among the latter, I believe the feeling against the new system is unanimous, and so far as the opinion of the public press has been expressed, a similar verdict has been given. Although it was desirable to ventilate the views expressed for the redress of some of the grievances of the Medical Department, no opinions were invited; but I have received some hints, which are embodied in a reprint of my pamphlet, the first copies of which were speedily exhausted, and I regret I have been unable to comply with the request of numerous friends to supply them with a copy, I did not anticipate so great a demand; the pamphlet was brought out in a somewhat hurried and perhaps imperfect manner, but I have no desire to withdraw anything, although I had not then seen Professor Hamilton's admirable and exhaustive brochure, on the prospects of the Army Medical Service, with much of which I concur, but he has fallen into a few errors in the financial part of his statements, which, however, it is not my intention to correct; I would merely observe that there are two great questions at issue: 1st.—The interest of the Sick Soldier and the efficiency of the service. 2nd.—The interest of the Officers of the Medical Department of the Army. The former is undoubtedly the most prominent and important; and so far as my experience of the new system goes, it has not advanced the interests of the Sick Soldier or the efficiency of the service, nor is it, in this respect, any material improvement on the old Regimental plan. But referring to the latter, it has, undeniably, produced the utmost *discontent*, *dismay*, and *dissatisfaction* of Medical Officers with their position and prospects, no one, I think, will venture to contend that such a state of things, if it exists, is calculated to promote the public welfare; and I would respectfully submit, that the best way to secure the cheerful co-operation of the Medical Officers of the Army, and to hold out inducements for the best educated men to enter it, as well as to induce those already in it to identify themselves with the public interest, is to enquire into and redress their just grievances. It is impossible for the Medical Officers, as a body, to put forth their grievances without a breach of discipline, while, at the same time, it is desirable the Authorities should understand the strong feeling of dissatisfaction that exists with the present state of things.



Since the above was in print, Dr. Grant's pamphlet has been received, and I will merely quote a few passages from his plea to show how much he admits in favour of the system he condemns; I cannot agree with him in believing that, if the two systems are considered side by side, the result would be in his favour; on the contrary, I have good grounds for believing, that if the opinion of the whole Department could be obtained, it would be found that the advocates of the General Hospital system were in a hopeless minority, and this even extends to the Administrative ranks, to say nothing of the whole body of Regimental, Commanding, General, and other Officers, who are almost unanimous. It is not a Medical question only, but concerns the interest of the whole Army; and Dr. Grant is quite right in considering it a cherished Institution, a title it fully deserves, and which, I submit, ought not to have been so hastily swept away to the manifest injury of the interests of a large body of Officers whose position is thus described by Dr. Grant himself:—"The Regimental System was unquestionably very attractive to many Medical Officers, and afforded them social advantages which it would be difficult to over-rate." "I fully admit the hardship to which Regimental Medical Officers have been subjected by their sudden eviction from their regiments." "It is quite true that their position in regiments is much more unsatisfactory than it was."

There can be no doubt the Regimental system did and will attract Medical Officers, while, if I am not much mistaken, unification will fail to do so. Young men, who enter the Medical profession, are very much like other young men entering life, and are likely to be attracted by the same means that induce others to enter upon a military career until they have settled down by which time many of them have lost all taste for private practice, as well as many years service, which they cannot afford to lose, or throw away, they are, therefore, tied to the service, and are content to spend their lives in it and identify themselves with its interests—this attraction has been withdrawn.

I do not propose to consider Dr. Grant's plea in extenso, as he states he has not seen my "Proposals and Suggestions," *du reste*. Dr. Grant's pamphlet partakes too much of special pleading; he dilates freely on the points, so captivating to economical financiers, and condemns the costliness of the Regimental System, which may to a certain extent, be admitted; while his objections against it, are more those of a partisan who is blind to, or at least, not open to conviction on its real merits, and cannot see that the two systems can be so modified or amalgamated as to ensure the substantial advantages of both. The Regimental Hospitals did admirable service in the Crimean and other campaigns, but in the former the amount of disease was exceptionally great; they were overwhelmed, as there were then no Brigade or Division Hospitals, and the General Hospitals were not properly organised in sufficient time to relieve the pressure; in fact we were overtaken,



without preparation, and I question if we are now in a better state, with even Netley and the present Station Hospitals which afford no real additional accommodation to meet any great pressure. This time last year, much inconvenience and distress was felt in consequence of the arrival of some 2000 invalids from India; for whom accommodation could not be provided, and a large proportion of these tropical invalids, chiefly convalescents, had to be sent to their depots in the depth of winter, because our existing establishments were incapable of expansion. Our Hospital Transport is still unorganized, and we have not even decided upon a pattern Ambulance for home or field service, the same class of heavy clumsy conveyances, that stuck in the mud in the Crimea, and signally broke down in New Zealand, are still in use; nor, do we possess any description of light carriage to convey solitary cases of infectious disease to Hospitals. All these matters are quite independent of the Regimental system, and belong to the General Hospital organization.

I consider that the amalgamation of the Indian and British Medical Departments is highly desirable, the Royal Artillery and the Royal Engineers have been so amalgamated with the Indian, and so should the Medical Officers be united, the double administrative staff is expensive and unnecessary; the number of beneficial appointments, now monopolized by a few, would be thrown open to all, and act as a wholesome stimulus to professional exertion. In conclusion, I may sum up my recommendations as follows :—

- 1st. Return to regiments their Medical Officers.
- 2nd. Retain Station Hospitals.
- 3rd. Re-organize Army Hospital Corps.
- 4th. Principal Medical Officer to be the supreme authority in an Hospital.
- 5th. Increase the number of beneficial appointments.
- 6th. Offer bonuses to old officers to induce them to retire, so that
- 7th. Surgeons may be promoted after ten years service
- 8th. Concession of absolute equality.
- 9th. Formation of an Ambulance Train.
- 10th. Amalgamation of Indian and British Medical Departments.
- 11th. Removal of present restrictions as to leave.
- 12th. Publication of roster and its rules.
- 13th. Reduction of clerical labour.
- 14th. Revision of Medical Regulations and publication of a sanitary code.



## 15th. Supply Standard Medical Books to Libraries.

Other recommendations of minor importance will be found in the context.

All this shows that Medical Officers have strong grounds for dissatisfaction, and whatever may be thought of the two systems which divide the Department, or whatever want of unanimity there may be on this subject, there can be no doubt as to the real grievances of which the Medical Officers complain, and as so much has been recently done for the Navy, I venture to express a hope that the condition of the sister service, which comprises a large body of Officers, will receive the early consideration of Government in view to a restoration of the privileges and comforts they have lost by the abolition of the Regimental system, and to a redress of all such other grievances as may be deemed just and expedient,

J. M.

Portsmouth, Feb





By Book Post.

The Editor

British Medical Journal

London



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THE  
REGIMENTAL SYSTEM

IN  
THE ARMY MEDICAL DEPARTMENT,  
DISCUSSED

WITH A  
REGIMENTAL COMMANDING OFFICER,

BY  
J. M. GRANT, M.D.,

DEPUTY INSPECTOR GENERAL OF ARMY HOSPITALS AND PRINCIPAL MEDICAL  
OFFICER OF THE CAPE OF GOOD HOPE COMMAND.

FOR PRIVATE CIRCULATION

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MDCCCLXX.

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## INTRODUCTORY.

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THE following Correspondence originated in a casual conversation which I had with Colonel Browne, and in a wish which he expressed to discuss the subject more fully than we could do at the time, and I am induced to publish it because it shows both the Military, and the Medical side of the question, and because there is one point which I have not seen touched upon in the many articles that have been written from time to time on the subject, namely, the incompatibility of Regimental subordination with the duties of Medical Officers under the enlarged requirements of modern *hygiene*.

J. M. GRANT, M.D.

Dep. Insp. Genl. of Hospls.

Head-Quarters, Grahamstown,

Cape of Good Hope,

20th February, 1870.



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Natal, 20th October, 1869.

MY DEAR DR. GRANT.—Admitting that the Army is largely indebted to its Medical Officers for very great improvements of Administration, and for a condition of health and comfort of its rank and file that never existed in former days, I cannot but be of opinion that any endeavour to disturb the Regimental system, and to remove Regimental Medical Officers from Regimental control, would be attended with very unsatisfactory results. The Regimental Surgeon is the right hand of the Commanding Officer, and occupies a position intimately connected with the welfare of the Regiment, and he has *himself* an interest in its welfare. No *outsider*—if I may use the term—could discharge the duties of Regimental Surgeon with the interest and zeal so constantly shown by Regimental Medical Officers. As Commanding Officer, I want the advice and assistance of a Medical Officer that I *know*, and with whom I can communicate without reserve upon the innumerable questions that arise from day to day, in the course of Regimental service. You ask, What those are? and why the same advantages could not be derived from Staff Medical Officers? I reply—That however willing Commanding Officers of Regiments may be—and *are*—to avail themselves of the advice of their own Regimental Surgeons, there is not one in fifty who would feel disposed to consult with, or accept the interference of, what I will still call—an outsider. Every medical question would become a matter of correspondence, through Garrison or Division Staff, and I entertain no doubt whatever of the ultimate result, *i.e.*, that the Regimental Commanding Officer would gradually come to look upon the services of Medical Officers as things to be “kept at arm’s length,” if you understand what I mean,—you would destroy the close relation and common interests which do so much for the welfare of our men. Again—There is nothing a sick soldier dislikes so much as what he calls, “a strange doctor;” he does not confide in his skill in the same manner as in that of a Surgeon that he knows: a point which I am sure you will reckon of sufficient importance. Let us, however, keep up the relations of Commanding Officer and Surgeon a little longer. And consider how sanitary and hygienic affairs are likely to be affected? Can you suppose for a moment that the Commanding Officers of Regiments of the Line would willingly see Medical Officers, not under their command, and over whom they would have no control, visiting the barracks and quarters of their Regiments, and reporting to others such matters as might attract their attention? I can conceive nothing more likely to originate a most unfortunate—indeed, I will even say, disastrous—feeling between those who, above all others, should work together for the advantage of the soldier. You say—What is to prevent a Commanding Officer from seeing—as he does now—that his Hospitals are in as good order, and the general sanitary state of the Regiment as well cared for, as they are by Regimental Surgeons? I answer—Much. The tendency of officers is to dispute all authority to which they are not immediately amenable; and, in nine cases out of ten, a Commanding Officer, finding fault with the condition of his Regiment, would find himself involved in correspondence of a difficult and unpleasant nature. Again, you argue—That no difficulties occur between Commanding Officers of garrisons and Principal Medical Officers. Granted: but the Principal Medical Officer of a garrison is simply and purely the *Regimental Surgeon* of the garrison, and his relations with the officer in command are precisely those of Regimental Surgeon of a higher class; there is no difference in principle; both are the natural and appointed advisers of the Officers under whom they are immediately serving. It is right, in venturing upon opinions on such a subject, that I should state shortly what experience I have. I will, therefore, say that I have been in Regimental command, with little interruption, since the early part of



1857, in the Military Train, 87th, and 20th Regiments, and have, for the last five years, been in constant command of a garrison, in Japan, Hong Kong, and Natal; therefore I have had ample opportunity of seeing *both sides* of the question, and would most earnestly deprecate any measure tending to alter the present relations of Regimental Surgeon, and Regimental Commanding Officer.

Yours faithfully,

H. R. BROWNE.

P. M. O.'s Office, Grahamstown, 7th November, 1869.

MY DEAR COLONEL BROWNE.—I do not seem to have made myself clearly understood about the change which I would wish to see established in the Medical Service of the Army by the abolition of the Regimental system, a change which, I think, could be effected without any material interference with the present relation between Commanding Officers and Surgeons.

Instead of a mixed establishment of Staff and Regimental Medical Officers, I would have the entire department a Staff Corps, subject to the orders of its own Administrative Officers in all matters of professional duty, and to the orders of Officers commanding stations or garrisons, but not of those commanding Regiments, in all matters of military discipline. In this way, it appears to me that the Department would be more united under the control of its own immediate superiors; that the duties of Medical Officers with Regiments, Detachments, on board ship, in General Hospitals, and most especially in the Field,\* could be more equally apportioned, and that a more fair roster of service could be established; but, in view of the Regimental Hospital system, I would not interfere with present details. Two Medical Officers, a Surgeon, and an Assistant-Surgeon, should be appointed for duty with each Regiment, such appointments to be made, and cancelled, by the Principal Medical Officer, with the sanction of the General Officer commanding the station; but the relation between the Officer commanding the Regiment, and the Surgeon doing duty with it, would be precisely the same as at present, with the one exception of Regimental subordination, which does not exist in any Civil Department, and which I consider unnecessary in all cases, and prejudicial in some. For example: It is surely as much the duty of an Officer commanding a Regiment to see that his men have proper food, as that they have proper Medical attendance, and yet he has never had any direct authority or control over Officers of the Commissariat Department.

The professional duties of Medical Officers are so clearly defined by regulation, that Commanding Officers of Regiments need not give any orders regarding them. All that it is necessary for them to do is to see that these regulations are carried out, and this they could do quite as well with a Staff as with a Regimental Surgeon in charge. Any irregularity that the Commanding Officer might see, or that might be reported to him by the Visiting Officer, he would bring it to the notice of the Surgeon in charge; and if his remonstrance were unheeded, or he had any cause of complaint against the personal conduct of the Surgeon, he would refer the matter to the General, or other Officer commanding. This is exactly what has to be done under the Regimental system; and I do not see that any more frequent correspondence, or reference to Division or Brigade Officers, would result from the change: on the contrary, I think there would be less dispute than at

\* I think it essential, on Field Service, that the Principal Medical Officer of a Division or Brigade should have the *sole* and absolute disposal of every Medical Officer attached to it. His details often require to be carried out before they can obtain the sanction of a General Order; and they should not be liable to be disputed, in the absence of such an authority, by Regimental Commanding Officers, who, under the present system, may refuse to allow "*their*" Medical Officers to be taken from their Regiments, however little they may have to do with them for the time, or however much their services may be required elsewhere. We have very high authority for condemning the system of "*two masters*."



present, because Regimental Commanding Officers would be governed more by the Medical Regulations, which at present they almost completely ignore. Most of them fail to make themselves acquainted with these Regulations, and frequently give orders at variance with them: this leads to dispute; and the Regimental system has this advantage—that when such disputes are referred to General Officers, there is a difficulty of dealing with them, because it is a recognized military axiom that the Commanding Officer must always be supported. The above details provide for the continuance of the Regimental Hospital system, which I am anxious to show can be maintained without Regimental subordination of Medical Officers; but, for my own part, I would prefer General Hospitals, and a staff corps of hospital subordinates—outside duties, such as parades, rifle practice, supervision of barracks, &c., to be provided for by a Garrison roster; but in all cases the Sanitary Medical Officer should give the Officer commanding in occupation of any particular barrack to which he might object, a copy of his report upon it—courtesy requires that this should be done.

If Regimental subordination be unnecessary for the proper discharge of the Hospital duties of Medical Officers, it is still less required for the due performance of their Sanitary duties, which, on the contrary, it obstructs. The Regimental Surgeon is the professional adviser of his Commanding Officer; but he is more. He exercises a close supervision over the internal economy of the Regiment, the cleanliness of the barracks, personal cleanliness of the men, due occupation of barrack-rooms, airing bedding, opening windows, and the like, for all of which the Commanding Officer has a direct personal responsibility; in point of fact, he exerts a species of control over his Commanding Officer, "*et hinc ille lachrymæ.*" Such a supervision, exercised by a subordinate over the duties of his immediate superior, is an anomaly in military discipline, and I think it impossible to conceive any arrangement more calculated to excite bad feeling. The difficulty of enforcing such a supervision on the part of the Surgeon, without impairing the authority of the Commanding Officers, suggested itself to the committee who framed the present Medical Regulations;\* but they failed to recognize the fact which is making itself felt more and more every day, that as the responsibility of command is quite distinct from that of sanitary supervision, and as both are of very great, if not of equal importance, so they should be vested in officers in all respects equal and independent of each other. The result of the committee's faulty legislation has been to put the Department into a state of acetous fermentation, which has already lasted ten years, and which seems now as active as at the beginning.

I have no hesitation in saying, from my own knowledge and observation, that the sanitary supervision of Regiments, under the present system, is inefficient: whether it would be exercised more efficiently under the system which I suggest, may be a question; but, I think, there can be no doubt that it would be exercised more independently, and with less risk of collision.

I come now to a part of my subject which I would willingly pass over if it were not essential to my argument, and I trust that you will believe that I refer to it without the slightest intention of giving offence or perpetuating the unhappy misunderstandings to which it has given rise. It is this: that Military Officers, as a body, and more especially the juniors of their number, refuse to admit the "*non-combatants*" or the "*civilians*" of the army to a footing of equality with themselves; and this is not owing to any want of good feeling or politeness on the part of Military Officers themselves, who are, on the contrary, patterns of good fellowship, and of high gentlemanly tone and deportment; it is the result of that species of HERO WORSHIP which is accorded, and rightly so, by all nations, to the profession of arms. It was this feeling which gave rise to such violent opposition, on the part of Regimental Officers, to the *status* and other advantages conferred upon Medical Officers by the Royal Warrant of 1858, the result of which

\* See Medical Regulations, page 8, par. 3.



was that the Warrant was altered, and such humiliating conditions were imposed upon Medical Officers, as caused the Medical Service of the Army to be decried from the Professors' chairs, called forth the public remonstrance of the Colleges, and led to some such proposal as that of importing Army Surgeons from Germany! The Medical Service has not recovered from the shock to its popularity which this controversy occasioned, nor do I think that it ever will, except under a change of administration. It is this feeling, too, that originates and perpetuates the endless disputes at mess, and bickerings between Military and Medical Officers,—the latter of whom will not tamely accept the position of inferiority that is assigned to them, and which is perpetually thrust upon their notice by Regimental association, and hence the miserable and petty quarrels, which can only be avoided by ceasing to force antagonistic classes into too close juxtaposition. Leave it to Military Officers to determine how far they will extend the advantages of their mess, and the pleasure of their society, to Medical Officers; and let Medical Officers decide how far they will avail themselves of these privileges; and I am satisfied, from what I have seen of honorary and compulsory mess membership, that you will have harmony and good-will where all is now discord and discontent. I am far from saying that Medical Officers had no share of blame for the wretched quarrelling to which I have referred; all that I contend for is, that it had its origin in the Regimental system, as can be proved by reference to the parliamentary debates and newspapers of the period, and also by the fact that the same advantages of rank and emolument as were conferred on the Medical Department, were at the same time granted to the other Civil Departments of the Army without any outcry or opposition, and this simply because in the case of the other Departments there was no jarring with *Regimental prestige* or privilege.

Let me now consider *seriatim* the arguments which you oppose to my view of this question. You object, 1st. That the Regimental Surgeon is the right hand of the Commanding Officer, who requires a Surgeon that he knows, and with whom he can consult freely on the "*innumerable questions*" that daily arise in the course of "*Regimental Service*." Now, in discussing this matter, we must confine ourselves strictly to the relative duties of the two officers, as laid down by regulation. The Regimental Surgeon is, as you say, the natural and appointed professional adviser of his Commanding Officer in all matters of hygiene, but *not*, please to observe, in any other matters whatsoever. To enable him to give this purely professional advice, common ability, common courtesy, and common sense are the only necessary qualifications; and with these qualifications, he can discharge the duties required of him as affably, and as efficiently, on an acquaintance of a day as on one of a series of years. Some Surgeons remain in the same Regiment for many years, in the course of which they may so gain the friendship and confidence of their Commanding Officers, as to be consulted on many matters beyond the limits of their professional duties,—on the "*innumerable questions*," perhaps, to which you refer. Such friendships are very excellent in themselves, but they are exceptional in military, as well as in civil life; they are not to be accounted necessary to the public good, neither do I think that the men who form them are, of necessity, the most active or efficient within their own appointed spheres of action.

2nd. You insist on the advantage of the Regimental system, on the ground that the sick soldier has more confidence in the Regimental than in a "*strange doctor*," and that the Regimental Surgeon has a personal interest in his patients and in his Regiment. I have often considered this argument, and it appears to me to have more apparent than real force. Surgeons of Regiments are constantly exchanging, and a large proportion of the sick of Regiments is constantly under the care of Staff or "*strange*" doctors, on Detachment, at Sea, in General Hospitals and in the Field, and yet we do not find that these men complain of any want of skill, or of kindness and attention on the part of their medical attendants. But supposing the soldier to have the feeling which you ascribe to him, do you think it wise to encourage it? Do you consider it right that he should be led to suppose



that of all the Medical Officers under whose care he must be, even in the course of ordinary service, but more especially during the exigencies of war, there are but a very few that have any real interest in his welfare? You must remember that on active service, the wounded of a Regiment pass *almost immediately* from under the charge of their own Regimental Medical Officers; and if the tendency of the Regimental system is, as you maintain, to shake their confidence in all others, then, for their own sakes, the sooner that the Regimental system is abolished the better. "*Vis unita fortior*" is a maxim of the most universal application, and it appears contrary to all analogy to suppose that this want of unity in the Medical Department, this splitting it up into cliques, does not impair its efficiency. I suspect that we are also indebted to the Regimental system for the anomalous condition promulgated in the Monthly Army Lists, "*by authority*," that Surgeons Major are *junior* of their rank, *except in choice of quarters*! This is an invidious distinction, inasmuch as it applies to the Medical Department alone, and it is likely to lead to dispute, because the conditions in the Army List are opposed to the Queen's Orders and Regulations for the Army, and to the Royal Warrant for pay and promotion, which are the only legitimate authorities on the subject, and which declare that *choice of quarters* shall be regulated by SENIORITY, not by JUNIORITY, of rank, and that relative rank shall carry with it *all* the "PRECEDENCE" and "ADVANTAGES" of the Military rank with which it corresponds. Why should a Medical Officer—take myself as an example—lose seven years seniority in his relative rank? or is it to be expected that the Medical Department will be satisfied with such a rule, or rather with such a breach of all rule, to their disadvantage?

3rd. You say that most Regimental Commanding Officers would object to a Staff Surgeon, "*an outsider*," going round their barracks, and reporting to others than themselves. I agree with you that such a course is objectionable, although it is the one pursued by Garrison Sanitary Committees, as at present constituted; but you will see from what I have said before, that I did not contemplate such an arrangement. I proposed that the Surgeon in charge of a Regiment should report to the Officer commanding the Regiment, and repeat his recommendations in writing, if his verbal recommendations were not attended to, just as the Regimental Surgeon does, or *ought to do*, at present; and I do not see why, in the performance of this duty, a Staff Surgeon should be objected to as "*an outsider*," any more than the Sanitary Medical Officer of the Garrison, and the Officers of other Corps with whom he is associated, or than the Inspector, or Deputy Inspector of Hospitals. This is, of course, a matter of opinion. I think that such duties, involving, as they do, a minute supervision of Regimental administration, would be less distasteful if performed by officers unconnected with the Regiment, and I know that many Regimental Commanding Officers are of my way of thinking.

4th. You argue that the relation of a Regimental Surgeon to his immediate Commanding Officer, is precisely the same as that of the Principal Medical Officer to the Officer commanding the troops; and you say that the Principal Medical Officer, being only a "*Regimental Surgeon* of a higher class," the relations of the two Medical Officers are *in principle* exactly alike. I cannot agree with you. The Principal Medical Officer is *not* a Regimental Surgeon of a higher class;—you might as well apply such a definition to a General of Division serving under a Field Marshal;—he is an officer of the General Staff, and occupies the FIRST place in the gradation of Military subordination, being subject to the orders of the General Officer only, not to those of Officers commanding Garrisons. I wish to put the Surgeon into the SECOND place in that gradation, instead of the THIRD, which he now occupies, by making him an officer of the Garrison Staff, and doing away with his Regimental subordination.\* I desire to see the Medical Officer who

\* I never was a Regimental Assistant-Surgeon, so that I had one more Commanding Officer after my promotion than I had before it.



has spent the best twenty years of his life in mastering the details of his distinct and special duties, enjoying the same independence and freedom of action within his own sphere, as the Military Officer who has spent a similar period in mastering the details of command; and I wish to give Medical Officers such a degree of immunity from *personal control*, as is not only not opposed, but essentially necessary, to the due performance of their public duties. I cannot admit that the relation of a Regimental Surgeon to his Commanding Officer is the same, either in *principle* or *practice*, as that of a Principal, or Senior Medical Officer to the Officer commanding the station, or garrison. Regimental subordination is of a much more stringent and exacting nature than mere general subjection to Military authority; and there is this wide difference, that while the Division or Garrison Medical Officer reports to his superior upon matters with which his superior has no personal concern, but for which the officers serving under him are immediately responsible, the Regimental Surgeon is called upon to exercise a *meddling interference* with the duties of his immediate Commanding Officer, which is inoperative in *practice*, and in *principle* opposed to all Military government. If it were possible, I would gladly have relative rank abolished, and *Military* rank conferred exclusively on *Military* Officers; but I do not see how this could be done. You cannot put the Civil Departments of the Army beyond the pale of Military authority, but you must regulate the degree of their subjection, and this can only be done by giving them a recognised *status* in the Army. For the sake of harmony, however, that *status* should be in the Army as a whole,—it ought not to be needlessly obtruded on any section of the Army. The Medical Department forms the only exception to this rule, and I desire no better illustration of my argument than it affords. I regret that it should be so, because I believe that, with a little simple revision of its rules, the Medical Service of the Army might become as popular with the profession as it deserves to be.

Your length of service entitles your opinion to much weight, and you will find many Medical Officers to agree with you. I am sorry that I cannot be of the number. I have thought a great deal on this subject, and my opinion, like yours, is entitled to the consideration which lengthened observation bestows. Of a total service of twenty-nine years, I have served eleven years as a Regimental Surgeon, and eighteen in different ranks of the Medical Staff, during five of which I have held administrative appointments in Bermuda, England, and the Cape, and I am now in a position to discuss the question without bias, because personally I can no longer be affected by it.

Believe me, yours very truly,  
J. M. GRANT.

COLONEL BROWNE, 2nd-20th Regiment,  
Commanding the District of Port Natal.

Fort Napier, December, 20th, 1869.

MY DEAR DR. GRANT.—If I understand your minute of 7th November last rightly, you advocate three principal changes in the administration of the Army Medical Service:—"The abolition of Regimental Commissions;" "The abolition of subordination of Medical Officers to Regimental Commanding Officers;" "The concentration of all disposition of Medical advice in the hands of the Medical Officers in charge of Stations or Divisions." In respect to the first of these propositions, I think you must bear in mind that the "Regiment of the Line" is the *unit* of efficiency of the Army. Above all other things it is requisite that that *unit* should be complete in itself; whatever you do to impair the Regimental "completeness," impairs the Regimental efficiency. Take away the Regimental Surgeon, and you deprive the Commanding Officer at once of his best



friend in promoting and maintaining the welfare and efficiency of his men. I use the term "efficiency" advisedly, for without health there is *no efficiency*. But on the other hand, without "discipline" there is no health; the one cannot be maintained without the other in bodies of men situated as soldiers are, and subject to the vicissitudes of service and climate to which soldiers are subject. From a social point of view, I believe, the Regimental system has attractions and advantages much appreciated by a large class of Medical Officers, and that for another and equally large class, Staff Service holds out greater inducements. If I am right, the present system enables Medical Officers, in a great measure, to suit their own individual tastes, and I should, in that view, offer every facility for exchanges from Staff to Regimental Service, or the contrary. The emoluments of Medical Staff Service are somewhat better than Regimental, and I would equalise them—rank for rank. Some disinclination for Regimental Service has arisen from an impression—erroneous in my opinion—that the Regimental Medical Officer has less freedom of action than the Staff Surgeon. I am not of that way of thinking. As far as my experience goes, a Regimental Medical Officer who does his duty honestly and conscientiously, is seldom or never interfered with in its performance, and obtains, above all other men, the good-will and affection of his brother Officers. If he devotes his thoughts to the possibility of some one forgetting his "relative rank," and is careless of his medical duties, then I grant at once that he will not find a Regiment of the Line the home that he might otherwise do. An argument in favour of Staff Service with Medical Officers is, that they have greater facilities for "private practice," which is often nearly as remunerative as their legitimate occupation. You will know better than I do, the great extent to which private practice now prevails; and I think you will almost agree with me, that some limitation is becoming necessary, especially on Foreign service. Within moderate bounds, I am ready to admit that no sound objection can be made; practice and experience of disease are increased, and some additional inducement to Army Medical Service is held out; but the difficulty is to prevent private practice from becoming the *first consideration*.

Your second proposition is: That Regimental Medical Service should be carried out by Surgeons attached to Regiments, or rather "placed in Medical charge of Regiments," who should not be subordinate to the Regimental Commanding Officers. "There cannot be two kings in Brentford," is a very old saying, and a very wise one. I hardly think that an officer could be found who would accept the command of a Regiment of the Line, if he knew that he had to deal with a Surgeon wholly independent of himself and his orders. The very sense alone of such a state of things would create an absence of confidence and co-operation that might, and in all probability would, result in grave disadvantages to the service, and in personal misunderstandings of no easy adjustment. Once establish in a Regiment of the Line, an authority equal to, and independent of, the responsible Officer in command, and you may close the book in which you have hitherto read of the good conduct and high character of the British soldiers, under every circumstance in which they have been placed during centuries of service; strong language, I grant, but every soldier of experience will vouch for its truth. You say, "Regiments depend on Commissaries with whom they have no connection, for their supplies; why, therefore, should they not depend on Medical Officers with whom they have no connection, for Medical aid?" There is not, to my mind, much analogy in these cases. The Regiment has its Quarter-master, whose special duty it is to attend to its supply, and it has its Executive Officers to see that its supplies are of good quality; it has its Paymaster to attend to its finances and payment; it has an Adjutant specially commissioned to attend to its details of discipline; it has an Officer, also specially commissioned, to instruct it in the practical use of its arms. How, then, can it be said that the Regimental Medical Officer is not necessary to its completeness? how can you compare his situation with that of Departments of Supply, who are simply custodians and



issuers of Military stores?—most necessary and important branches of the Military Service, but in a very different sense from that of Medical men. You say that the Medical Regulations are so complete, that Commanding Officers of Regiments need not give any orders regarding them. I don't think they *ever do*, except in the way of promoting and enforcing them. I think you are mistaken in supposing that they are not acquainted with or ignore these Regulations, which are as much open for their guidance as any other rules of the Service. I am quite sure that nineteen Commanding Officers out of twenty are glad of, and obliged by, the recommendations made to them by Regimental Medical Officers, in respect of hygiene, and sanitary measures and conditions; but I do not think they are quite prepared to admit that they have no experience of their own in these matters; and they are frequently responsible for conditions of service and expenditure which oblige them to decline to acquiesce in measures, of the value of which they are very well aware.

Your third recommendation is: That the distribution of Medical aid should rest solely with the Senior Medical Officer on the spot, and that he alone should be the judge of the amount of Medical aid required by particular Regiments or Stations. To a certain extent, I am inclined to agree with you, and I think that in practice this very nearly obtains. I think that it might with safety extend to all Junior Medical Officers, but *not* to the *Surgeons* appointed to Regiments. I think that *all assistants*, whether Staff or Regimental, might very well be at the disposal of a Senior Medical Officer, reverting to their Regiment when not required elsewhere. There is no security for a Regiment if its *Surgeon* can be sent elsewhere at discretion. When I was serving at the Crimea during the severe winter of 1854, both Surgeon and Assistant were taken away, and the Regiment left in charge of a youth who had neither education or common humanity; where he came from I don't know, but there were many of his class in those days. At that time men were dying every day, and Hospitals fuller than they could hold. What the absence of the Surgeon, a most excellent and energetic man, cost us, no man can tell—I should be sorry to estimate. You say that you don't see why a Commanding Officer cannot obtain all the advice he wants from a comparative stranger, just as well as from an Officer he knows. Well, theoretically you are right; practically, not so, at least in my view; and I will put the question in this way: Are you prepared to open your mind to a man of whom you know nothing, and to consult him, or accept his views upon your own affairs? Would you not feel inclined to shut your door if you found him disposed to meddle in your concerns? You will probably answer, that this does not apply to matters of the Public Service, and there again I shall partly agree with you. But you must recollect, and your own Regimental experience will have shown you, that a Regiment is a very close corporation, a family with a very old and long-established pedigree; you can't deal with it as you would with men in civil life. The Officers alone would present a very serious difficulty in removing Regimental Medical Officers. I think also that there is more weight in the theory that *soldiers* have confidence in the Surgeons they *know*, than you are inclined to admit. It applies equally to all classes and ranks of Officers of the Executive branches.

I think the committee who framed the present Medical Regulations, took a sound and practical view of the necessities and conditions of Military Service; and I believe that those Regulations have had a real and most beneficial effect in their practical working. I should be sorry to see them altered.

In closing this part of the subject, I would advert to your view that Sanitary supervision is not so effective as it might be and ought to be. I am fully of your opinion, but it is not the fault of the Regimental system. "Sanitary Committees" have much in their hands, but seldom do much real good. Many Medical Officers of experience have said to me, that they felt themselves superseded



in their legitimate duties by these Committees; and the Committees themselves, unless composed of officers of exceptionally high standing, which can only be the case at a very few large stations, find themselves in a situation to which they are hardly equal. I believe we should generally be better without them; expense is, however, the great bar to real improvement. Of course, much can be done by attention to ordinary details of cleanliness, ventilation, &c., and to the proper regulation of duties and exercises, in all which Medical advice is of the first value. Perhaps another and not unfrequent cause of inefficient sanitation is, that many Medical Officers content themselves with "writing a memorandum or letter," copying it into a letter-book for future use, and then conceiving that they have done all that they can be accountable for. That is not the way to obtain co-operation, or to further the Public Service; at the same time, it is perfectly right and proper that recommendations should be regularly recorded. Relative rank has led to more dissensions and inconveniences than any other system that ever was introduced. I don't think it has conferred any real advantage on the Departmental Services, and has certainly created many jealousies and heart-burnings that never existed before. No one of sense can dispute for a moment that Officers of the different departments of the Army render valuable services to the State and to the profession to which they are attached, and have a full claim to a position equivalent to their responsibilities. I do not think this was attained when "Relative Rank" was introduced. I don't think that any Medical Officers can now justly say that their *status* is not fully admitted in the Regiments to which they belong. No doubt, you are right in stating that for some time after the introduction of the Warrant for Relative Rank, their new position was not agreeable; but the reason, in nine cases out of ten, was just this,—that instead of believing and feeling that every one was perfectly ready to admit and welcome them in their new degree, they made it evident that they had a *doubt* upon the subject, and dwelt upon that doubt themselves. I am sure you will admit that I am not very far wrong. I am equally sure that the Army at large fully recognizes the benefits it has derived, and continues to derive, from the exertions of its Medical Officers; and sincerely hope that changes will not be made which may have the effect of disturbing a system which may have its imperfections, but has many and solid advantages.

Yours very faithfully,

H. R. BROWNE.

Grahamstown, 28th December, 1869.

DEAR COLONEL BROWNE,—You object to the abolition of Regimental Medical Commissions on the ground that a Regiment is the unit of efficiency of the Army, and that as a Paymaster, Quartermaster, Musketry-Instructor, and Adjutant are essential to the *completeness* of the unit, so also is a Surgeon. I differ from you. None of these Officers have been classed and embodied into a Department of the Army; their duties are purely *Regimental*, and could not be generalized without a complete reconstruction of the Military system; but this not the case with the Surgeon,—a great proportion of the Army being at all times under the care of Medical Officers who have no Regimental Commissions. Besides, these Officers are all appointed to assist the Commanding Officer in the superintendence of Military details which he is himself competent to direct,—a condition which does not, and cannot apply to the professional duties of Medical Officers.

I cannot agree with you that the Quartermaster is charged with the responsibility of the Regimental supplies, because, beyond superintending their issue, he has nothing to do with them. If a Regiment, on halting after a fatiguing march, were to find that no rations had been provided for it, the Commissariat Officer, not the Quartermaster, would be blamed. There can be no doubt that efficient



Commissariat Officers are as necessary to the welfare of the *unit* as efficient Surgeons, and I cannot see why the one should be considered more necessary to its "*completeness*" than the other, or why a staff of Chaplains of different denominations is not as necessary to the completeness of the Regimental unit, as a staff of Medical Officers. There cannot, as you say, be "two kings in Brentford," but there must be two responsibilities in every Regiment, with one of which the Commanding Officer is not competent to deal. This latter responsibility rests immediately on the Surgeon, and when he ceases to be a *Regimental* Officer, the semblance of the Two KINGS will vanish,—that is, taking *Brentford*, as I suppose you intend it, to represent a Regiment. You do not state my argument quite fairly when you assume that I desire to establish in a Regiment an authority opposed to that of the Commanding Officer. Such a measure would undoubtedly be subversive of all discipline; neither do I wish to put Medical Officers beyond the pale of Military authority. The questions at issue are,—Whether Regimental subordination is more necessary to the discipline of the Medical than to that of the other Civil Departments of the Army? and if so, why? and whether there is any connection between this Regimental subordination, as it exists at present, and the discontent which is so conspicuous in the Medical as compared with the other Civil Departments?—questions which must be weighed and considered without personal prejudice or bias. It is true that some Medical Officers prefer Regimental Service; but I would not weigh individual inclination against the public good. It is also true that, under the present system, exchanges from the Staff to Regiments, and the opposite, can be effected; but exchanges are not always convenient, or readily obtainable when desired. It often happens also that Medical Officers are transferred from the Staff to Regiments, without their wishes on the subject being consulted; and although when thus transferred for the good of the Public Service only, they are now exempt from the heavy tax of fifty days' pay, which was formerly levied for the Band and Mess, they have to provide a change of uniform at their own expense; and this involves a certain amount of personal hardship which would be avoided if the unity, which you advocate so strongly for Regiments, existed in the Medical Department. You must also remember that the Medical Officers who choose Regiments as the stepping-stones to their ease and convenience in the Service, do not sever themselves from the fostering care of their Departmental connection. If you were to isolate Regimental Medical Service, and subject the Medical Officers who selected it, to the hardships to which other Regimental Officers are exposed on the reduction and disbandment of their Corps, you would have fewer candidates for Regimental appointments. I am not an advocate for too much chopping and changing to avoid foreign service and other inconveniences. I think that the rough and the smooth of the service should be distributed as equally as possible, and this would undoubtedly be one result of the abolition of the Regimental system. I would not prevent exchanges of station altogether, but I would make a certain proportion of foreign service a necessary condition to promotion into the higher grades of the Department.

The questions of private practice and public emoluments scarcely come within the limits of this discussion, but I am glad that you have given me the opportunity of remarking upon them. Private practice is allowed, and I think rightly so, in the Army, on condition that Military duty is not interfered with, and it is as open to the Regimental as to the Staff Medical Officer; in this respect they are on an exact equality. Neither is there the disparity in their public emoluments that you have been led to suppose. Staff Medical Officers receive rather better allowances in kind, or a higher pecuniary commutation for them, in consideration of their having no Mess; but as an offset to this, they have not the advantage of a Mess, or the privilege of employing soldier servants. You say that Regimental Commanding Officers do not ignore the Medical Regulations, or give orders which are opposed to them. I could cite many, very many, instances in which they do so, if I were called upon, but it is unnecessary to pursue the subject further here.



The chief points upon which I have had cause of complaint have been the removal of my trained orderlies, upon what I conceived to be slight and insufficient grounds, and a want of readiness to allow the men most suitable for the employment to volunteer as Hospital orderlies. The system of Regimental Hospital servants does not, according to my experience, work satisfactorily.

I think you are a little severe on the subject of relative rank; and, after all, I do not see why Medical Officers should be held up to so much derision for asserting it. I saw in the English papers, the other day, that the Admiral at Plymouth had protested against the General taking precedence of him, although junior in relative rank, on the plea that he held the appointment of Lieutenant-Governor; but I did not observe that the Admiral, who gained his point, was ridiculed or lampooned for claiming the precedence to which his rank entitled him. I have already said that I would gladly, if it were possible, abolish the relative Military rank of Army Civilians, which is as distasteful to many of its recipients as it is to those who are compelled to concede it. The person who can devise any means of doing away with it, without impairing the efficiency of the Military Service, will do the State some service. At the same time, it is necessary to remember that "*relative rank*" is not confined to the Public Services, but that there is also a social gradation in civil life; and that, according to that order of precedence, Doctors of Divinity, Law, and Medicine, of the British Universities, do not improve their social *status* by connection with the Army. You seem to be under the impression that relative rank was established for the first time by the Royal Warrant of 1858, but it was not so. The declared intention of that Warrant was to improve the *status* of *Regimental Surgeons*, in the hope that *Regimental Commanding Officers* would confer with them, on matters affecting the welfare of their Regiments, more freely when the distance between their relative positions was diminished. How fallacious that hope has proved, is made evident by the experience of the last ten years. The intention of the Warrant has been lost sight of by both classes of Officers; and instead of accepting the changes which it introduced as conducive to the interests of the Public, and more especially of *Regimental Service*, they have made them the occasion of perpetual squabbling about their personal aggrandizement and importance. The "jealousies" and "heart-burnings" which have resulted, form a barrier to co-operation, and it seems hopeless to expect that they will disappear under the influence of time. I have always maintained that they were of Regimental origin, and I am glad that you supply me with an argument in support of this view. A Regiment being, as you say, "a very close corporation, which you cannot deal with as you would with men in [Civil life]," it follows that the obtrusion of the *civil element* into its exclusive circle, is peculiarly objectionable. It would be a dangerous experiment to yield to this feeling of exclusiveness on the part of Regimental Officers, so far as to cancel the Warrant, and make Medical Officers revert to the position of inferiority which they formerly occupied in the Army; but there would be no risk in severing the Regimental Medical connection, which, like a coupling upon dogs of totally opposite pursuits, acts as a constant source of annoyance and obstruction. You are right in supposing that my Regimental experience has shown me that a Regiment is a very close corporation, and I think you may justly compare it to "a family with a very old and long-established pedigree." I must, however, remark that the Regimental Surgeon is not one of "*the family*." I am unwilling to dwell on a subject that has so much of a personal bearing, and I will, therefore, adduce only one example in support of this statement. In all English families of old pedigree, there are two principal seats at table—one for the master, and one for the dame; and so, until lately, there were two seats of distinction at the Regimental Mess-tables—one for the Commanding Officer, and the other for the Officer next to him in seniority; but when the second place came to be claimed by the Surgeon, in virtue of his seniority, it was authoritatively discontinued, the exclusive members of the *ancient family* being unable to tolerate such an intrusion.



I quite agree with you in your appreciation of Garrison Sanitary Committees, which I consider worse than useless. You do not send Regimental Executive Officers to confer with the Officers of the Royal Engineers on the practicability of a breach; and why you should charge them with the sanitary supervision of barracks, is a problem which those may solve who can. The system, however, is not so ancient that its origin is lost in obscurity. It originated in the refusal of Regimental Commanding Officers to tolerate the independent sanitary inspections of Regimental Surgeons, and the reports which they formerly made direct to the Principal Medical Officer, or to the Sanitary Branch of the Army Medical Department. You still insist upon the necessity of a close and personal friendship between the Regimental Commanding Officer and the Surgeon. I cannot see it. If you were to meet with a severe railway accident, you would not object to the ministrations of the Company's Surgeon, simply because he was not your bosom friend; or if a Medical man, a stranger to you, were to point out a sanitary defect in your dwelling by which your family was being decimated, you would not shut your door against him merely because you could not open your mind to him, or make him the depository of your most private family affairs. It is true, that if these gentlemen presumed to meddle with your household regulations, you might justly resent the intrusion. And it is just because the Surgeon of a Regiment is required to *meddle* with its internal management, that I desire to remove him; not that sanitary supervision of Regiments is unnecessary, but because the person who undertakes it should be placed beyond the reach of misunderstanding and ill-will. The sanitary supervision of private dwellings, during pestilence, is distasteful to the inmates; and if a Health Officer were located in a family, and charged with the supervision of the kitchen sink, the culinary arrangements, and all the domestic details, his position would be uncomfortable: as it is, he goes from house to house; and if he does hear an occasional growl, he does not heed it, but dismisses the little exhibition of temper with a shrug and a smile. This is the independent footing on which I desire to place the Health Officers of the Army. I believe that by locating them in *Regimental families*, to poke and pry into the family affairs, you take the surest means of destroying their efficiency; and that when placed in such a position they either do not perform their duty efficiently, or subject themselves to an incalculable amount of personal annoyance in its performance, in which latter case they run the risk of being considered contumacious, and finding themselves black-balled for promotion,—two *very cheering* alternatives, I think you will admit, for the prospective interests of the Public Service. You say that the Officers of a Regiment alone present a bar to the abolition of the Regimental Surgeon. Why so? General and Staff Officers, a numerous and important body, are under the care of Staff Doctors, and why not Regimental Officers? With regard to the acquaintance—professional, of course—between Regimental Surgeons and their soldier patients, upon which so much stress has been laid, I would further remark that under the present improved system of Hospital Administration, every soldier in the Army has his "*Medical History Sheet*," which shows his temperament, character, and habits, the stations where he has served, as well as the diseases from which he has suffered in the Army, and their duration. These documents, which accompany soldiers from one station and from one Regiment to another, are kept in the Hospital for reference, and they afford the Medical Officer, at a glance, all the information that he can possibly require as a guide to his practice. The mere fact that it was necessary to remove both the Medical Officers of your Regiment in the Crimea—and yours was not an exceptional case—proves that the Regimental system is inapplicable during war, and that then, as well as during seasons of epidemic visitation, a more general distribution of Medical aid is required. You see that I have a great many disadvantages to lay to the charge of the Regimental system; and if I cannot see the advantages that suggest themselves to you, it is probably because I regard the subject from an opposite point of view. It is necessary, however, to look at it from every aspect, and I regret that



it has not been argued out between Military and Medical Officers of experience, as often as it has been made the basis of anonymous, one-sided, and frequently crude contributions to the public Press. There is necessarily much that is personal in such a discussion as this; but I hope that I have succeeded in my endeavour to avoid giving offence, while dealing with that part of my subject. I think there can be no doubt that the Medical Service needs reform. Whether the reform that I have suggested is the one best calculated to meet its requirements, time and further observation will best determine.

Yours very truly

J. M. GRANT.

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Natal, 29th December, 1869.

MY DEAR DR. GRANT.—I was so much pressed by the late arrival of the last mail, that I had hardly time to answer your minute on Army Medical Administration as carefully as I should have wished. There is one point in which I agree with you, *i.e.*, the extension of the system of General Hospitals wherever practicable. I entertain no doubt, that both in respect of administration, practice, and discipline, large Hospitals, under the supervision of Medical Officers of rank and experience, are better than small ones. To summarise my views, I will say, shortly,—That the Regimental Surgeon and Assistant are an integral part of the Regimental system. That a Surgeon in charge, independent of the Regimental Commanding Officer, is incompatible with Regimental discipline. That few, if any, Commanding Officers would be found disposed to accept such a situation of affairs. That the Regimental Surgeon should not be removeable for Staff or Detachment duties. That Regimental Assistants might fairly be at the disposition of Senior Medical Officers to meet extraordinary contingencies of service, reverting to their Regiments when the special necessity ceased. That the system of General Hospitals might be extended with advantage, but not to the exclusion of Regimental establishments. That it would be unwise to disturb the principle upon which the present Medical Regulations are founded. If you look at these subjects purely as a "Medical Administrator," then, no doubt, every measure tending to eliminate Military considerations is an advantage. But I question that view, and from the Military side many strong arguments must ever be in force. The life and backbone of the British Army, as constituted—and I take it of all other armies—is the "Regimental system;" you cannot weaken that without serious danger. You must not separate the soldier from his allegiance to his Regimental Officer; you must not lead him to look for justice from one man and comfort from another, if I may use the comparison. You must not impair the confidence of the soldier in the friendship of his Officer, who is especially bound to him in time of sickness. Once establish two authorities in a Regiment of the Line, and you may hang up the red coat on the first convenient peg. Do not misunderstand me; I am a warm supporter of the Medical Service, and believe honestly that the Service owes large obligations to its Medical Officers.

Yours faithfully,

H. R. BROWNE.

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13th January, 1870.

DEAR COLONEL BROWNE,—I must admit that the scheme which I suggested in my first letter, that of maintaining *Regimental* Hospital Establishments without *Regimental* Medical Officers, might be found inconvenient and difficult in its details. It is practicable, and would certainly place Medical Officers in a more



independent position than that which they at present occupy; but I doubt how far it would tend to close the breach which unhappily separates the Military from the Medical Service of the Army so widely at present, and the closing of which should be the first object of all Military Medical reform. You will remember, however, that from the outset of my argument, I expressed my preference to the system of General Hospitals, and it is most satisfactory to me to find that you agree with me in that view. The admission that large Hospitals, under the supervision of Medical Officers of rank and experience, are better than small ones, and that the system of General Hospitals should be extended as far as practicable, is most important when coming from such a warm advocate of the "Regimental system" as you are. It is true, that you make the reservation that the extension of the General should not interfere with the maintenance of the Regimental system; but let me ask you to reflect whether your proposition is quite sound, and whether (the number of patients being limited) an *increase* of the larger or General Hospitals does not involve, as a necessary consequence, a *decrease* of those which are smaller, or Regimental. Again—If, as you say, you entertain no doubt that both in respect of "*Administration*," "*Practice*," and "*DISCIPLINE*" large Hospitals are better than small ones, upon what grounds do you insist upon the continuance of the latter? You say that you would wish the system of General Hospitals to be extended "*as far as practicable*." Well, it is quite practicable to extend it throughout the whole Service. The Regimental Hospital system is confined to the English Army, as far as I am informed; at all events, it has no existence in those of France or Prussia. In the Statistical, Sanitary, and Medical Reports of the Army for the year 1865, which any of the Medical Officers at Natal will lend you, you will find two very interesting papers—one by Deputy-Inspector-General Paynter, and the other by Surgeon-Major Bostock, of the Scots Fusilier Guards—on the Medical organization of the French and Prussian Armies. We are not likely to agree on the amount of Military control to which Medical Officers should be subject. You rate it at a *maximum*, and I am disposed to place it at a *minimum*. You see no objection to all Medical Officers, except the comparatively few who are promoted into the administrative ranks, being *Regimental Subordinates* during the whole course of their service, even up to the advanced age of fifty-five years, when they must retire; but I do. You wish the Army Surgeon to be an "*integral part*" of an Army "*unit*," an almost inappreciable *fraction* of Army efficiency; but I wish him to be an unit of a large and important *whole*, without which there can be no Army efficiency whatever. I may, perhaps, on some future occasion, submit this and the other questions which we have discussed, to the consideration of the Army, and Medical profession at large. In the meantime, let me thank you for the patience and courtesy with which you have argued the subject with me.

Yours very truly,

J. M. GRANT.

Natal, 2nd February, 1870.

MY DEAR DR. GRANT,—I have to thank you for another very interesting minute on Army Medical Administration, and for your letter which I have just received on the same subject. If I have not replied earlier to the first, the reason is that it needs consideration. I don't think that, excepting on the "*Continuance of the Regimental Commission*," we differ as widely as appeared at first. I am an *advocate* for every assistance that can be given to the Medical Officers of the Army; and I *advocate* every means that will facilitate and improve the General Administration of Medical duties. I am quite sure that every Officer of sense and reflection is ready to acknowledge the advantages derived, in late years



especially, from the advice and exertion of the Medical Branch of the Service. For myself, I would record at once a very warm feeling of obligation for most valuable assistance on many occasions; and I certainly regret to see that you have an impression that the Medical Officers of the Army are not received, as a rule, by Regimental Officers, with the same kindness and cordiality as their Executive brethren. I will not say that this had no foundation, but am not of opinion that it can fairly be urged at the present time. Some years ago, about the time of the war in the Crimea, the necessities of the Service introduced in the lower ranks a large number of men as Medical Officers, who were neither by education or position such as would be acceptable associates for the Officers of the Line. Again, in late years, a difficulty occurred, originating, I think, with the Civil Colleges, in inducing medical gentlemen to enter the Army; and commissions were largely given to men of an inferior class. You will know better than I do how little sense of duty, and, in many cases, of humanity, was shown by the class to which I allude. The Army Medical Profession received a shock from which it is only now recovering. The introduction of Relative Rank has been another and later cause of disunion, for reasons which I explained in my last letter, and created for a long time much soreness and unfriendliness, some of which no doubt still manifests itself. But all these causes are steadily subsiding; and I do not consider that Medical Officers can now with justice say that they are not as much respected, and as heartily welcome, as any of their combatant brothers. The "Regimental Commission" is, to my thinking, a great bond of union, which, on this ground alone, it would be unwise to destroy. Holding to my views of the advantage and indeed necessity of the Regimental Surgeon and Regimental Hospital, I am still ready to acquiesce in the extension of the system of General Hospitals, as a means of relieving Regiments from the more serious and protracted classes of diseases. The Regimental Hospital should, I think, not be burdened with men who are unlikely to take their duty within a reasonable period. This, however, is hardly to the point. Our Army is so peculiarly constituted, and our national habits and ideas are so different from those of Continental Powers, that I don't think you can institute a *comparison of systems* of Administration; a system, for instance, admirably adapted to the North German Army, might prove a grave failure in our own. Continental Armies are far less dependant on Regimental unity than we are. The social position in English Regiments is really that of private life under stricter rule, both as regards Officers and men. The Regimental Surgeon is the Family Physician, and occupies a place in the confidences, and often affections, of his constituency that no stranger can ever attain. Regiments of the Line in the English Army are, as I said before, very close corporations, and will, if I know anything of them, resist the interference of those who have no interest in the commonwealth. And I put it to you to say whether a Surgeon could satisfactorily discharge his important duties under such circumstances; you must change the Constitution of the Army, if you wish to change its sentiments. Theoretically and abstractedly, I should agree with you that one Medical Officer was as good as another, but I can't concede it in practice. I had an opportunity the other day of talking over the subject with the present Surgeon of the 20th, who expressed a very decided opinion that a large number of Medical Officers would exceedingly regret the abolition of the Regimental system. Probably, opinions are divided in the profession. I cannot but think that, irrespective of Medical questions, it is an advantage to the Line that its Medical Officers should have practical acquaintance with Regimental discipline and economy, which they can best acquire in the present mode. I quite think with you, that it would be both unjust and impolitic to tie *Officers down* to Regimental Service, as they must naturally look for higher positions as their service advances. Five years might be a fair limit for Regimental service as Surgeon, unless for individual convenience; and similar limitations might be placed on Regimental service in the junior ranks. But I cannot help the opinion that facility for exchange from Staff to Regimental duty is



the true solution of the question. I have not yet read the letter you mention in the Medical Report for 1865, but will do so.

Yours very faithfully,

H. R. BROWNE.

Grahamstown, 18th February, 1870.

MY DEAR COLONEL BROWNE.—I have received your last letter, and am glad to find that we are so much in accord on the subject of Army Medical Administration. It seems an ungracious thing to say, but I am quite sure that many Medical Officers find their *social position* in Regiments uncomfortable; and I am equally sure that this was one of the chief causes of the difficulty in recruiting the Medical Service, and the introduction of an inferior class of Medical Officers to which you refer. I wish I could agree with you in thinking that this unhappy feeling is subsiding, but I fear that it has only become chronic, because it is an axiom in medicine that no thorough cure can be effected without removal of the cause of disturbance from the constitution. There is unquestionably a point of friction in the machinery of the Medical Department at the present time, and I have quite made up my mind that it is the *Regimental system*.

Yours very truly,

J. M. GRANT.



## CONCLUSION.

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As I am so much opposed to the Regimental system, I may, perhaps, be expected to suggest a better, and I will, therefore, say that I advocate not only a system of General Hospitals, but a complete and distinct Medical organization. I desire to see the Medical Department *united* as a Staff Corps, the Army Hospital Corps extended, and Regimental Hospital Sergeants, and Orderlies discontinued; I would have to each Garrison Hospital a Military Superintendent, and a sufficient staff of Medical Officers, Purveyors, and Hospital subordinates. By a Military Superintendent, I do not mean a General Officer governing the whole establishment, doctors and all, but a Subaltern Officer, whose duty it would be to exert a general supervision over all the purely Military details connected with the Hospital, but not to interfere directly, or indirectly, with either the Medical Officers, or Purveyors, who should be perfectly free, and unfettered in the discharge of their special duties, and subject only to the orders of their own immediate superiors, and to the general discipline of the Garrison. The Medical Officer would be alone responsible for the good order and discipline of the wards; the Purveyor should be responsible for the good order and cleanliness of the kitchens, out offices, and Hospital precincts, as well as for the Hospital buildings; he should also be charged with the sole responsibility of finance and supply, and of preparing all returns, and documents connected with the expenditure of the Hospital, whether in money or kind; Hospital expenditure to include the pay and allowances of Medical Officers; conveyance for them and their baggage, as well as the transport of sick soldiers. The signature of the P. M. O. to these business returns should be required as sparingly as possible, and when attached, it should be considered merely as an approval of the expenditure, not as a voucher of the accuracy of the accounts.

All Hospital subordinates should be under the exclusive orders of the Medical and Purveying Officers respectively, and the interference of the Military Superintendent should be required only in such cases of misconduct as they might be unable to control. Upon receiving complaints against either patients or servants, the Superintendent would investigate them on the spot; and if he should think it necessary to bring any offender before the Officer Commanding the Garrison, he would himself appear against him. Hospital discipline suffers materially under the present system by the great inconvenience that a Regimental Surgeon is put to in making reports on the subject to the Commanding Officer. Orderly-room and Hospital hours are generally the same, and rather than incur the inconvenience of appearing himself, or sending the Hospital Sergeant to appear, against a man at the very time when both are most engaged, he too often shuts his eyes to irregularities, or deals with them so leniently as so encourage their repetition. The duties of the Military Superintendent, as I have defined them, would not be very onerous; but there cannot be much for a Military Officer to do in a Hospital. He would be chiefly useful as a Military referee, and a medium of communication with the Commandant, and his acting in that capacity would supersede the necessity for the visits of the "Captain and Subaltern of the day" in search of "*complaints*," which give the Orderlies a good deal of extra work in wet weather, and to which, I think, other and stronger objections might be made.

Detachment Hospitals might remain as they are, the Medical Officer being under the orders of the Officer Commanding the Detachment, and the joint duties of Assistant Ward Master, and Assistant Steward being performed by one Sergeant



of the Army Hospital Corps. In all such cases, however, the Sergeant should belong to the Medical, instead of to the Purveyor's Branch as at present, and he should be a qualified compounder of medicines.

With regard to the distribution of Medical Officers, and Subordinates, I would have so many for each station, or division of an Army in the field, to be employed as the P. M. O. might direct. A certain number of each would be more or less constantly employed in Transport service, and in their case, I would let each voyage beyond the limits of the United Kingdom, whether long or short, count as a tour of foreign service.

The scheme which I have proposed would entail very little, if any, additional expense. Military Superintendents might be drawn from the Garrison, receiving, while so employed, a little addition to their pay; and the duties of finance and supply would devolve upon Officers of the Control Department, specially appointed by the Controller, or Deputy-Controller, on the station.

Such Military appointments as I have suggested might, perhaps, act in some degree as a bond of union between the two Services. I think that a Military Officer, with powers duly limited and defined, having his "orderly-room" daily within the Hospital, and recording the more serious delinquencies to be reported to the Commandant, would materially strengthen the Surgeon's hands, without impairing his authority; but this is now more than I can say for the present system of Regimental Hospital supervision by the youngest Officers of the corps, which appears to be intended more as a check upon the Surgeon, than as affording him any assistance or support. I think the present a very fitting time for reconsidering the Army Medical Administration, because the absorption of the Purveyor's Department into the general system of Control is likely to cause some inconvenience and confusion; but whatever changes may be made, I most earnestly hope that the duties of Medical Officers will be defined within strictly professional limits; they should have nothing to do with any financial, or supply details whatever; they were exempted from all such duties by the Royal Warrant of 1858, but I observe with much regret, that since the introduction of the new Control system, some of these ultra-professional duties have been re-imposed. By recent orders, Principal Medical Officers are required to make up the pay-lists and ration-returns for their department, to sign orders for payments from the Military Chest, and to prepare the annual estimates of expenditure, all of which are enumerated in the Purveyors' regulations as amongst the duties of that Department. In discussing this subject lately with the Acting Deputy Controller and the Principal Purveyor, the latter objected that he could not prepare the estimates for the Medical Department, as he had no means of knowing what changes of establishment I might wish to make, and the former concurred in the objection, but I conceive that they were both wrong. Principal Medical Officers on foreign stations are required to submit any increase or decrease of establishment that they may propose, to the General Officer commanding, who, if he approves of the change, will authorise it in general orders; and these general orders are both a guide to the Purveyor in preparing the estimate, and his authority for any changes he may introduce into it. Some confusion arises from the War Office form for this return being marked for the signature of the P. M. O., whereas it is distinctly ordered by item 145 of the Purveyor's regulations to be prepared by that Department, and the same item of these Regulations prescribes the book that is to be kept to secure accuracy in its details. Such an uncertain definition of relative duties causes inconvenience and embarrassment; and we want a code of Regulations more strictly guaranteed than at present, and less liable to revision and alteration by others than ourselves. I am also very strongly of opinion that the Military element has far too much preponderance in all our Hospitals, both General and Regimental. Surgeons of the London Hospitals have nothing to do with their internal economy, which is provided for by an establishment of Secretaries, Treasurers, Stewards, Matrons, Nurses, &c. The



Visiting Surgeons see their patients once a day, while the House Surgeons are resident on the premises, and always available in case of accident or emergency; and the whole establishment, Medical Officers included, is under the supervision of a Board of Directors. I think that our Army Hospitals should be on the same footing, and it appears to me that the plan which I have proposed would assimilate them as nearly as the nature of the two services admits. The Board of Directors would be represented by the General of the Division, the Principal Medical Officer, and the Officer Commanding the Garrison; the Visiting Surgeons, by the Surgeons Major and Surgeons; and the House Surgeons, by the Assistant Surgeons—one of whom is available at all hours, both by night and day; while the different degrees of direct responsibility for the discipline, finance, and general management of the Civil Hospital would be represented in the Military Establishment, by the Military Superintendent, the Purveyor, and the different grades of Hospital subordinates. All, or nearly all, these conditions are embraced in the present Medical Regulations; but, as I have already stated, these Regulations are subject to such constant changes that no Medical Officer can know with any certainty *for even a month together* where his duty begins, or where it terminates. Each succeeding Monthly Army Circular may convey to him instructions which negative the whole scope of the general Regulations by which he should be governed. This has been particularly the case lately, and I attribute it to the administrative changes which have recently been inaugurated. I hope, however, that the inconvenience will be temporary only, and that the relation between the Medical, and Control Departments, in respect of Military Hospital organization, may soon be put on a satisfactory and permanent footing.

I had intended to have closed my subject here, but having since heard it mooted by a Field Officer of Infantry that the Medical Profession serving with the Army should have no rank whatever, but that they should be purely civilians, wearing plain clothes, with some "badge" to prevent them from being executed as spies, if captured by the enemy; and that as the profession of Medicine is overstocked, Civil Practitioners might advantageously be employed both in Garrisons and in the Field, I think it well to reply to both propositions. I have already stated that if a proper *status*, and other advantages could be otherwise secured, I would not object to the abolition of Relative rank in the Civil Departments of the Army; but such a measure is simply impracticable. The Officers and Men of the Civil Departments must have a fixed and determinate "rating," or rank, by which to regulate their claims for quarters, allowances in kind, prize money, compensation for wounds, widows' pension, retiring allowance, and the like; they must have a certain Military *status* to ensure them due respect from the common soldiers, with whom they are necessarily brought in contact; they must have gradations in rank, and a certain Military organization within themselves, to secure efficiency in their own administration; and they must be *in and of* the Army, because otherwise they could not be legally subjected to the Articles of War. So much for the necessity,—and now for the expediency of Relative rank. I think it will be admitted that the Medical Service of the Army should be made as attractive as possible to the better class of students; and there can be no doubt that many young men of much promise are induced to enter it by the glitter, as much as by any solid advantages that it presents, as compared with the less gaudy though more lucrative practice of the profession in civil life; but I suspect that few gentlemen would be found willing to accept service in the Army, on the understanding that no rank or *status* should be allowed them. In such an isolated position, they could not be expected to identify the interests of the Service as their own; they could be influenced by no *esprit de corps*, nor, however lengthened or meritorious their service might be, could they look for any suitable advancement or reward; there would be nothing except the silvering of the hair, and other signs of advancing age, to distinguish between the veteran and the tyro in the Service. It may very fairly be questioned how far the term CIVIL is



appropriate, when applied to the Departments of the Army; the services which they render are certainly very different from any that is rendered by their representatives in civil life, and Medical Officers, at least, can show a ratio of wounds received on the field of battle, which will bear comparison with that of combatant Officers, while the death rate amongst them from disease consequent upon exposure in the service, is much higher; they have also a fair share of the "Victoria Cross," a decoration which is only given for gallantry in the field. I have heard it argued that this being a purely *Military* decoration, should not be conferred upon *civilians*; but do the persons who reason in this way reflect that few men would incur the dangers, if debarred the honours, of a campaign, and that it might be found difficult to recruit the Civil Departments of the Army on such terms? These Departments are not, as Colonel Browne would have it, merely *attached* to the Army; they must be classed amongst its component parts, and as organs essential to its vitality. The opposition to their being so considered which is offered by some combatant officers, reminds one very forcibly of the fabled rebellion of the members against the belly; and it was very near having the same result only a few years ago, when it caused the Medical Service of the Army to become a bye-word in the profession, and to be shunned accordingly. With regard to the employment of civil practitioners, either in whole or in part, instead of the duly qualified Officers of the Military Medical Service, I can only say that I think it doubtful whether the best practitioners in garrison towns would accept the charge of troops, and I am very certain that they would not accompany them to the field. In 1864, when great reluctance was felt in the Medical profession to join the Army, civil practitioners were invited to enter, and some of them did; but the experiment was so unsatisfactory that it was thought better to fill existing vacancies by accepting a rather lower standard of qualification,—a dangerous alternative, which it would be undesirable to adopt too freely. The following remarks, taken from the autobiography of the late Sir James McGregor, who presided over the Army Medical Department for upwards of thirty years, with as much advantage to the public as honour to himself, are very appropriate to this subject. Speaking of the condition of the Medical Department during the revolutionary war with France, Sir James McGregor observes:—"The advantages of Medical Officers in the service during the last forty years have, it is true, been greatly increased, but Government was compelled to increase them because soon after the commencement of the revolutionary war with France, the greatest difficulty was found in obtaining those who were qualified for the duty. It was at one time found absolutely necessary to advertise for them, and even to beat up for them, offering them good pay and quarters. \* \* \* \* \* This was continued for many years, indeed, till nearly the close of the war, and it was the occasion of many uneducated and unqualified persons being introduced into the service \* \* \* \* \* It is not only in the sense of humanity, but in that of a sound policy and real economy, that the state should provide able Medical and Surgical advice for the soldier when sick or wounded. I look upon it to be an implied part of the compact of citizens with the State, that whosoever enters the service of his country as a soldier to fight its battles, should be provided with the same quality of Medical aid that he enjoyed when a citizen. In every large town, whence the bulk of recruits is drawn, there are Public Hospitals which are always open to those in that class of life from which the soldier comes. The Physicians and Surgeons of these Hospitals are always the ablest men in the profession. After the enjoyment of such Medical aid the soldier should not, therefore, be consigned to the care of the ignorant and uneducated of the profession, or put off with a cheap article of a doctor." I think that all will concur in the sentiment here expressed. The improvements which Sir James McGregor inaugurated in the *status* and qualifications of Medical Officers, have been progressive, and attended with corresponding advantage to the State; and those will incur a very serious responsibility who may adopt any measures



calculated to give the Medical Service a retrograde movement, which would undoubtedly be the effect of substituting a Medical rabble without training or discipline of any kind, for the present body of well-educated Medical Officers, trained, as they are, to all the specialities of Military Medical Service, and most of them having the experience of more than one campaign.

J. M. GRANT, M.D.,

Deputy-Inspector-General of Army Hospitals.

P.S.—The Army Hospital Corps should be under the orders of Medical Officers, as the Army Service Corps is under the orders of Officers of the Control Department; and the men should be attached for *pay*, as well as for *discipline*, to one of the Regiments of the Garrison in which they are serving. Transfers from one Corps to the other should not be allowed.

J. M. G.



submitted to the Medical Bureau, and the Medical Bureau, which would  
 be the effect of submitting a Medical Bill, without reference to  
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J. M. G. (M.D.)

Dr. J. M. G. (M.D.)

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J. M. G.



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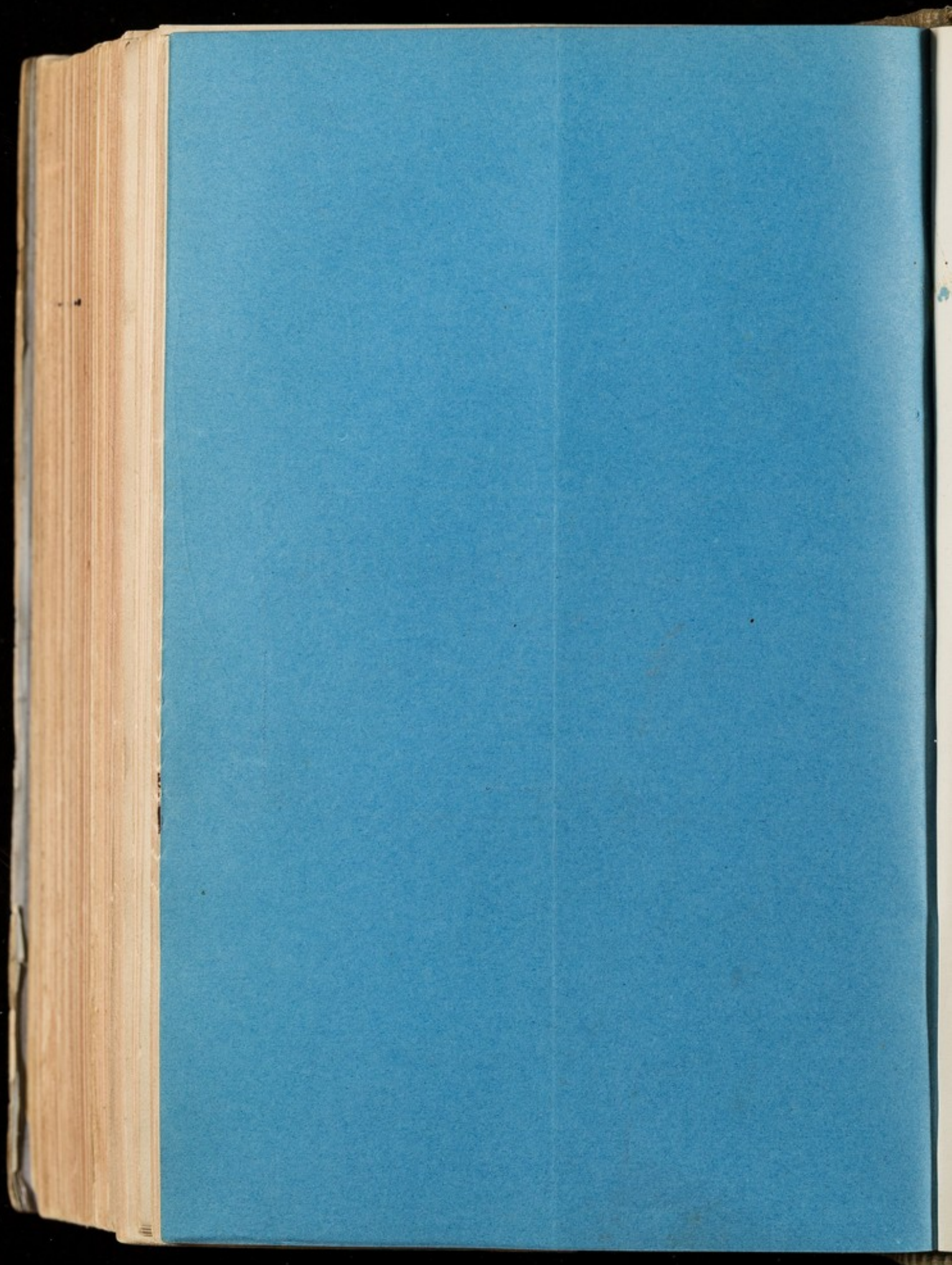
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THE  
ARMY MEDICAL SERVICE  
IN THE  
PAST AND FUTURE

AN EXPOSTULATION

By A. M. D.







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THE  
ARMY MEDICAL SERVICE

IN THE  
PAST AND FUTURE

AN EXPOSTULATION

By A. M. D.

*Surgeon Major Patrick Walter Stafford*



LONDON  
J. & A. CHURCHILL, NEW BURLINGTON STREET  
1875



THE  
ARMY MEDICAL SERVICE

IN TWO VOLUMES

PART AND FUTURE

THE MEDICAL DIVISION

BY G. M. D.



LONDON

W. & A. C. LUTHER, NEW BURLINGTON ST.

1895



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## THE ARMY MEDICAL SERVICE

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As the condition of the Army Medical Department is at present occupying attention in civil as well as military circles, the following remarks may not be deemed unseasonable in a brief examination of conflicting opinions, and with a view to rectify misapprehensions and explain the causes to which the existing discontent of medical officers has been assigned.

The organization of military hospitals for the sick of the army has recently undergone an entire change from a purely regimental to a general system. Formerly each regiment had its own hospital and complement of medical officers, who were not available for extra regimental duties except under circumstances of emergency, and it was therefore necessary to maintain a supplementary body of officers called "The Medical Staff," whose duties were general and irregular, who were at all times available for the exigencies of the department. After a prolonged trial of this mixed system it was found inconvenient and unsatisfactory, and the amalgamation of the staff and regimental officers was decided on, having mainly for its object the equalisation of duties and foreign service for officers, increased comfort for the sick in hospital, and, lastly, economy to the State.



Under the former system existed a grievous maldistribution of labour, the regimental surgeons being greatly benefited by their strict limitation to regimental duties. In the matter of foreign service some officers, who could ill afford to pay for exchanges, were obliged to serve constantly abroad, while others were almost continuously at home.

As regards the question of expenditure, a considerable saving was anticipated by the redistribution of officers and concentration of hospitals.

But the most important reason for the change was the increased facility afforded to medical officers for elaborating the treatment and nursing of the sick in hospital, and for establishing a much higher degree of completeness, so to speak, in their surroundings, of which more hereafter.

The general system is being now organized at all military stations, having been already established some months back in a selected few of the largest garrison towns, where it has created most favorable impressions on those officers who were entrusted with its birth and development, and who alone are qualified to pronounce on its success. One senior officer of a large hospital declares that so far he has not met with a single hitch except in the relations he finds himself as head of the hospital occupying towards his own subordinates of the Army Hospital Corps. He also testifies to the appreciable improvements already manifested by the change, comprised in new facilities for regulating details, increased regularity of operation, and, above all, in the comfort of the patients whose ailments will also be benefited indirectly by the elevation of the pro-



fessional abilities of medical officers resulting from the opportunities for consultation and exchange of opinions which the centralisation of hospitals will afford them, all of which advantages the regimental surgeon, from his comparative isolation, was totally deprived of.

The testimony of the qualified opinion referred to concerning the benefits attached to general hospitals is very gratifying, and in contrast to the quasi-oracular prophecies of the opponents of the system, including those who should be amongst the first to encourage a fair trial for any progressive scheme for the health of the army.

The military element is averse to general hospitals, because they are said to remove the patients from regimental supervision. But what necessity can there be for supervising a man who is temporarily *non est*? The reasoning military officer will regard a sick soldier as he would a valuable watch, which, having been broken, is handed over for repairs to the best workman procurable. It is unnecessary to remind him that his assistance is limited to kind words and sympathy, that if he be desirous of exhibiting his kindness, the general hospital is quite as open to him for that purpose as the regimental was formerly. The notion that the sick are benefited by the indiscriminate visits of regimental orderly officers must be relegated to the region of clap-trap, adopted for the purpose of influencing public opinion against general military hospitals.

Another reason advanced against the change, that the sick are deprived of a comrade's care and made over to the apathy of strange orderlies, is wholly



inadmissible, because it is known to all that the regimental hospital orderlies were totally unacquainted with even the elements of what is understood to be "nursing." Here is a common instance of a regimental comrade's services. Private X—, in hospital with enteric fever, requires a special orderly. He would prefer Private C—. But C— is at musketry; perhaps he is the adjutant's orderly. He may be a defaulter, or not passed his drill, &c., &c., and therefore for "regimental" reasons unavailable. But Private D—, at the top of the roster for "fatigues," is detailed by the sergeant-major to report himself at hospital for "sick orderly duty." Private D—, instead of being conversant with the duties required of him, simply finds himself in the way; when he begins to get useful all occasion for his services have passed away. Who will tell a medical officer that has been in a regiment that this is not what usually occurs?

An objection has been offered to the soldiers being treated by a strange doctor, one who is said to be unacquainted with his history, idiosyncrasies, or schemes, as the case may be. But a record of the patient's case accompanies him to hospital in the form of his medical history sheet, a provision which is unknown for civilians admitted to our large private hospitals where the information elicited at the patient's bedside is regarded as sufficient index to the required treatment.

Another pretended obstacle to the success of the new system is contained in an erroneous impression that the responsibilities connected with the charge of hospital equipment and management will only



tend to hamper medical officers in their professional duties. But the very change objected to was purposely introduced to obviate delay and difficulty in procuring hospital requirements by placing them directly in charge of the senior medical officer. Who can forget the clashing of authorities which constantly occurred about regimental hospital supplies, the useless conventions of regimental boards at hospital, on purely hospital affairs, provisions, equipment, &c. Not that there was any objection to this medium, but to the fact of its being so wholly unnecessary, and of no benefit to either the soldier or the service.

On the other hand, by the reformed system, the sick are received into a well-equipped and organized general hospital still under the supervision and discipline of the officer commanding where trained nurses are of *real* assistance to the patients; where the older and more experienced surgeons, no longer liable to be disturbed by minor considerations, are in readiness to bestow that unremitting care and attention to the cases which the regimental officer was not always in a position to do in consequence of his multifarious regimental duties.

General hospitals will be provided with all the newest instruments, the latest inventions and appliances, with special accommodation, such as dark and operating rooms, &c., for elaborating medical and surgical investigations, which provisions were unknown in regimental hospitals. The convalescence of the sick will be accelerated; as libraries, reading and recreation rooms are to be established, which could not be done regimentally.



The regimental system has been confessed by its partisans to be wholly impracticable in the field; but if a system be acknowledged as inoperative at a time when it is required to be above all effective, why should its continuance be advocated during a period of preparation for that time?

The temporary disposition on active service of regimental surgeons for general duties as has been proposed in a recent pamphlet by a very able administrative officer notwithstanding, would be certain to break down in time of war through regimental scheming, conflicting interests, emergent occurrences and from various other obstacles.

After an impartial consideration and a comparison between the rival systems it will be conceded that as regards hospital organization at all events the general method is an immense advance on the old plan, always provided it is effectively supported.

The rocks on which alone it is possible for the system to split are of three kinds. 1st. The disapproval of the military element, which can only be counteracted and nullified by the success of the undertaking; 2ndly. The inability of the administrative grades to carry out the general system effectively; and, 3rdly, the want of harmony with it displayed by a section of the junior ranks, known as "the regimental men." The first impediment has been discussed. The second is the gravest danger. The older officers accustomed to a kind of spoonfed existence are timorous about responsibilities; about the stores; about the management of hospitals, &c., which are the true touchstones to the authority and respect that elevate a man amongst his fellows.



Time and the 'Gazette' are the only remedies for this impediment.

The third obstacle is referable to the position taken by certain members of the executive ranks ; a very intelligent section of which would seem to be distrustful of receiving considerate treatment at the hands of their own seniors, which feeling is said to be grounded on their experience of both home and foreign service, and which if justified would naturally account for their objection to the unification. Although some of the senior ranks have much to learn in this respect from those of other branches of the army, surgeons must not forget that the hardships of "the medical staff" were chargeable against the late irregular system rather than its administration. Senior officers were frequently placed in the most embarrassing dilemmas, from inability to provide for exigencies. By the inauguration of the new system it is expected that this cause for complaint will disappear.

Besides the last-mentioned objection from really thoughtful medical officers there is another advanced by a set of officers called "the regimental men," who vehemently oppose the reorganization on more or less selfish grounds.

The medical department may be divided into three classes of officers—firstly, "the professional ;" secondly, "the social ;" and thirdly, "the professional and social" or "mixed." The "professionals" are probably about 10 per cent. of the whole; the "socials" perhaps double that number ; and the remainder comprises the "mixed." The professional man is alone animated by one desire—the love of his profession.



He works unceasingly on regardless of the total non-existence in the department of prospect, encouragement, or reward. These are, to a man, supporters of the general hospital system. Taking the "mixed" class next, it would seem to be divided, having all the thoughtful men, numbering three fourths of the party, in favour of unification, with an insignificant section in doubt and hesitation, and decidedly preferring the late mixed system, provided they themselves could hold the best appointments.

The "social" representative is known as "the regimental man." He is clamorous for a return to the regimental system. All others will collapse and ruin befall the service. His profession and department are to him quite secondary to "the mess," a "crack" regiment, and "regimental badges." The regimental men, he says, do all the medical work of the army; and for this reason there should be a medical staff to do their duty when on leave. He affects uniform and trappings, and, if mounted, takes glory from his sabretasche. He has been strongly suspected of having written to the papers advocating medico-military titles such as "surgeon-lieutenant," "surgeon-colonel," &c. The "creature comforts" of the mess decide him as to the superiority of regimental over general hospitals. If he be a "gay Hussar" he vouchsafes "good morning" to the imitative "gunner," smiles at the "rifleman," nods to the genteel "common infantry," and stares at "the medical staff." Withal, he is at heart both kind and good, and does his duty, in his own way, satisfactorily to *himself* and also to his *colonel*. His reasons, however, are neither sufficient nor convincing.



Indeed, all the objections offered against the general system are undoubtedly of a feeble and flimsy nature, and might easily be explained away to their adherents.

The absorption of medical officers into one corps in April, 1873, constituted the unification of the department about which there has been some grumbling from regimental men. The only cases of hardship would appear to be where men were severed from regiments for which they had paid. But Lord Cardwell promised that individual claims, if properly substantiated, should be respected, and if there be a meaning attached to words, such promise included compensation for vested interests of a monied kind. Apart from this consideration, however, the extraction of medical officers from regiments was strictly regular, being a necessity. What other plan could be adopted, bearing in mind the change that had been decided on and the object that was aimed at? Since the medical disestablishment of regiments it would seem to be a fixed principle at Whitehall Yard to compensate as far as possible the regimental losers from the change by either continuing them in a five years' tenure with their regiments, or giving them a three years' lease of the New Brigade Depôts.

The unification of the medical department being at length accomplished, it presents three several aspects for consideration—professional, official, and social. It has been already shown how the professional knowledge of medical officers may improve by their being thrown more closely with departmental colleagues in the hospital, and enabled to interchange opinions, medical and scientific—advantages that will redound eventually to the benefit of the sick.



Officially the department will be less fettered in its relations with other branches, and having its own organization and supplies at hand, will feel a sense of ease and an immunity from unnecessary interference in petty details, although still as formerly under military discipline. The officers having acquired a designation, will raise it before long to an official level with those of other important branches of the army.

Concerning the social aspect of the unification, it is regretted that this question should be so pushed by "regimental" medical officers until the situation is in danger of becoming stretched. As the subject appears to be somewhat misunderstood, a few remarks, however discursive here, may not be ill chosen.

It is stated by "regimental" advocates that medical officers are likely to lose some of their former social status because of their severance from regimental life.

But a position in society is conferred upon persons on account of certain reasons, as Wealth, Family, Authority, and Intellect. The two first mentioned carry with them respect and attention in all societies. The third and fourth attract a social consideration; although the medical department contains many representatives of both one and the other of the first two claims, still it is the two last named on which its members should chiefly rely.

Under the former system the medical officer possessed little or no regimental equality. It can scarcely be conceived how men could delude themselves into a contrary belief. Everywhere he turned the regimental surgeon was met by what may be termed "disabilities." He was ineligible for charge



of the mess and band, although obliged to pay heavy subscriptions to both. By military clauses he was deprived of taking even second place at mess. He never could do more than petition for an extra tune after dinner. As a regimental representative out of doors he was altogether excluded. But the "regimental man" exclaims, "All a mistake! Why, Dr Epicure, of the 174th, had the mess for eleven years!" Or, "In the Royal Browns, Fergusson (the surgeon) used even to lead the band!" Marvellous! and quite true, no doubt; but singular exceptions. It is known, however, that of late a custom was established in batteries of artillery of "giving the mess to the doctor," who became, by prescription, Major Domo to a catering mess, entirely for convenience' sake, as was certain to be intimated when *necessary*. The regimental doctor was enclosed in a network of "restrictions" all emanating from the military, the nature of which invariably eked out by accident; and he never enjoyed "all the precedence and advantages of substantive rank except, &c.," accorded to him by the 17th clause of the Royal Warrant of 1858 brought out by the late good and just Lord Herbert. The regimental doctor as such had no equality as a regimental officer. When liked and esteemed by the officers, as he frequently was, the reason was not far to seek in his kindly disposition or personal attainments.

By the unification, medical officers, being supreme in their own province, will carry with them the responsibilities, the authority, and position to attract respect and social esteem. The Military Executive, relieved from unnecessary interference with hospital



economy, which they never desired, will enter into friendly relations with the department, and the medical duties of the army, although still, as formerly, under military control, will be conducted without that "friction" which is ever productive of social difficulties.

If the older officers will but maintain a position of courteous independence departmentally, the younger ranks will soon drop into harmony with the system, especially as the unification must tend to weld together departmental interests, when those vexatious moves of officers, so much and justly complained of, become remembered only as necessities of the late mixed system.

As for specific claims of the department on society, it is certain that these are largely increased by the unification. Medical officers of the army will now take a far higher place as a body than ever the "regimental doctor" could hope for at the foot of his corps, and labouring under "disabilities." They will occupy positions according to their social qualifications; if they have not wealth they cannot expect to succeed against the wealthy, and so on. By the cultivation of *esprit de corps* in the department, a quality which the regimental system ever stifled in its infancy, by a personal sense exhibited by medical officers of the high importance to the army of their noble department, by a courteous and manly behaviour under seemingly adverse circumstances, there cannot be doubt that the medical department will occupy a very high level of social respect. The public favour accorded to regiments with their bands and messes, parades and pomp, can never be expected for a department of the army; but in the ball, concert, and drawing rooms,



at scientific readings and theatricals, in the cricket field and racket court, at whist and billiards, &c., all of which constitutes "society," the accomplished medical officer will take his place as second to none in friendly emulation of all comers, bearing in mind with regard to the members of his own department whom he happens to meet in "society" that unity is indeed strength.

### THE CONTROL OF HOSPITALS.

By the Royal Warrant of March, 1873, the control of military hospitals was handed over to the medical department, except general invalid hospitals, where commandants, with their assistants and a full military staff, are still to be continued. The retention of this large military staff, however, seems wholly unnecessary, and appears to be a waste of public money, the senior administrative medical officer being fully equal to the general as well as the medical control, when proper jurisdictional authority is accorded to him. The duties of commandants and their staffs are merely comprised in the discipline of the sick! moves of convalescents, and final settlements with invalids prior to discharge. Hospital ships in time of war are also placed under military command—another instance of questionable expenditure, because in the interests of the sick the senior medical officer on board should virtually be the head authority of the floating hospital. It is to be hoped, however, that the comfort of the sick will never become a secondary consideration to that of providing a few more easy berths for military officers on active service.



It seems surprising that as yet no economist has been the means of having these sinecures abolished.

In the royal navy the charge of all shore hospitals is made over to the medical department. Nor is there any necessity to introduce military command into army hospitals. If, however, there be a jealousy about the term "command," it should be omitted, and the medical head called "the administrative officer," to assist whom the paymaster and commissary of hospitals, as at present, should be retained, and a medical secretary appointed. But a singular fatality would seem to attend the medical service; it is not even permitted to manage its own departmental affairs without extraneous interference.

If a depôt for time-expired men be necessary in connection with Netley Hospital, it should be established outside the hospital, as Government will scarcely ever permit such a costly building being converted, even temporarily, into a barrack as at present.

### THE ARMY HOSPITAL CORPS.

Although the general direction of hospitals has been entrusted to the medical department, disciplinary authority over the hospital subordinates has been withheld from medical officers personally, and a new class of officers has been created, called captains of orderlies, from the ranks of what was formerly "The Apothecary Department," the result of this ill-advised measure being that medical officers are powerless to make their presence felt by their own subordinates in the wards of the hospitals over which they are placed. This limitation of authority seems to the



reasoning mind to be most unaccountable. Under this system a medical officer of whatever rank cannot enforce his orders, and may only report an offender to the captain of orderlies, who, himself unacquainted with the details, is at liberty to deliver judgment for plaintiff or defendant as he pleases, so that the medical department has been thrust permanently into a position towards its own subordinates which would not favorably compare with that of a visitor at a house towards the servants whose civility is measured according to the prospect of a parting gift or otherwise from the guest. The whole effect of the new arrangement is therefore marred by this one restriction. Under existing circumstances the Army Hospital Corps men feel that they have no local officers to whom they can look for approbation on account of merit, or punishment for neglect, and the provision itself is calculated to *produce* a want of discipline in the corps. It should be rectified as soon as possible, and the Army Hospital Corps placed under the personal control of senior medical officers who would punish for slight offences, and pass the larger crimes over for military courts martial. The captain of orderlies should carry out the orders of the principal medical officer if necessary, and assist him with such information as would lead to the administration of justice. It should be remembered that the Army Hospital Corps is not a fighting branch of the army, and therefore military command is by no means essential to the efficiency of hospital servants, but a disciplinary authority vested in their own officers is all that is needed. If any medical officer were found to abuse such authority he could be dealt with individually. Be-



sides, medical officers will never be content to accept the position of plaintiff against their own subordinates.

On the day when the writer had occasion to hear an old surgeon-major in charge of a field hospital in independent march on active service inform an Army Hospital Corps man who had committed some offence, that if it were repeated he (the surgeon-major) would be obliged to report him to the first military officer they happened to meet, on that day the writer moaned out, "Good bye to discipline in the Army Hospital Corps."

#### GRIEVANCES OF MEDICAL OFFICERS.

The department has been often accused of not knowing what it wants, and indeed to judge from the typical medical letter addressed to the *Broad Arrow*, it must be confessed that there is more or less truth in the charge. There are beyond doubt, however, some pressing grievances, and to these a brief reference must be made.

Medical officers' grievances are of two kinds—real and ideal.

The real grievances are divided into those of administrative officers, and those of the executive ranks, besides which there are "common grievances."

1st.—Administrative officers have to complain of being obliged to serve qualifying periods for rank and pension, instead of entering at once on the relative rank of their position as is accorded to the Control and other Departments. This is a piece of mistaken economy, and should be remedied by



abolishing the qualifying periods, and authorising rank according to the date of commissions.

2nd.—The pay of the Director-General is wholly incommensurate to the office. Comparatively with the emoluments of other “heads,” it is but a pitiful sum, £1500 a year, having been reduced some years back from £2000, when the value of money was even 30 per cent. greater than at present. The latter sum should be restored.

3rd.—Restricting administrative officers in the complete control of hospitals by the appointment of commandants—which has been already discussed.

4th.—The want of complete personal authority over their hospital subordinates; also referred to.

The real grievances of executive officers are :

1st.—Slowness of promotion. The Royal Warrant of 1858 improved the condition of the department in almost every way but in promotion. There was no provision to cause an outlet for the older officers, and by not limiting the tenure of administration to periods instead of age, a complete dead-lock ensued, and the executive ranks have now to wait—surgeons-major twenty-eight, and surgeons over fifteen years—for promotion, whilst some of the higher officers have enjoyed eighteen and twenty years of administration. By the warrant of March, 1873, the age limitation for these latter is even removed, which must have the effect of precipitating the whole question.

The remedy lies in causing outlets for the older officers, in the following two methods :

1st.—Slight increase of pension on voluntary retirement after twenty years’ service, say to 18s. per diem.

2nd.—By the establishment of half-pay appoint-



ments for medical officers after twenty years' service, such as county gaols, at salaries of, say, £100 a year; convict as well as military prisons; post-offices, and other Government institutions, but especially the militia surgeoncies. By this scheme the older officers would be retained in Government employ. The present militia surgeons could never abandon their civil practice and march with their regiments in time of war.

2nd.—There are no rewards for professional ability; at the same time that complaints are rife that the medical department is far behind the day in medical knowledge. This is really not the truth. Medical officers who have gone through the Army Medical School are far above the civil practitioner as a rule, and the fact is known to all but the War Office that the sole cause of the apathy in the medical department is attributed to the want of stimulus of any kind for men to put forth their abilities; and it is quite useless for the military element to continue grumbling at this fact, until the remedy is adopted, namely, the establishment of rewards for merit, and appointments where knowledge may be exhibited and where prospects of advantage will engender zeal and cleverness.

3rd.—The retention of officers in the administrative ranks for unlimited periods, until executive officers, in many cases, become too old for promotion.

The common grievances of the department are :

1st.—In the matter of allowances; especially forage allowance, which was drawn by all officers of the relative rank of field officer previous to the publication of the last warrant of 1873, in which it



was abolished as pertaining to rank. But this allowance should, in justice, have been continued to all officers becoming entitled to it who had entered the service previous to that year. As long, however, as warrants are issued for the medical department having retrospective effect, and without regard to vested rights or former warrants, so long will there be distrust and discontent. The truth regarding this allowance appears to be that when first captains of Royal Engineers and Artillery were elevated to substantive majority in the army, and the control department was being newly organized, it was decided that these newly raised officers should only receive forage allowance as necessity required, and into this provision the hapless Medical Department was dragged and included, and the forage allowance, which is virtually part of a field officer's pay, and which had been granted for years to surgeons-major, was swept away.

2nd.—Inequalities regarding leave of absence for medical officers, who are restricted to sixty-one days each year, and six months' sick leave, before being placed on half-pay, whereas military officers labour under no such restrictions, and may have any reasonable periods, dependent on circumstances. The remedy for this grievance is obvious.

3rd.—Exchanges between medical officers are to be prevented. This is considered far too stringent a rule, and it would be only fair that the medical officers were placed on the same footing as others in this respect, because occasions will arise where it would be beneficial to both officers and the service that the Director-General would permit of



mutual arrangements being made. He would, of course, take care that the indulgence should not be abused.

4th.—Complete relative rank is not accorded to medical officers as ordained in the Royal Warrant of 1858.

Medical officers should take their place according to seniority on mixed committees, which are essentially the regions of discussion and not command.

It would be held by many civilians that all sanitary boards should *invariably* be presided over by a medical officer whose opinions are of real value to the discussion, in which case the frequently unscientific military debates on sanitary questions would be to some extent clarified before they were recorded. Here again medical officers will not be satisfied with the position of "experts" thrust on them; but under grave responsibilities for the maintenance of the soldier's health, they will request an equal voice on all sanitary committees. At all events, the present system is little less than a comedy as far as sanitation is concerned.

5th.—Another great cause of discontent is the manner in which clauses of Royal Warrants are set aside and over-ridden by after clauses modifying the originals. Medical officers feel these acts most keenly, and they produce the most lamentable consequences in the efficiency of the department.

The ideal grievances are few. Still, if their removal were to increase efficiency and zeal in any way, they deserve the consideration of the authorities.

It is stated that the department is called "non-combatant," although its members are supposed to



be, and indeed really are, as exposed to the dangers of war as the fighting men. It is true that the surgeon is almost a part of the fighting men, from being necessarily with them through all dangers. If we look at the Franco-Prussian war we find the Prussians losing 103 medical officers in the field, nearly half that number either killed or died of wounds. This and other facts speak for themselves.

If the positive nature of the title "non-combatant" were changed to a negative for medical officers, it might be gracefully done by a clause stating that "although it is no part of the duties of medical officers to fight against the enemy in war time, still, from their required presence on the field of action with the fighting men, the term 'non-combatant' is inapplicable to their department," or in any other appropriate manner.

There are many officers in the department who dislike their present head-dress, the regulation cocked-hat and plume. There is no doubt that it carries with it a more or less funereal appearance. If it be generally disliked, there is no reason, except the expense of the change, why a neat shako could not be substituted. One stroke of the official pen at Pall Mall would effect the desired alteration.

In 1870 a movement was set on foot to establish a band of musicians for the Royal Hospital at Netley, and nearly £1000 was subscribed by medical officers for the purpose. Unfortunately the good intention was frustrated by the authorities. In this instance, as in many others, medical officers view a fixed resolution on the part of *certain* authorities to grant no favours whatever to the medical department, which



treatment is most assuredly not without its fruit in the medical ranks to-day.

The remaining sentimental complaints are of little account.

The following additional improvements are suggested for the department :

Administrative medical officers should be allowed secretaries from the executive rank, who would attend to the district rosters and have charge of the office. These would be also a kind of link between their chiefs and the lower grades. Such appointments would be paid, and be something for junior officers to strive for.

Pecuniary rewards for professional abilities should be also established for grades respectively, with a generous distribution of prizes and commendations. The medical department has been accused of being conducted more in a *military* than *professional* sense, which fact, however, does not prevent an inconsistent military element from passing unmerited censure on the professional capacities of the department, with more or less of the power of reasoning indeed which *Punch* usually ascribes to the military officer.

Members of Parliament having the good of the service in view should endeavour to obtain the redressal of wrongs for the medical department, and should impress on the authorities the absolute necessity of keeping good faith with its officers, and also the fact, which seems to be forgotten, that they may lead a horse to water but they cannot make him drink.



*Thos. Longmore* (300)  
*Audi alteram partem.*

# A P L E A

FOR THE

## General Hospital System,

BY

J. M. GRANT, M.D.

Deputy Surgeon General, Principal Medical Officer, Curragh District.

BEING A REPLY

TO THE FIRST PART OF A PAMPHLET

ENTITLED

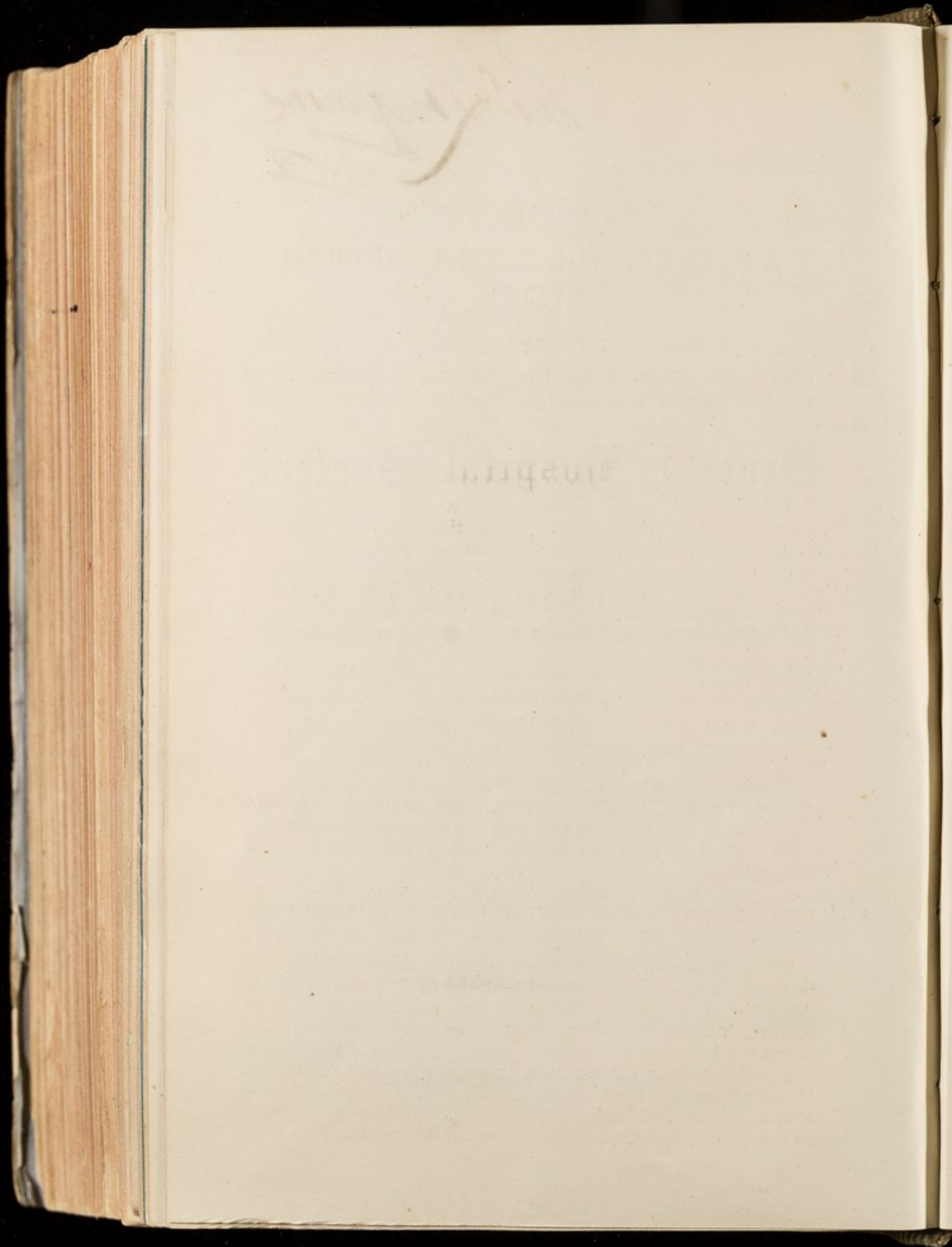
"THE PRESENT STATE OF THE ARMY MEDICAL SERVICE  
AS A LIFE CAREER FOR THE SURGEON,

BY

EDWARD HAMILTON, A.B., M.D.," ETC.

*Printed for Private Circulation.*







(34)

## A PLEA FOR THE GENERAL HOSPITAL SYSTEM.

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WHILE the officers of the Army Medical Department must ever feel grateful to Doctor Hamilton for his powerful advocacy of their claims on the consideration of government, there are many of them who will find themselves unable to accept his sweeping condemnation of a system which has not yet been tested, inasmuch as it has not yet been introduced.

I have heard all his arguments in favor of the Regimental System before ; but I have not seen them so ably treated of collectively, and I am induced to answer him, because he is entirely misinformed as to the nature and scope of a General Hospital System, and represents it in such a light that it must contrast unfavourably with the other, in the estimation of all who have not had the opportunity or the inclination to study the subject attentively for themselves.

When the two systems are considered side by side, as I now propose to consider them, I have no fear for the ultimate result ; for, although the Regimental System was a cherished military institution, and the army is a very conservative body, I think that its advocates must change their views on more mature reflection. I propose to confine my remarks to the strictures which Dr. Hamilton has made on the general system, proceeding *seriatim* with my replies, and indicating the subject, and the page of Dr. Hamilton's pamphlet to which they refer.

### EFFECTS OF BREAKING UP REGIMENTAL ESTABLISHMENTS.

Page 2, Par. 3.

The Regimental System was unquestionably very attractive to many Medical Officers, and afforded them social advantages which it would be difficult to over-rate ; but in all great reforms, individual interests must suffer more or less. I fully admit the hardship to which Regimental Medical Officers have been subjected by their sudden eviction from their regiments. If more time had been given, and it had been notified that after a certain date no further regimental appointments would be made, and that those existing would be cancelled in there



or five years, many Medical Officers would have left their regiments as their turn for foreign service came round, and such of them as might have preferred to stay out the prescribed period, would have had no just ground of complaint. All the other changes connected with the contemplated reorganization, such as recruiting the Army Hospital Corps, transfer of stores, and buildings, etc., might have been made in the meantime, the Medical Officers alone remaining with their regiments and attending as far as possible their own sick—the only representatives of a system that would then have been virtually discontinued. That this was the original intention, would appear from the late Director General's letter, referred to at page 39 of the pamphlet before me, and I apprehend that there must have been some very strong reason for departing from it.

I do not see that a system of General Hospitals, considered *per se*, lowers the status of the Medical Officers or the prestige of the medical profession. The difference between the two systems is only one of detail. The duties and responsibilities of Medical Officers are the same; but they are under the command of military officers of higher rank than formerly, so that, of anything, their military status is rather raised than lowered.

It is quite true that their position in regiments is much more unsatisfactory than it was before the Warrant of March, 1873; but that Warrant appears to be a compromise made professedly in their favour, and in deference to the opinion of those who were unwilling that the regimental tie should be severed altogether.

#### EXTRAVAGANCE AND INEFFICIENCY.

Page 2, Par. 4.

There can be no doubt, that the allotment of a certain hospital space to each regiment at a station, where there are more than one, is an extravagant arrangement as rendering necessary the erection and maintenance of larger hospital buildings than would be required if the accommodation were generally available. Imagine such an arrangement adopted in our city hospitals—one set of wards being exclusively set apart to one street or district, and another to another—and the extra outlay in buildings, fuel, and attendants, that would follow, will be more apparent than it seems to be to our brethren in civil life. The maintenance of a staff of attendants for one regiment is also extravagant, because one Hospital Sergeant could do the duties of three or four regiments combined, and the orderlies may sometimes be unemployed. The moving about



of heavy hospital stores, and the frequent damage of very expensive medicines during transit, each time that a regiment moves, is a further cause of outlay ; and it is also a source of inefficiency in war when a regiment moving rapidly would outstrip its hospital supplies. Another instance of inefficiency is, that, under the most favourable circumstances, a regiment changing its quarters could not move with its sick, at least not all of them. The worst cases had always to be transferred to another hospital, and such of them as did accompany the regiment did so at the cost of much discomfort, and very considerable risk. Contrast this with the General Hospital System, under which a regiment moves from one station to another unhampered with hospital stores, and without its sick, all of whom remain in hospital, and probably under the care of the same doctor till they are perfectly cured and able to travel, when they are sent to join their regiment—and it does not require a medical man to determine on which side the balance of advantage to the sick soldier, and to the country, lies.

Soldiers are expensive articles, and to expose them to needless wear and tear must be added to the other extravagances of the system, for there can be no doubt that they can obtain more fully the benefit of rest, and other requirements of treatment, in a stationary hospital, with a fixed medical establishment, than in one that is constantly on the move.

Again, a regiment when giving several detachments could only make the necessary medical arrangements for one of them. All the others had to be in charge of the Staff Medical Officers, depending for everything necessary on other sources of supply, so that from whatever point of view we regard it, we invariably find the Regimental Medical System unable to stand alone. The General Hospital, on the other hand, is calculated to meet all requirements ; from those of the smallest detachment to those of a division of the army in camp or quarters.

#### REGIMENTAL UNITY AND *ESPRIT DE CORPS*.

Page 3, Pars. 2 *et seq.*

From what has been said above, it is apparent that a regiment can move with everything but its sick. It can also provide for all *except the medical duties* of as many detachments as it is possible to divide it into, and therefore the answer to the question, why it *should not* be self-supporting in regard to its medical as well as its other departments, is simply that it *cannot*.

Medical Officers not having any military command, never could have had any share in the military glory of their regi-



ments, and with them *esprit de corps* should take a much wider range. High professional attainments, and deeds of heroic self-devotion, are just as likely to be duly appreciated, and proudly chronicled by their professional brethren in the army and out of it, as by a comparatively small body of military officers who are not competent judges of the one, and (such is human nature) may grudge a civilian the public recognition of the other.

Surely unity is as desirable in the medical service as in any other; and it has always appeared to me that the separation of the department into two classes with different interests, and looking to different quarters for support, detracts from its strength and efficiency, and lowers its standing. We do not see anything of the kind in any other department of the army.

#### THE AMALGAMATION OF THE TWO SYSTEMS IN WAR.

Pages 5 and 6, Pars. 3, *et seq.*

The discontinuance of the regimental system during war is a generally admitted necessity; but it entails on the administrative chief a great deal of troublesome arrangement at a time when he should be spared it, and compels him to work with machinery not properly adapted to his purpose, and at the constant risk of a break down. The two systems cannot be amalgamated, the one must give place to the other; and accordingly we find that the smaller is absorbed into the greater, for it must be remembered that a regimental hospital "*shorn of all equipment impediments*," has lost its distinguishing characteristic, and in point of fact has ceased to exist. The Indian Mutiny formed no exception to the rule, that every requirement of medical service can be met by the General Hospital System. There was unquestionably, an urgent necessity that every regiment engaged in it should be accompanied by a sufficient number of surgeons; but there is no proof whatever of an equal necessity that these surgeons should be "*ITS OWN*," and it would be found on enquiry that a great many of them were not so.

If the principal Medical Officer of the Abyssinian expedition was able to maintain the regimental hospitals, it was probably owing to some particular features in that campaign, and his single testimony, however valuable, cannot be allowed to outweigh that of so many others of equal experience.

It is difficult to understand at first sight how the larger hospitals could have been made subsidiary to the smaller; but it is probable that in that short campaign, and with comparatively few casualties, there was not much occasion to use the larger hospitals in the rear.



## DISTRIBUTION OF MEDICAL AID.

Page 4, Par. 3 ; Page 5, Par. 3.

The arrangements of administrative Medical Officers were liable to be questioned, and the service obstructed, owing to the unwillingness of regimental commanding officers to allow the Medical Officers of their regiments to be detached ; and this very serious hindrance was provided against on one occasion, I have been told, by the principal Medical Officer charged with the medical arrangements of a campaign, obtaining a general order placing all Medical Officers, regimental as well as staff, entirely at his disposal before operations commenced. A similar obstacle might of course have been met with in peace, if the prevalence of an epidemic or other cause had rendered it necessary to employ regimental medical officers away from their regiments ; and without entering into the merits of any particular case, I think it may be safely affirmed that both in peace and war, many circumstances may arise which call for a more general distribution of medical aid than is consistent with adherence to the regimental system.

## GENERAL HOSPITALS.

Page 7, Pars. 3 and 4 ; Page 8, Pars. 2 to 4.

Such a scheme as is here promulgated would certainly merit universal condemnation ; but fortunately it is not even an approximation to the principle on which a General Hospital System is based—that of affording the most efficient medical aid in all places and under all circumstances, with the least possible expenditure of time and money.

It is obvious that whatever nomenclature may be adopted to distinguish them, military hospitals must vary in size and capacity according to the requirements that they are intended to meet. Thus, on active service we have the hospital marquee pushed forward as near as possible to the scene of conflict, with an equipment barely sufficient to meet the immediate wants of the wounded, who are passed on to hospitals increasing in size and convenience, until they reach the general hospital at the base of operations ; pouring its hundreds on board the transports waiting to receive them ; and so in peace time we have the *non-dieted hospital*, with a very limited equipment, for small detachments without a Medical Officer, subsidised by the larger station hospital at the head-quarters of the corps. It must be remembered that neither the *field*, nor the *non-dieted hospital*, is intended for permanent occupation, except by very slight cases that will soon be fit to rejoin the ranks ; and that



if a patient should at any time be unable to be removed from the latter in consequence of the suddenness or severity of his illness, the medical practitioner in charge might order him anything procurable in the market that he considered necessary. Such a case is very rare ; but when it does occur, the sick soldier, although deprived of some of the comforts and conveniences of a larger hospital, is treated at a very great advantage, as compared with civilians of his own class in the neighbourhood. He is watched over and nursed by his comrades, or a nurse would be hired to attend him, if the necessity for such a measure were duly represented to the principal Medical Officer of the district. A Medical Officer in permanent charge of such a hospital would indeed have little opportunity of acquiring professional knowledge. I can only think of *one* condition under which he could be placed at such a disadvantage, and it is this : where a regiment is quartered at such a distance from a station hospital that regular communication with it more than once a day would be inconvenient, it becomes necessary to open a non-dieted hospital in the barracks, for the reception of cases occurring after hours ; and by present arrangements, the Medical Officer attached to the regiment, probably a Surgeon Major, would have to remain in charge of it as being inseparable from "*his own men*;" whereas, under a general system, a junior Medical Officer would be put in charge, and relieved for duty in the station hospital as often as might be desirable.

I do not know what distance has been fixed upon as a maximum for station hospitals from barracks, nor for what minimum strength it is considered necessary to establish and equip hospitals with a Medical Officer in charge ; but I believe that the head-quarters of a regiment will never be without one, and I know that it is not intended to place hospitals at inconvenient distances from barracks, because two hospitals only were provided for this district in the first instance. Both were in camp and it was contemplated that the sick of a regiment of cavalry and two batteries of artillery stationed at Newbridge, three miles distant, could be sent to one of the camp hospitals daily by ambulance. The arrangement, however, was found inconvenient, and on its being so represented to the Director-General, he at once sanctioned the establishment of a station hospital at Newbridge. It would not be difficult, if it were necessary, to show that hospitals placed at a moderate distance from the dwellings of the healthy soldiers are safer, and that there are many sanitary objections which counterbalance the convenience of the hospital "in the corner of the barrack-square," and in juxta position of the stables, ash-pits, and other ornaments of the rear.



As it is of importance that the two systems should be correctly estimated, now that the question has become one of so much public discussion, and by men in Dr. Hamilton's position, I will summarize them as concisely as I can, and endeavour to state fairly their relative advantages and disadvantages.

THE GENERAL SYSTEM provides for the embodiment of all the officers of the department into a corps, to be distributed throughout the *districts* at home and abroad, in which troops are stationed ; the raising and maintaining in a state of efficiency a corps of trained hospital attendants ; and the maintenance of hospitals with *fixed establishments* of Medical Officers and subordinates, in such number, and at such stations as the general wants of the military service may require ; and its advantages to the public are, economy of hospital accommodation, fuel, and attendance ; a more even distribution of medical aid to meet all contingencies during peace and war ; a constant supply and sufficient reserve of trained hospital attendants, without drawing on "*the already too much attenuated British battalions*" for them ; saving of money and trouble in carrying about heavy and perishable hospital stores each time that a regiment changes its quarters ; and last, but not least, the sick remaining undisturbed in hospital when a regiment leaves a station, and their reception at all times into hospitals already in occupation, thoroughly warmed and aired, and with all necessary appliances fit for immediate use, where they can remain, and, with proper management, under the care of the same doctor, till they are cured and fit to rejoin their regiments.

The advantages to the Medical Officer are, a more even distribution of his home and foreign service, and less moving from station to station ; because with a fixed medical establishment for each district, and a sufficient margin for casualties, there is no reason why a Medical Officer should be moved, except at his own request, from the station that he is sent to on his return from foreign service, until it comes to his turn to go abroad again. I believe that such an arrangement would be acceptable to nearly every officer in the department, and would be regarded by many of the late regimental Medical Officers as an improvement on their former position.

The disadvantages of this system to the public I cannot see—not that I desire to keep them in the background, but because it appears to me to provide most completely for all the medical requirements of the service.

The disadvantage to the Medical Officer is, that he is deprived of a pleasant home and a most agreeable companionship.



THE REGIMENTAL SYSTEM provides for the constant presence of one or more medical officers, and a fixed hospital accommodation and establishment of attendants for each regiment, irrespectively of the number of its sick.

I cannot see any advantage to the public that such an arrangement presents. The one most constantly adduced, viz., the acquaintance of regimental Medical Officers with the constitutions of their men, has, I cannot help thinking, been very much exaggerated. It takes a long time to acquire such a knowledge—longer, I imagine, than the average duration of a Medical Officer's service with any particular regiment used to be—and it appears to me that the medical history sheet which every man in the army now has, and which shows his temperament, habits, character, station where he has served, diseases from which he has suffered, and the medical treatment he has undergone, gives a Medical Officer of ordinary judgment and experience an equal, if not a better, opportunity of knowing the constitution of a soldier whom he sees for the first time, than was enjoyed by the regimental surgeon who had served for some years in the same regiment with him, before these very valuable documents were introduced. As to malingering, it is reduced to a minimum in these days of short service enlistment, and the "character" column of the medical history sheet enables any Medical Officer to form a pretty correct opinion regarding it.

I have already shown that the regimental surgeon must frequently leave his patients at the most critical period of their illness, when a change of medical attendants is most like to be injurious, and that a soldier has a better chance of being treated by the same doctor from the commencement to the end of his illness in a general than in a regimental hospital.

I do not think it was an advantage to the public, whatever it might have been to individuals, that regimental Medical Officers were able to advance their interests, and push themselves forward by means of the military friendships that they formed. Let there be prizes by all means, the more and the richer the better, but do not bestow them upon one set of officers to the prejudice of others of equal ability and merit. I advocate promotion by seniority, and special rewards for special services.

The disadvantages of the Regimental System are, extravagance in hospital buildings, fuel and attendants; drawing on the ranks for hospital subordinates who cannot be spared during war, or readily replaced during peace; expense and inconvenience of moving heavy and fragile hospital stores each time that a regiment changes its station; unequal distribution of



Medical Officers, and difficulty of providing medical aid where most needed during war or epidemics ; and the removal of the sick from hospital before they are cured. I have already referred to the fatigue and exposure that they were subjected to on the journey, and their condition at the end of it was as miserable as it well could be ; huddled together in cold, cheerless rooms without fires, or with fires just lighted, and obliged to hang about and shift for themselves as best they could amidst bustle and confusion, while the hospital equipment was handed over by one sergeant to another, and then tumbled into bed probably with unaired bedding in unaired wards. This is no exaggeration, it is exactly what occurred each time that a regiment marched into quarters. Medical Officers were of course very careful in the selection of cases to accompany the regiment ; but it cannot be denied that in spite of all their care, much discomfort and frequent injury were occasioned. The sick that remained behind were transferred to the care of other doctors, an objection which has been most unreasonably urged against the new system, but which applied much more forcibly to the old.

What the counterbalancing advantages to the sick soldier were, I have never been able to determine. We hear a great deal about "*cries*" but they are raised by those whose private interests are affected, and who cannot believe that good can come of a change from which they have already suffered so much ; the idea that administrative Medical Officers who advocate the general, or, as it has been called, the *unification* system are actuated by a thirst for military command, is too absurd to require serious notice, and Dr. Hamilton must have borrowed it from some very juvenile *authority*. Another of these cries is, that Military Officers are prevented from visiting their men in hospital. This is not the case. Such visits could never have been objected to ; and they are provided for under suitable conditions, by the latest edition of the Queen's Orders and Regulations.

Such are the comparative merits of the two systems stated as fully and as fairly as I am able to state them. I have long formed my own opinion upon them, and must leave it to others to do the same.

#### ROTATION OF SERVICE.

Page 10, Par. 2.

Allowing for the longer time that regimental Medical Officers remained abroad, and admitting that in the long run they had an equal share of foreign service, it is still obvious that a



more equable distribution of home and foreign service would be secured by a general roster, including every officer in the department. Home service might then be reckoned at from three to four years; and if, as I have endeavoured to show, a Medical Officer could remain for that length of time at one station, there would be a great addition to his comfort and a material saving of public money in his travelling expenses. The so-called permanent appointments to brigade depots, etc., for three, or five years, might also be done away with. They all interfere with the fairness of the roster, and I should be glad to see them abolished.

#### FREQUENT MOVES AND WANT OF QUARTERS.

Page 12, Par. 1.

Frequent moves and difficulty about quarters are not necessary accompaniments of the General System. When I received an order to provide for its introduction into this district, I included in my arrangements the allotment of suitable quarters for a sufficient number of Medical Officers not attached to regiments; and the Brigadier General commanding assembled a board of officers to report upon that and the other structural changes that I proposed. Medical Officers not attached to regiments are entitled to better quarters, and more fuel than others, but they must be applied for. It is impossible to think of everything at once, and at present it is rather difficult to know who are attached to regiments, and who are not. The frequent moves so justly complained of are, I believe, partly owing to a desire to keep those surgeons who formerly belonged to regiments as much as possible with their old corps; but, as I have already said, neither of these inconveniences need exist under a thorough general system.

It is necessary for me to say in conclusion, that a General Hospital System has not yet been introduced, and that I have described it as it ought to be rather than as it is. Unless a fixed establishment of Medical Officers can be provided and maintained at every station, the general system cannot be worked; and I think it would be better to abolish it in favor of the old arrangement, which I consider capable of giving more satisfactory results than can be obtained from any combination of the two.

While Medical Officers are moved about as they are at present, they cannot possibly know the cases they are treating or take any interest in them; and the consequence may soon be a careless, inefficient discharge of duty, leading to overcrowding



of hospitals and prejudicing the sick, the service, and the department.

Many modifications of the General System might be suggested, and I have thought some of them over. The sick might be treated regimentally in general hospitals; but that breaks down after a few changes of station, unless regiments carry their sick about with them as before. Junior instead of senior Medical Officers might be attached to regiments—thus performing the duties more properly belonging to them; but this is open to the very serious objection that when the regiment is alone, it is under the charge of a young, and inexperienced Medical Officer; and so on with regard to every modification that can be suggested, including that now in force, some serious objection at once presents itself. In fact the two systems are diametrically opposed in every particular of detail. They might perhaps have been dovetailed one into the other at the commencement; but I fear that that opportunity is now lost, and I do not consider, as I have said before, that a permanent modification of either system is desirable.

I feel that I have undertaken an invidious office in replying to Dr. Hamilton. Much of his pamphlet is on a subject that I am not allowed to discuss; but I trust that he will not attribute my silence to any disparagement of the disinterested effort that he has made to advance the welfare of the department, or suppose that I am not sensible of the obligation that he has laid us all under, by the bestowal of so much of his valuable time on a subject that must have cost him a good deal of thought.

J. M. GRANT, M.D.,

*Deputy Surgeon-General.*

Curragh Camp, 6th January, 1875.

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P.S.—Since the above was written, I have seen an article in *The Lancet* of the 9th inst., on this subject, communicated by a correspondent. I certainly had no idea that the state of things therein described existed at any station; but the difficulty about the senior Medical Officer would not arise under a general distribution; and all outside duties, such as seeing prisoners, women and children, etc., could be provided for by detaching surgeons from the hospital to perform them, and recalling them for hospital duty on being relieved by others at suitable intervals. There is no need for dispensaries in barracks that are within a convenient distance from the hospital, as prescriptions for officers, women, and children could be com-



pounded there, and the regimental medical returns might perhaps be dispensed with. They add materially to clerical labour, while the number of clerks has been diminished.

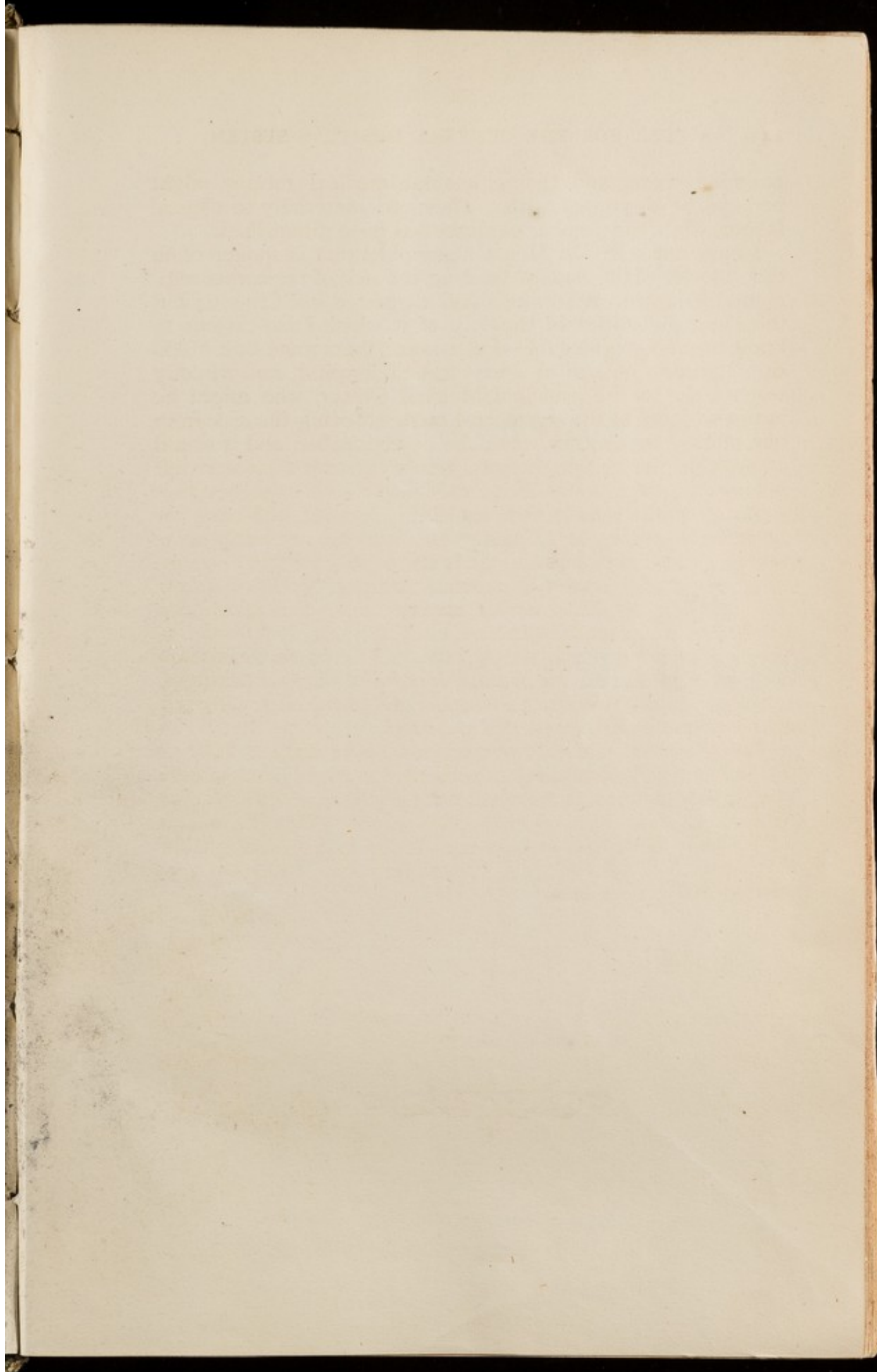
I have not seen Dr. Mouat's pamphlet that is spoken of in this article. His plan of treating the sick of regiments regimentally in general hospitals had suggested itself to me; but there are difficulties in the way of it which I am curious to know how he provides for—for instance, there must be a Medical Officer in charge of every station hospital, and directly responsible to the principal Medical Officer, who might be junior to some of the regimental men. Moving the sick from one station to another would be objectionable, and it would complicate the station hospital returns; but if they were left behind, the regimental Surgeon-Major would soon weed his regiment of the weakly men, and leave himself with very few patients belonging to it. Then what is to become of those he leaves behind, or of those he finds left behind by the Surgeon-Major whom he relieves at another station? Neither set can be treated regimentally, and it appears to me that after a few moves the regimental distinction would be lost. It is, however, the only plan by which the systems can be made to coalesce without injustice to regimental Medical Officers, and it may perhaps be still possible to adopt it as a temporary measure, and a means to that most desirable end.

I may as well add that whatever may be done at Netley, Captains of orderlies have no authority to grant passes; they may command men in hospital, but they have no right to give leave of absence from quarters after hours. This is a matter of military discipline, and as such it should be submitted by the senior Medical Officer to the officer commanding the station, or his representative.

J. M. G.









THE  
HISTORICAL  
AND  
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DESCRIPTION  
OF  
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CITY  
OF  
NEW  
YORK

CONTAINING  
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## CONCERNING THE ARMY MEDICAL DEPARTMENT.

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### Section I.—Introductory.

1. I propose in the following pages to notice some points concerning the Medical Service of the British Army, which seem worthy of examination and to put forward some suggestions concerning this important branch of Army organization.

I believe that advantages and not drawbacks result from the statement of individual opinion on this as on most other subjects, and that in the end progress is achieved rather by selecting the good points from many sources than by adopting *en masse* the views of any single individual. If such be the case, it is necessary that individuals should state their opinions for public criticism and comment.

2. It would be mere waste of time to dilate here on the advantages that should accrue to a small and expensive Army like ours from having its medical service in a highly efficient state. No Army in the world has more need of a thoroughly good Medical staff than ours has. Other Armies, in addition to having unlimited supplies of men, never serve out of their native countries, never campaign out of temperate climates, are never exposed to deadly diseases, and the strain of war is the only strain their Medical staff is called on to bear; but for us in addition to campaign risks we have ever to contend against tropical climates and epidemics of the most fatal character, not once in a generation but every year and unceasingly. Quartered in every latitude of the globe our soldiery are continuously fighting in a campaign more fatal in the long run than a bloody war, and to assist them in this combat as well as in the field of battle our Medical department exists. Whatever means its efficiency means more efficiency for the Soldier; whatever weakens its good working condition, acts prejudicially against him in like manner.

3. Every Military commander who has risen to any high place in his profession has recognized the importance of this fact, and its bearing on the *morale* as well as the *physique* of his soldiers, and he can no more ignore the health state of his forces taken as a whole, than any single individual can despise his individual health as a factor of great importance in his successful career in life. Even as that individual requires to take precaution and exercise forethought to protect his constitution in every day life, so must the Military commander or administrator protect the Army of which he is the thinking head. To have an efficient Medical corps highly trained, thoroughly organised, well acquainted with their duties, and willing to devote themselves in every way to the good of the service, is useful in even the large Armies of the continent serving in temperate climates, but for us with small and costly Armies serving often in pestilential climates it is an absolute and an imperious necessity.



4. Let us read our national Military History, that great storehouse rich in warnings and information alike for the Military physician as for the Military commander; let us lay to heart the stern lessons it contains of previous failures and mistakes, and we will find that the lessons of Walcheren in 1809 did not prevent the disasters in Turkey in 1854-55; nor was there any reason until 1873 why what was true in 1855 might not have been true in 1885.

The question still comes home to us very thoroughly to-day as to the efficiency of the Medical service of the Army, and we may ask, have all the lessons of the past been taken to heart; the good points singled out and developed and the weak points removed and obliterated. Have we taken to heart the sad warnings given us only too often in the past, or do we still keep running in the old groove to meet like disasters in like situations again. There were excuses in 1854-55 after a long European peace; there will be none in the future. 22,000 dead men lying before Sebastopol and at Scutari are surely a lesson sufficient for all time. Yet to show how slowly and with what caution we act, it was not until to-day a limit was placed to the existence of the system mainly to blame for these bitter memories.

5. Ever since any Medical aid was organized for our Army a century and a half ago, the system known as the Regimental Hospital System has been the principle on which it has been worked. Existing at first in a very rude and primitive form the medical arrangements of the old Armies that fought in Germany and the Low Countries were poor and incomplete to a degree, and since then gradually the organization and condition of these arrangements have been changed and improved; but what is called the Regimental Hospital System remained the basis and the rule of working until the Royal Warrant of 1873.

That mode of working the Medical aid of the Army, which sat like an old man of the sea upon the shoulders of the service for so many years has now disappeared, and let us hope for the sake of the Empire we shall see it no more. It is a true saying that the first sentence of the Warrant of 1873 abolishing Regimental Hospitals was written seventeen years before the Crimea, but such is the conservative tendency of our Army that it took the long intervening lapse of years to complete it. Let us trust that work so slowly done has been very surely done.

6. Such a change as abolishing these Hospitals could not take place in an Army like ours, which lives on tradition, without many officers of the Military Department of the Army and some officers of the Medical Department regretting the step, and it seems advisable to note here the features of that system, whether good or bad, and to weigh them against each other, that seeing the good points we may cherish them, and noticing the defects we may avoid them.



## Section II.—The Regimental Hospital System.

7. The Regimental Hospital System was a system by which the sick and wounded of the Army were treated in separate hospitals, each an adjunct of either a Regiment, Battalion, Battery or Detachment, the Military Commanders of which were responsible for their efficiency. The Medical Officers who treated the Regimental sick were themselves commissioned specially in the several Regiments or Battalions and confined their duties to treating their corps sick only. However numerous the various Regiments or Batteries or Detachments in a Garrison were, each of them had their own separate Hospital establishments, whether as regards buildings, offices, attendants, instruments or medicines. The responsibility for the correct working and proper condition of these Hospitals rested with the Officer Commanding each Regiment or Detachment; and no person had any power or authority to interfere with them in any way save himself. To the Medical Officers who acted under him were delegated the prescribing duties for the sick, but beyond this no further responsibility rested upon them. The Regimental Commanding Officer was responsible for the cleanliness and order of the Hospital, and being so caused the subalterns on duty to visit the Hospital daily and report to him of its condition and general state. He chose the Hospital Serjeant in conjunction with the Medical Officer, and by his sanction the orderlies and attendants were allowed to be employed in the wards, and by him they could alone be withdrawn. Over them he alone exercised control, and it was not competent for the Medical Officer to check in any way either their or the patients' irregularities, except by notifying them to the Commanding Officer.

By him all the duties of the Regimental Doctors were detailed. The Regimental Adjutant kept the roster for the Subordinate Medical Officers and through him every order in connexion with the Hospital was issued. The orders for the interior economy of the Hospital, regulating the hours of rising and going to bed of patients, the hours at which they should walk out, and in fact every order except those referring to the medical treatment issued from the Commanding Officer. To obtain a new key to the door, or a new pane of glass for the windows, he alone could apply to the Supply Departments, and on the march the Regimental Quartermaster arranged for the transport and carriage of supplies for the sick and under the control of the Commanding Officer assigned the locality for the Hospital.

8. Simply the Hospital authority and organization was centralised in the hands of the Regimental Commanding Officer already very fully employed in other duties, and it depended very much on his personal tastes how much or how little he actively interfere, one Commanding Officer being constantly directing every petty detail, while another let matters take their own course to a great degree. To whatever extent they interfered or did not interfere, officially they alone were responsible for the state of the Hospital; they alone were praised or blamed for the condition, and while such was the case it was but simply right that they should have the fullest authority in its working.



Whoever is responsible to him give the power. Blame him if he fails, applaud him if he succeeds. In this way only can order be preserved. The Commanding Officer's view of the case was perfectly and strictly correct, and there can never be allowed any *imperium in imperio* in a Regiment; one man must be responsible and he alone. Under such a constitution the Regimental Doctors had nothing to do save prescribe for the sick; they shifted to the Regimental Commanding Officer, the Adjutant, and the Quarter Master all questions as to organization, discipline, order, transport or administration, and lived a life wholly apart from all such questions as these, or if they did interfere it was a work of supererogation, and might as such be at any time resented by a Commanding Officer of strict views.

9. For their medical treatments, the Regimental Doctors were responsible to the Inspecting Medical Officers, who from time to time visited the Hospital, and looked into the records of treatment, the dieting, and such like subjects. In by-gone days, that is before the Crimean epoch, the Medical Officers of the Army were almost wholly Regimental, there being very few Medical Staff Officers, but since then these officers had very largely increased, and were employed in filling up vacancies in the Regiments caused by sickness or leave amongst the Regimental Doctors. They carried on the Regimental routine like the officers whom they relieved, and although their postings were regulated by the Inspecting Medical Officers, once attached to a corps these Staff Doctors were solely under the orders of the Regimental Commanding Officer.

10. Such was the system, venerable it is true by long existence, which terminated in 1873. It had some advantages, it had many drawbacks, and both one and the other we will now consider.

11. The supporters of the Regimental system claim for it advantages on three grounds. (A.) That each regiment had its Hospital perfectly complete at all times and was perfectly independent of the Army in consequence. (B.) That the Medical Officers being constantly with the Regiment learned to know the men; and (C.) That it formed a pleasant home for the Medical Officers. We shall enquire into the accuracy of these statements.

12. (A) That the Regiment under this system had its hospital always ready and was quite independent on this head of the rest of the Army. If this statement was true and that the Regiment would really be independent at all times it would settle matters at once in favour of the system. Unfortunately it is not true. One cannot too often remember that the old Army systems have undergone a great change of late years. In none more than in the meaning of the word "Regiment." In the old days every one knew a Regiment meant 800 men neither more nor less, it was as strong as the actual number of men serving with the colours made it, but no stronger. Accordingly there existed a given fixed data to work upon in preparing equipment, supplies, and medical aid while the regiment was serving in ordinary barrack life. It was known that the sick percentage was generally so much, and needed so much provision for them. The tradition of the Peninsula which clings to our army with frightful pertinacity shows that even in those days when a regiment was a known number, the system failed if a corps was heavily engaged, and such like. But what is a Regiment



to-day? The Army has ceased to be Regimental in the old sense. The Brigade is now the unit, and the long service customs of the old army are disappearing. The rule for the future will be small numbers with the colours and large reserves. There will be in the case of war the men from the linked Battalion joining the fighting Battalion, the Army Reserve men, and the Militia Reserve men, and amongst all these additions what will be the meaning of the word "Regiment". It will be in peace, 400, 500, or 600 men, while in war it may rise to 900, 1,000 or 1,200. It little matters for the Military Commander how much it is, provided the men are armed and dressed. Food supplies are not borne regimentally, and the Army strength will always be estimated for, apart from regimental strength. But it is quite the reverse with the Hospital system. The Hospital supplies and attendants if they are to be supplied and borne regimentally, must have a definite data to work upon, and if the Medical Officers and equipment be based upon 400 men, it will be insufficient for 1,000 men in war, and if based upon 1,000 in war, it will be too much for 400 men in peace. 400 men means say 20 sick, 1,000 men means 50 sick. Such variation of strength matters little to the Military Commander, as regards his Military duties; if food be obtainable all goes well, but in the Medical arrangement it means disaster from want of proper supplies and sufficient medical aid. In noting the drawbacks of the system further on, we will show that even if suitably estimated for, the first month's campaigning threw out all calculation.

13. (B.) As to the Medical Officer "knowing the men" as it is called, there is something to say. The Regimental advocates say it as a great thing to know the constitution of the men, and to understand their varying temperaments. There is no doubt advantage to be gained from knowing the men. But we have in this argument another survival of old Regimental tradition. All Military people know that in the old times, in the days of continuous service, a Soldier joined his Regiment and served with it uninterruptedly until he died, or was worn out, or invalided. This system was stopped some forty years ago by introducing the twenty-one years' service rules. In 1847 the limited enlistment for ten years came into force, and now we have come to three years' service with the colours, and three years with the reserve. Each succeeding alteration meant greater change of men individually. The truth is that long service systems have been so intolerably expensive, and in the end so weak in the field, that small cadres and large reserves will be more and more the rule. Soldiers will not now live their whole life in a Regiment as they did in the "good old days," and with a three years' service with the colours, and with streams of men coming in and leaving yearly the Regimental ties of the past become quite weakened and disappear. If the Pre-Crimean Doctor knew the Pre-Crimean Soldier, it was because both served long years, in fact lifetimes together. To-day we have changed all this. Linked Battalion men, Army Reserve men, and Militia Reserve will all pass through the Regiment, and all such intimate knowledge of the men will be impossible. To-day men leave their corps without hesitation either to volunteer for service in India, or for any purpose that suits their inclination. In the old days such occurrences were very rare.



14. Further, in the old Army, when the men were tied for life to the service, "*malingering*" or shamming various ailments was common, and indeed rose to the dignity of fine art. A soldier knew he could not escape from the service unless he was sent out by the Medical Officer as an invalid, and accordingly he shammed sick continually. It is said the old Medical Officers became experts in detecting this line of conduct, and an officer might make a reputation by his skill in detecting the schemer.

To-day malingering simply does not exist. Short service, pleasanter lives, more rational treatment and the ease of joining the reserve, removes from the soldier the necessity of scheming sick, and it is really never seen. It was the bugbear of the old Army and the diamond cut diamond stories of clever shamners and still sharper Doctors are now merely traditions of the mess tables.

15. Again, in the old days, the Medical History sheet established in 1859 did not exist. A more inquisitorial or more useful document does not exist in the Army. In it the age, weight, strength and every possible medical information about the man is entered, and from time to time the diseases he suffers from, their treatment, causes, &c. &c. are also entered. No Civilian Doctor has such a record of his patients.

It is truer than even a patient's own statement, for it cannot err, nor cannot take up false ideas of what his former sicknesses were, as patients often do. The old Army had not this document. Armed with it a man can be sent to any Regiment or Hospital and his Medical Officer sees at a glance his whole Medical History. Let us then be candid. "Knowing the men," even in the old days meant knowing the Regimental gossip and such like chit chat with which in weary stations and on dull evenings we wiled away the time. The Medical Officer could chime in with his contribution to the general stock, but the knowledge was not necessarily medical in its aspects.

16. Further, it is necessary to remember that with the unification system one Army Medical Officer will still be attached to each corps for five years with power of re-appointment. He will be the sanitary adviser of the Regimental Commanding Officer, will see the men of the Regiment daily, and will, when they are sick, have them sent to the Station Hospital, sending with them their Medical History Sheet and such special information as may be necessary to be given to the Medical Officers there. While in Hospital the Medical Officer of the Battalion he belongs to can see him constantly if necessary, and can advise as to his treatment with the Medical Officers of the Hospitals. His officers can see him constantly also, and his comrades at very frequent intervals. When one remembers that civilians of his class are treated always by strange Doctors in Civil Hospitals, and by persons not bound to them by the strong Army ties that bind us to the soldier, we must acknowledge the soldier has the best of it.

17. Besides even in civil life now-a-days change of physicians, owing to travelling, visiting the sea-side, consulting leading men in London is not only common but frequent, and in the old Army life the Regimental Doctors themselves changed at times. Of late years even under the Regimental system it became perfectly common and even frequent. This we will now discuss.



18. (C.) That it forms a permanent home for the Medical Officers of the Army. In discussing every phase of this Regimental Hospital subject, it is necessary to remember we are living in 1875, and not in 1835, and that the ideas that prevailed then in the Army do not many of them now exist. In the old days the Regimental tie in the Army was very strong, if tradition speaks truly. Officers and men lived longer together. Second Battalions did not exist to cause change of Officers. Great camps like Aldershot and the Curragh were not. Indian Garrisons were fewer by far and about one-third of the present strength. Foreign service tied men down to their station more closely, for steam did not exist, and Railways in England did not carry every one to town as they now do. The Colonies occupied many Regiments in far detached posts, and Canada, the West Indies, and the Ionian Islands had not had their garrisons withdrawn and concentrated at home. The Army is larger in point of numbers. The ease of interchange is infinitely greater, and it is certain the Regimental bond is weaker.

For the Medical Officers it certainly was much weakened, and it was exceptionable to see a Medical Officer remain as in the old days with one Regiment for any long time. Before the Crimean war Medical Officers grew grey in the same corps. Since then their average service has been three years. The large increase in the Medical Staff not attached to Regiments is well known to all Military men, and the gradual separation of Medical Officers from their corps has been quite apparent. In the old days they could not exist apart from their Regiments as they were too few and too scattered. To-day it is quite the reverse, and there is much desire for a closer union on their own basis as Medical Officers simply.

19. The Regimental system of our Army is good, very good, but it was never intended for the Medical Officers. They are outside its grasp, and the union although useful in the old days is now drawn to a close. In truth the majority of the Medical Officers admire so much the Regimental organization that they desire to apply it to themselves. Regimental life by all means ~~that~~ it should be a corps of our own. To-day when the system of Regimental Hospitals is dead and the tie that bound us to our old Regiments is severed, not one word shall be said against the good kindly comrades with whom the best days of our life were spent; it was the system and not they that were at fault. But admire as we may Regimental *esprit du corps*, we must have felt that we were hardly in its grasp, and the disaster of the Crimea had taught us all that we were carrying out a failing system that would not work.

20. To be with a Regiment and still not to be of it, never to represent it, to be at the whim often of varying Commanding Officers, to have questions raised about precedence, to be alienated by petty bars from our brother Doctors, to wear uniforms of corps to which we in no real sense belonged, to be members of an important and every day rising profession and still be at the bottom of Regimental Lists and wholly without a centre to work round in the service; to submit to these things was intolerable. Better far better to stand forward the Army Doctor pure and simple than to wear a travesty of the uniforms of the finest corps in the service. Better



the simplest style at one's own Medical Mess than the most elaborate display where one's authority was nought and one's seniority ignored.

21. Army Doctors while serving in Regiments have constantly, always I may say, drawn round them the respect and the love of the best spirits in their Corps. The friend of the soldier, the friend of his wife, the kindly fellows who felt for all, I am certain they will be missed, but the separation must come, and though the pang is painful at first, it will be the best for the service in the end; of that I am quite certain. Whatever our organization it cannot change our nature, and on new foundations truer and better, the old likings will grow up again, and all petty questions be terminated for ever. Thrown as we are in constant intercourse with the officer and the soldier, with them more than any other Department can possibly be, there must always be many bonds tying us together, but they will not be the painful yokes the Regimental system could be made in the hands of Commanding Officers who were not nice, and the interchange of friendships will be truer when working on the Army basis only. Together at home and abroad, in the field and in cantonments, in the troopship or on the march, there need be no fear that we will grow up with any sympathies apart from the service.

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### Section III.—Drawbacks of the Regimental System.

22. We shall now turn to the other side of the picture and note the drawbacks of the Regimental Hospital System. The Medical Corps of an Army exists on two grounds, one that during war, when the safety of the State depends upon the efficiency of the Army, there should be a thoroughly good Hospital system with officers and equipments complete, assisting the soldiers in their struggle with wounds and sickness; and the second, that during peace the best medical advice and the best medical appliances procurable should be available for the soldiers in their sicknesses, and that competent instructors should exist to advise the Military Commanders on questions concerning their health and physique. Viewed from either of these stand-points the Regimental system in my opinion failed. It failed in the first instance by training up Army Medical Officers in a system which every one acknowledged could not be carried on in the field, and would certainly lead to disaster, and on the second, because preventing the union of the Hospitals at one centre in each station, where with every modern appliance, and modern books and instruments, the best treatment might be available, and the Medical Officers might meet for mutual instruction and learn of one another, it kept the sick and the Medical Officers scattered in petty Hospitals, where it was impossible that extensive libraries or instruments could be collected or intellectual friction between the Medical Officers take place. We shall tabulate the objections in order.

23. (A) *Failure in War-time.*—In the first place the Regimental Hospital system failed in war. This is allowed by Lord Herbert's Commission in 1858 in a letter dated 9th July 1858, "it is incapable of adapting itself to the Hospital requirements of an Army in the field," by every Military hand-book on



field service, and even by a distinguished advocate of the system in a pamphlet lately published. Why did it do so ? Because it separates the medical department in the field into numerous small divisions each attached to every separate regiment, battalion, battery, or detachment, and places each of them under the command and disposal of their immediate military commander only, men who from their subordinate position are unable to take a view of any *Army* wants beyond their own immediate corps. Hence if one regiment was very sickly or had suffered much in an action and other regiments in the same brigade were wholly unhurt, there was no authority able to co-ordinate the Medical Aid, and send all available resources to the place most needed. In the same division of eight regiments of the army two regimental hospitals might be full of wounded and even overflowing, while six other corps not engaged or under fire had few if any men in Hospital. The equipment and officers of the six corps lay idle while men were lying neglected in the other two. It was not competent for any authority to direct assistance to be given, and even if medical officers were detached to help, the equipment and appliances without which they were useless were still untransferable.

24. The inspecting medical officers had no authority to move or change any regimental officers and it was only by official application to the chief commander of the army, necessitating long delays, that authority could be obtained to transfer even a single officer, and even then his commanding officer might throw obstacles in the way, and even this did not include the equipment. It tied up the hands of the medical department in every way, by wasting the services of three-fourths of the doctors in empty regimental hospitals, while many other medical officers were overcome by exhausting labours.

With such a system we marched to the heights before Sebastopol, and there, despite the heroic labours and self-sacrifice of the officers of the department, the army melted away, until between deaths there, and at Scutari, 20,000 men had died of preventible disease.

The medical department trusting to regimental organization and worked by officers trained up in that vicious and enervating system was, despite every wish and desire to do so, wholly unable to cope with disease.

The system failed then for one reason amongst others, that was the powerlessness of the medical department under the regimental system to direct every energy on the point most needing assistance, and not to allow one set of hospitals to be empty while others overflowed.

25. (B.) *A fallacious unit for organization.*—The unit of the regiment is uncertain now-a-days. It may be 400, or it may when going into the field and when the reserves and linked battalion men are with the colours, amount to 1,200. There is no certain data to work upon as regards the number of medical officers, the amount of equipment and supplies, or of transport and carriage needed. As we showed before, in the old days the regiment was a definite unit, and one to be trusted to base an estimate upon.

Even if suitably estimated for, the first action or the first field service or epidemic will throw out all the arrangements, because during a campaign,



although the sick and wounded will always be an average when estimated by army corps, or groups of divisions, they will never be so when estimated by regiments or batteries; because position in the field, exposure to heavier fire, or having to bear the brunt of an attack, or unhealthy camp sites, will always swell up one regiment to an irregular degree, while others are wholly untouched.

26. (C.) *Change of system between Peace and War Hospitals.*—Even granting that during peace regimental hospitals were to have remained, and general hospitals under the control of the Divisional Principal Medical Officers were to be the rule in war, nothing but disaster could occur because you train men up under the enervating regimental hospital system, with the regimental commanding officer supreme, and carrying out all duties during peace; and in war when that officer would be far away, the Medical Officer accustomed to nothing but prescribing for the sick, <sup>would be</sup> ~~and he~~ left wholly helpless although responsible. Such could not be allowed. Men must be trained in peace for war. There can be no two systems. If regimental, the regimental commanding officer must be supreme and direct everything, and if not regimental, the Principal Medical Officer must direct. There can be no medium course, as it would lead to intense and constant friction. The regimental system trained up medical officers to look upon all duties, except prescribing for the sick, as foreign as themselves; a fallacy which every campaign has disproved, and in consequence of regimental training through many years men grew unable to administrate. We have been for years choosing our administrators from officers nursed in Regimental institutions, in which they never felt their legs under them, were wholly unaccustomed to take wide army views of medical needs, and never learned to deal with officers of the department nor to carry out discipline amongst their subordinates. Such men so trained in regimental schools laboured under great difficulties in trying, when old, to learn to use the new powers entrusted to them. The practice of administration should commence from the first day the young medical officer joins the army, to accustom him to arrange for contingencies certain to arise in war time. Such is the system in the military department of the army. The young officer learning to deal with his squad, or half company, and eventually commanding the regiment, the brigade, or the division. There are no two separate systems, one for peace and one for war, and men learn to administrate from the first.

27. (D.) *Centralized power in Regiment or Battery Commanding Officer.*—The theory now-a-days obtaining in the conduct of every system of affairs in the world is not to over-burden one man with a host of various and dissimilar duties in some of which he is certain to fail, but to divide the responsibility amongst specially trained officers in each department. This as all reversed in the old regimental hospital system. A battery commander besides fighting his guns, and looking after his horses, and the interior economy of his Battery, had likewise to arrange about his hospital, its supplies, discipline, and regularity, and the Medical Officers, who by proper training, could have done all much more efficiently, were in the meantime idle. By removing such foreign duties from the hands of the military officers and organizing under entire medical management efficient



brigade and divisional hospitals, the medical staff of the service will be thoroughly utilized and waste of time and trouble by military commanders, who might be more suitably employed, obviated.

It seems absurd to think that to obtain a new pane of glass in a Hospital window, applications had to be forwarded through the commanding officer of the regiment, and to check the neglect of an attendant a tedious enquiry in the orderly-room before the commanding officer was necessary. That every-day regimental subalterns, boys fresh from school, should come as representatives of the commanding officer to inspect and report if the Hospital was "clean and regular," although there were two or three medical officers, men grown grey in the service and full of experience, to look after it if needed. That the hospital serjeant or any of the orderlies were lent as a favour by the commanding officer and might by his wish be any moment returned to duty in the ranks. Yet, it is true, and what is more, as long as the regimental system existed, the commanding officer was strictly correct in everything he interfered in; he was responsible and not the Medical Officers, and to him therefore was entrusted the power.

28. (E.) *Indifferent Peace Hospitals.*—Under the regimental system it was necessary in every garrison to have a separate hospital for the use of each individual regiment or battery even if the regiments in the garrison were eight, ten or more in number. We had thus in every garrison a great number of petty, roughly furnished, deficiently equipped Hospitals, poor in style, and without those modern improvements and fixtures which are found to-day in every civil hospital, and which in the end mean comfort and efficiency. Now-a-days hospitals are expensive things, and no nation could afford to build a first-class hospital for every battalion and battery in a garrison. To do so would be ruinous. No doubt the true principle is to build one perfect Central Hospital in each garrison, replete with every improvement, and there<sup>being</sup> to the treatment of the sick the best appliances of the day. In the field things must be rough; there is no reason they should be so in garrison: there at least the soldier should have all the advantages given to his civilian brother. Such hospitals could not exist under regimental organization, as there would be no central authority, and each regimental commanding officer would be striving to have his views carried out until chaos would result.

29. (F.) *Absence of Libraries, Chemical Laboratories and expensive Instruments.*—To-day to carry out one's professional studies thoroughly books are necessary, scientific magazines and professional periodicals are necessary, chemical laboratories well equipped are necessary, microscopes and expensive instruments are necessary. While divided into petty regimental groups of medical officers, serving by ones and twos in distinct and separate little second-rate hospitals, it was impossible for these necessities to be collected together, or if collected they would be a tremendous expense to the State, and they could not be carried from place to place with marching battalions and batteries. They consequently did not exist and the medical officers were deprived of these all-important aids to increase their efficiency. By the absence of these essentials, the health of the army suffered more or less, because it operated against the further improvement of the medical officers.



in professional studies. Such necessities can only be collected at great central hospitals, where all can have access to them and thus improve themselves. It is quite certain that in a few years after the unification system is at work, particularly in the larger garrisons, we will find libraries and museums formed in each central hospital, together with clubs for the purchase of medical periodicals and professional papers of various sorts.

30. (G.) *Prevented all Station tradition of diseases.*—Under the regimental system as all the medical officers marched into the station with the regiment when it came in, and marched out with it when it left the station, all the medical history of the station had to be learned afresh by each successive wave of regimental medical officers. This was a great drawback, especially in tropical and unhealthy climates, where men learned in the bitter school of experience what might have been handed down from one medical officer to the other under the garrison hospital system. It further necessitated regimental returns of sickness instead of garrison returns, and no continuous station statistics could be prepared, which are so useful, particularly in tropical climates.

31. (H.) *Impossibility of obtaining skilled Nurses and Attendants.*—Under the regimental system it was impossible to obtain skilled nurses and attendants. The only post for a non-commissioned officer in a regimental hospital was that of hospital serjeant, and even he retained his post at the will of the commanding officer. If he became intelligent and smart he might at any moment be taken away for regimental military promotion and a perfectly strange man be sent in his stead. As regards the orderlies they were generally either old soldiers, or awkward men, who were in the way in the ranks, and who were hidden out of sight in the hospital. If a man turned out intelligent and trustworthy, he could not be promoted to even a lance corporalship without resigning his position in the hospital, so that it was impossible to retain a good active ambitious man, and often impossible to get rid of a bad idle fellow. Now nursing needs training, and the practise of trusting to ignorant but kindly men from the ranks could never last without a crash. If sickness became great the orderlies were too few, and there was no reserve to fall back upon; if a great crowd were always employed, they were idle and caused expense. The true way to avoid such difficulties is by having an efficient trained corps of soldier nurses such as the Army Hospital Corps employed in garrison hospitals, and receiving regular promotion in that corps when efficient and active.

32. (I.) *Prevented uniform system of having all the sick in Hospital.*—Although strictly contrary to army rule many commanding officers permitted men not actually sick but delicate and weakly to remain in barracks attending hospital, or on convalescent duty. Other commanding officers forbid this system. No definite rule was followed, and the returns of sickness were quite vitiated in their accuracy by not having a uniform system. Now under the garrison hospital system a man must be either in hospital or at duty and the apparent rise in the sick rate under the new system is caused by its putting an end to all irregular customs in this respect. In my own regiment we had five or six various forms of letting men attend hospital and not do duty, all of which were contrary to army rule, but



were winked at regimentally. No such half and half system should be allowed. It ruins discipline to have men half in hospital and half out of it, and when the day of duty comes round the men supposed to be fit for it are found wholly the reverse. The sick state should show every man not at duty for medical reasons. Many corps keep down their apparent number of sick by this most objectionable and false practise, of allowing men to attend daily at the hospital and do no duty.

33. *(J.) Ruined true esprit du corps amongst the Medical Officers.*—The medical officers of the army under the regimental system instead of being united in one body for mutual instruction, mutual comradeship, and professional improvement, were torn into a hundred varying petty sections by being divided amongst a hundred regiments, each with separate systems and separate regimental customs. If the regimental system gave a home to a certain number of medical officers who were commissioned in the regiments, it threw several hundred officers perfectly on the world. The condition of the medical staff officers was most objectionable under that system. They did not belong to any regiment. They were knocked about from post to pillar. Their *morale* was injured by having no definite circle to look to for social amenities. They were too few to have a mess of their own, because the majority of the department were in regiments, and had to attend the regimental messes, whereas if all had been simply departmental officers, they might have had pleasant Medical Staff Messes, where the young officer would have a home and would learn the tradition of the service and of their department. It is impossible to overrate the positive injury the young medical staff officers suffered by the old system. Literally no man cared for them. It was impossible for their regimentally commissioned brother officers to take them to the regimental messes constantly, and even if they did they were strangers and outsiders there. Serving only a few weeks in a Regiment no one cared to take an interest in them, and if the abolition of the old system did no more than this, its abolition was an universal boon. Doubtless the true condition should have been to have had in every large garrison a properly organised Medical staff mess where all the medical officers might have found a home, and where the senior officers might have been able to guide and to form the young men. Such institutions will now spring up, and nothing but good will come of them. We have a splendid tradition in the medical department of devotion to duty, of self-sacrifice, of courage, and of every manly quality, but, alas! up to the present it has been an individual, instead of a departmental tradition.

34. *The Dress of the Medical Officers* under the old system varied in every corps. Men who were not Artillerymen wore Artillery dress, who were not Highlanders wore the kilt, who were not Hussars wore Hussar dress. Weak-minded men now and then forgot that although dressed in these varying uniforms, they were neither Hussars nor Highlanders nor Gunners, but simply Army Medical Officers, nothing more but assuredly nothing less. It was impossible under regimental organization to have one army uniform for the medical officers, which every soldier might know, which would not be a travesty of the uniform of any corps, but handsome as



the best of them, the same no matter where serving, and an outward and visible sign of their department. To distinguish the medical officers of regiments under the old system was the work of an expert, and provoking and petty withdrawals of ornaments or special articles of dress had to be made to distinguish the medical officer from the combatant. Under the army system this will disappear. One uniform, distinct and definite, the badge of a department which should and will stand as high as the best corps in the service will be the rule, and let us hope it will be the sign of union and great departmental *esprit du corps*.

35. (K.) *Irregular tours of Foreign Service*.—No officer suffered more than the medical officer under the old regimental system for want of a definite roster of foreign service. One regiment would remain abroad twelve years, while another never left England. By exchanging and keeping one's eyes open foreign service might be completely avoided or the least quantity gotten through by some lucky individuals, while others were always abroad. Take Ceylon for example as a station for medical officers. Regimental medical officers remained there ten years at a spell in the old days, the staff doctors remained there only three years. In India a regiment remained for service twelve years and often more, while staff doctors came home every five years. It was wholly impossible to have any method or system in the roster, because men had to follow their regiments and stand by them at all hazards. The military department got the chance of coming home to the depôts every three or four years, and thus although the regiments nominally remained abroad twelve years, no officers except the medical officers were without a turn of home service. Now we can have a fair and uniform system inaugurated and every one will benefit by it.

36. (L.) *Impossibility of suiting the Medical Staff to the varying requirements of Garrisons*.—If there were three medical officers in a battalion they had to remain with it in every station it went to, whether a healthy or a sickly one. One corps serving in Rawul Pindi in an excellent climate had the same staff as another cantoned at Morar or Mian Mir. The system had to be maintained and there was no power of increasing or decreasing the staff to meet the varying wants of each station. This was a false principle. Even in the same garrison if one regiment was more sickly than the others, there was no power of equalizing the labours of the medical officers. One body might be quite idle and the other quite over-worked. By having the garrison hospital this will be prevented, and further, leave of absence impossible often under the divided system, will under the new system be more easily obtained.

37. Again, it is to be noted as important that while Medical officers were regimentally commissioned, and the Hospitals worked regimentally, the most senior medical officer of the staff or of another corps was junior to the youngest regimental Medical officer in his regimental Hospital; he took responsible charge over their heads; was alone consulted in all medical questions, and directed the action of his seniors in the army but his juniors in the regiment. Friction, disagreements, and divisions were fostered by such a system to the detriment of the service and the department. Now by



having one medical corps every officer will have his seniority respected and his proper place preserved.

38. It is quite a true although a sad thing to state, that it has been necessary to forbid officially the system that obtained in some regiments of assigning the least important and least inviting duties to the staff doctors temporarily attached to the regiment whatever their seniority was. It seems that a few senior medical officers were weak enough to believe that unless a man was commissioned in their own regiment he could not have been of much account. Such perverted *esprit du corps* would be laughable if not rather painful.

39. (M.) *Depressed the position of the Army Medical Officer as a unit in the Army.*—Much sentiment has been expended on the "happy home" theory of the regimental system. Let us calmly look into the question. Old army days are dead, and when Surgeons General who served in regiments before that great epoch called the Crimean war, talk of their early days, they are quite "in the air" if they think the same feeling exists to-day as in those apparently very good old times. The younger men in great proportion do not share those feelings. They believe it truer in principle to exist alone as an important Army corps standing on its own basis, knowing its own position, doing its own work, and wearing its own uniform, than to cling for support, for prestige, and for position to any corps, be that corps what it may.

The day for submitting quietly to a hundred petty but harassing frictions, such as must occur between the military and medical departments when working in the same corps, has now passed by. Why should we go on working a false and failing system that was certain to break down in the field, and which in addition depressed us as a body into nothingness, when a better system can be adopted and all these frictions set at rest for ever?

Turn back the pages of the *Lancet* and the Medical Journals, or the files of the military papers, and read the complaints in the much vaunted regimental days. Were there none? aye hundreds. In the good regiments—for there are good regiments—a man's position was singularly happy, but in the regiments less good it was often the reverse. It depended too much on the varying views of a Commanding Officer what *official* position the medical department of a corps occupied. All this is to-day ended. We can stand by ourselves, if we determine to do so. We shall be better doctors, better administrators, and stand forward as a department in the Army which cannot be overlooked, if we only stand true to one another. Our division has been our weakness. Unification in the medical department of the Army means increased professional and military efficiency, which is our highest aim, and a more definite and far more independent social existence.



#### Section IV.—The Unification System.

40. We now turn to discuss the unification system, or the principle of handing over to the Army Medical Department the fullest control over the Medical service of the forces, subject at all times and in all places to the command of the chief Military authority present either in garrison or in the field.

It would be absurd to ignore, in discussing this question, the causes that are at work in the medical department promoting the desire for unification. No profession has during the past fifty years made any thing like the social progress ours has done. Better men, with better education, and wider views join it every day. When one remembers the position it occupied in not very distant times by comparison with the sword, the church, or law, no one can deny that it has risen amazingly, while their position is every day more liable to assault. Large armies and volunteer military systems have made military rank common, the *odium theologicum* has died out amongst rational beings, disestablishment is held as a threat over every state religious organization, and the codification and simplification of the law will render the number at least of that profession fewer. But as civilization advances the need of the medical art increases, Doctors become more valuable, and rise to their true social position. Considering the expense, the trouble, and the danger of their education and their labours, it is but their just due. These influences act in full force upon the Army medical officers and each succeeding decade and each succeeding war but raises and will raise their value. If former Army Doctors were satisfied with small pay and indefinite position, the present men are not.

We desire to serve England faithfully and well, and to give our best energies to the Army we belong to, and with which we have done devoted service; but we desire to do that service in the best and most sensible way, and to have our hands untied to do the work. Repose trust in us, give us responsibility, give us the power to organize; then, if we succeed, give us the praise, if we fail ours be the blame. What then are the aims of the supporters of unification views and what the advantages their system holds out?

41. (A.) *Centralized responsibility in the Medical Department.*—It means first that we shall have in each garrison, with each Brigade, and Division, or Army Corps a single authority responsible for the medical care of the soldiery, with power to direct all the energies of the department in the direction where there is most need of them. Under the control of that authority the Medical Corps of the Army, officers, attendants, hospitals, equipments, and transport will in certain fixed proportions be placed. To the Principal Medical Officer in each Brigade or Division the entire Medical Staff of that division will look for instructions and for co-ordination. He will arrange that no hospital shall remain empty while another is full to overflowing. That the duties of the medical staff are equalized. That when needed to act in small parties, detached portions of the Army Hospitals with sufficient officers, attendants and equipments accompany the force, not in proportion to the numbers of its separate Regiments or Batteries, but in



proportion to its total strength and its probable needs. All divided responsibility between the commanders of separate regiments and the senior medical officers shall cease, and in the Principal Medical Officer under the Commanding General all responsibility and guiding power shall centre, leaving each regimental commander free to attend to his regimental duties proper. In like manner in garrisons all the sick shall be treated in central army hospitals, there being with each regiment a permanently attached medical officer who will *send* the men to hospital when sick or wounded, treat the sick officers and their families out of hospital and accompany the regiment wherever it may go. In the central hospitals all arrangements for duty, division of labour, discipline and administrative authority shall centre in the senior medical officer subject at all times to the authority of the officer commanding the garrison or the army or section of the army in the field.

42. (B.) *The formation of first-class Garrison Hospitals.*—Instead of a number of petty hospitals scattered over a garrison there will gradually be formed first-class garrison hospitals with every modern appliance and comfort for the sick. Chemical laboratories, expensive instruments, libraries and museums will in these centres gradually accumulate. There medical officers can learn their profession more thoroughly, consult freely with one another, have every available modern professional assistance, and learn how to administrate and preserve order in the hospitals.

43. (C.) *Great economy by co-operation.*—Instead of having in a single garrison eight or ten microscopes or such like things, one alone will be needed. Cooking, washing, lighting, all will be carried on in a more economical and equally efficient manner: of its economy there can be no question.

44. (D.) *War and Peace Hospital System the same.*—No change will take place between the systems in war or peace, and the terrible danger of inaugurating new systems in the field be avoided. To this error in the old days we may attribute the maladministration of the war general hospitals.

45. (E.) *It gives a Station tradition of diseases.*—As the medical officers of each garrison will be permanent for a certain time, and will not all change at the same time, it enables a station tradition of the sickly seasons, local causes of disease, and best steps for avoiding them to be handed down, a thing wholly impossible before.

46. (F.) It enables the medical department to limit or increase the medical staff in each garrison according to its healthy or unhealthy characters, which could not be done with fixed regimental establishments, and enables the Divisional Principal Medical Officer to withdraw or increase the staff from neighbouring stations when needed.

47. (G.) *Good Nursing.*—By having a special corps of medical attendants it enables men to be trained as nurses and gives them scope for promotion if intelligent, which was impossible under the old system.

48. (H.) *Avoids Friction.*—It puts an end to or diminishes to the least possible amount all friction between the military and medical departments of the army. Contact can only take place between the administrative



chiefs of either departments, and the subordinate officers shall be simply the officers of two separate corps.

49. (I.) *Equalizes Foreign Service*.—It enables a roster to be kept of the home and foreign service of the medical officers, and equalizes it for all. It prevents a man spending his whole service in England or being compelled to spend excessively long times in India or the Colonies.

50. (J.) *A single Uniform*.—It enables one definite uniform to be determined on for all medical officers of the army, by which they can be always recognized, and which will avoid the wretched questions about invidious distinctions and absence of ornament or decoration. It will prevent the anomaly of medical officers being compelled to wear the uniform of corps to which they never really belonged, and will save a few weak-minded men from forgetting that they are medical officers, and dreaming that they are Hussars or Artillerymen.

51. (K.) It gives us the opportunity in each garrison of having suitable accommodation, where we can organize our own messes, and gives the young officers of the department a home, which if they served on the staff they never could have had. This is a most important advantage. The absence of messes under the old system was a great injury to the *morale* of the young medical officers.

52. (L.) *Abolishes Regimental Medical Officers' seniority*.—It abolishes the anomaly of a junior medical officer commissioned in a regiment being senior there to the oldest staff medical officer or medical officer of another corps.

53. (M.) It makes a uniform system of having every man not at duty on medical grounds in hospital, and puts an end to constant regimental breaches of the existing army rule.

54. (N.) It makes leave of absence easier to be obtained for the medical officers.

55. (O.) It does away with the annoying inspections of hospitals by junior regimental officers; a duty many of them objected to, knowing it to be a farce.

56. (P.) It enables good and healthy sites for hospitals apart from the regimental camps or barracks to be chosen. With regimental hospitals close to barracks and camps, the same evil influences acted on the one as on the other.

57. (Q.) It saves the furnishing of regimental guards to regimental Hospitals, and requires but one guard for a whole garrison or division instead of six or eight as at present.

58. (R.) It enables indifferent senior medical officers to be employed under seniors, while under the regimental system all seniors had to be employed as chief medical officers in regiments.

59. (S.) It enables us to get rid of *mauvais sujets* in the department. In the regimental system if a medical officer was a "good fellow" at mess and popular, his commanding officer could overlook his conduct in the hospital, and he alone could take cognizance of it. In this way indifferent officers were at times retained in the service.



## Section V.—What still remains to be done.

60. If any officer of the military or the medical department of the army imagines that by the introduction of the new system the medical officers aim at doing less work or leading easier lives, they are thoroughly and entirely mistaken. It means harder work, more responsibility, more forethought, and more attention to duty than ever was necessary under the old system.

The medical department will now be entrusted with most arduous responsibilities, but they will have their hands untied to accomplish the work.

Deprived of the swathing bandages from which they so long derived a false and ruinous support, the limbs of the department may and will totter at first, but in the end the firm step and decided gait will be theirs.

Mistakes and errors are likely to occur when we commence our new labours, but the great thing to remember is that now while peace exists they can be noted and corrected, whereas they were certain to have occurred in the first campaign under the old system, and would have involved disaster. It was as certain that any great European campaign before 1873 would have been disastrous to the medical service of the army, as it is certain that men died of preventible sickness in the Crimea. What then are we to ask for and to aim at under the new organization?

61. (A.) *Disciplinary powers in Hospitals over officers, attendants, and patients.*—Foremost amongst the wants the new system will involve will be full disciplinary powers in the station hospitals in the field and in garrisons over officers, attendants, and patients. No order can exist without that being granted, and now during the time of peace is the time to give it fully to the medical officers. The senior medical officer of a garrison should have the powers granted to a regimental commanding officer for the punishment of military offences, that is up to 168 hours' cells, the power of confining to barracks, and of fining for drunkenness.

We all know these powers will be rarely used, yet it is necessary they should be there for use. All references to the commanding officer of the station will be tedious, and involve much trouble to every one. These powers the medical officers are quite qualified to use, and if mistakes occur at first they can be corrected now in peace times. The medical officers now senior in the army are well acquainted with the routine of the service and will use these powers with discretion. Every one knows that in India the Indian medical service govern the enormous jails of that country and exercise magisterial functions even to the extent of corporal punishment, efficiently and well. This power will prevent medical officers resorting to the irregular customs of old days, in which it is said perfectly illegal punishments, like feeding on spoon diet, were given constantly to soldiers in hospital for any breach of regulations. This power should extend over the subordinate Indian medical attendants, who will form the nucleus as of the Indian Hospital Corps. On all courts-martial on medical officers a proportion of medical officers should sit as members, to see that no absurd plea prevented justice taking effect on delinquents. Medical officers as is



well known to-day sit on courts-martial, and it should be the rule in the trial of all hospital subordinates.

62. (B.) In future it will be necessary to have any new army hospitals built for the garrison and not for the regiment.

63. (C.) The Army Hospital Corps should be wholly under the medical officers in every particular, and Quartermasters chosen from the non-commissioned officers should be commissioned and attached to each district at home, and each division abroad, to look after their clothing and payment. Their uniform should be changed to the scarlet colour of the medical staff of the army with the same facings. Their title should be the same as that of the medical corps and in every way they should be taught to look to the medical officers in every thing. If their discipline be at all defective, it arises from the absence of any interest in their welfare by the medical officers, and now under the new system this should not be the case. They are our own corps. That they should be efficient is our best hope, and if they fail we are undone. Every means should be taken to make them comfortable, for their duties are particularly onerous and depressing.

64. In India it will be necessary to organize the present Native establishments into a Native Hospital Corps. This can easily be done, and the late Surgeon-General Beatson has left on record a plan ready for adoption. The uniform of the subordinate medical department in India should be made similar to our own, and the Geneva Cross worn by the whole medical corps, from the most senior officer down to the most junior orderly.

65. (D.) It will be necessary to have hung up in every barrack-room instructions explaining the system of army hospitals to the men that no mistake can occur; very soon it will be fully understood. No explanation of the meaning of the Geneva Cross has as yet been given to the army, and most men believe that the Geneva Convention discussed the Alabama claims. This should be corrected.

66. (E.) The ambulances that would accompany the army in motion should be kept mobilised and in working order at Aldershot and the Curragh, to train men to the system, and constant practice given to the officers, attendants, horses and waggons as if in the field. The young medical officers from Netley should be sent to see the system working as part of their course. Officers will always learn the routine of the General Hospitals, but the management of the ambulances can only be learned at the large camps. No expense will be given to the state, as the waggons would be used for conveying the regimental sick from barracks to the hospitals at ordinary times. Medical officers detailed for service with these should be horsed at all times, in the same manner as the field artillery officers are.

67. (F.) *Netley*.—With unification the Netley training of the young officers becomes of the greatest importance. When one notices the care given to the young Royal Artillery officers at Woolwich and the Royal Engineer officers at Brompton, it merely indicates how necessary like care is at Netley. There should be there a publicly appointed officer of much army experience as "Superintendent of Cadets," to whom the young officers could look for instruction and guidance on all questions not dealt



with by the professors and medical officers of divisions. Our young brother officers enter there a new career, and very much depends upon the impressions they receive. Unless their care be the special duty of a responsible officer it may be neglected, and this should not occur. The traditions of the service and the department are not learned in a day, and the young cadets should be carefully taught them. All of them are anxious to learn, and doubtless in the future great care will be taken on this head.

68. They should be taught to ride at Netley if possible, or by sending them to Aldershot; but the best way is to let these young gentlemen learn at Netley amongst their own people. A medical officer who cannot ride is useless and an encumbrance to the service. The state may well demand of its officers an efficiency equal to that demanded from every medical practitioner's assistant. A short course of drill should be given. It would teach them more of the sufferings of the soldier with badly fitting accoutrements than many lectures. The first day I dressed in heavy marching order I learned a lesson I have never forgotten from the old pack. They should likewise be instructed in the elements of Military law. The Superintendent of Cadets could, in half a dozen lectures, teach these young officers much that they now have to learn in the rough school of experience. We should all be induced to look to Netley as our centre, and our best and happiest station.

69. (G.) The formation of medical staff messes at all the larger garrisons is most important. At Aldershot, Woolwich, Portsmouth, Plymouth, Dover, Dublin, the Curragh, Cork, Gibraltar, Malta, Poona, Bangalore, Secunderabad, Allahabad, Lucknow, Meerut, Morar, Umballa, Mian Mir, and Rawul Pindi, and Peshawur such messes should be at once organized. Nothing is of greater importance to our *morale* than this. We must not be dependent on the regimental establishments that the young men may have a place to meet. I see no reason to excuse any medical officer from payments to these institutions, and the rules applying to regimental messes should likewise apply to them about subscriptions.

70. If the department is to stand amongst the other branches of the Army there must be a centre where the social amenities of life can be carried out. Entertainments if given should be in the name of the senior medical officer and medical officers of the garrison. Cards should be left on regiments or individuals in the name of the P. M. O. and officers of the Medical staff, and all invitations should come for the officers of the medical staff as a body. But it is needless to mention these things save casually. However, simple as these things seem, they are not unimportant. The Regent's allowance as given in the line battalions might be claimed in England, but in India the mess allowance of Rs. 10 per officer for mess-house accommodation should, as in the Royal Artillery, certainly be granted to the department. It can in no possible way be refused and only needs representation.

71. (H.) The honorary distinction "Royal" should be given to the department, and likewise to the Army Medical School at Netley. It is the rule in the service to give this honorary distinction to corps and regiments that have done good service. If there be Royal Artillery and Royal Engineer and Royal Military Academy, there should be likewise Royal Medical



department. Our labours, our devotion, our long and faithful services exceed if possible even these distinguished corps. Nothing shows more painfully the bad effects of the regimental system on the medical officers themselves than the utter absence of *departmental* tradition. There should be honorary mottos and badges as in every other corps in the service, and that badge should be the Geneva Cross, which if we will we can make the most honorable badge in the army. It is absurd to despise these little things. "Trifles make perfection, and perfection is no trifle." The history of the department should likewise be written.

72. (I.) *With reference to dress*, a few principles should be laid down. I have yet to learn whether our influence, prestige, respect, or position is to be increased by despising and ignoring our uniform. I have met officers who believed such would be the case. They were not remarkable for any superiority. Uniform means order, and system, and in the military service can never be ignored. Under the regimental system wretched distinctions made by absence of ornaments were in the old day the rule, and even to the present time more or less acted upon. Now as we are a separate corps we want the medical staff uniform, already very fair, made in every way as good as the best in the army. We all agree that though the taste for gold lace is a false taste, yet while the army wears it we will sail with the stream. We are but men after all, and although our dress should be *perfectly* distinctive it should not be ugly. Hence the cocked-hat for all except the administrative officers, the forage cap and the undress trousers need change to equalize them with the Engineers, with whose position we are most nearly allied. The dress belts should always be worn as the Engineers always wear their's. The Geneva Cross worked in ornamental embroidery should be worn on the forage cap, on the collar of the tunic in front of the rank badges, on the collar of the mess jacket, and on the front of the helmet or hat that is to be worn, and on the collar of the patrol jacket. It is better to adopt this badge in peace as we must wear it in war, and let it become known as the medical department badge. If worn only in war times our men will never understand the meaning of it. The collar and cuffs of the patrol jacket should be of the same pattern as the Engineers' black velvet being substituted for garter blue.

Distinct and clear orders should be laid down about our dress when on various duties. All mistakes arise with us from want of clear definite orders on this as on other subjects. The Honorary Physicians and Surgeons to the Queen should wear the tunic of the Queen's A. D. C.'s with their own belts. If the army tailors do not object, perhaps as an outsider one might suggest something. Our facings are black. We adopt the colour. All broad lace worn by the department should have a quarter of an inch of black in the centre, where the military department wear crimson. This broad lace will suit for the forage-cap band, and for the trousers in full dress: for the undress trousers let a black stripe, half an inch wide, run down a broad scarlet band. Advantage might be gained by choosing some good London house, and treating with them for the supply of uniforms to the department as a speciality. Our uniform will now be the same for a corps of a thousand officers. It should pay a house well to secure the



patronage of so many officers. The co-operative principle would be the one followed.

73. (J.) *Titles*.—While we serve in a military organization, and deal with soldiers accustomed to respect their officers in proportion to their rank, we would be very foolish not to adopt a definite system for our titles. To call both ranks of Surgeons by the same title is a mistake, to call both grades of Surgeon Major by the same title is a mistake. If a title means anything it means different grades of rank, and if we adopt the same title for two different grades it is wrong.

The title "Surgeon-General," retained for the officers ranking with Brigadier Generals and Major-Generals is true in principle, the title "Deputy Surgeon-General" is like all three-worded titles too cumbersome. They should be called Surgeon-Colonel, which every one understands.

The title "Surgeon-Major," as at present used, should be <sup>reserved</sup> ~~reversed~~ for those ranking with Majors and not used for the higher grade. A distinct and definite title should be given for each grade in military rank and the affix "Surgeon" or "Doctor" added to it.

The rank and file of the army always speak of the Major-Doctor and the General-Doctor in common parlance. The title Surgeon is never used at any time, except officially. Every medical officer is considered to be a doctor.

74. (K.) *Rank*.—As regards rank, we will always be unsatisfied while two things exist. One is while the Senior Surgeons-Major are *junior of the rank* as Lieutenant-Colonels, and the other while the Deputy Surgeons-General rank with Lieutenant-Colonels only. The former grade will under the new system be at the head of large garrison hospitals, and it is absurd to keep these junior of their rank with no prospect of any further rise. In no other department does the "junior of the rank" system obtain.

For the latter their now most important duties in arranging the medical duties of divisions of the army require that they should get extra position, and they should rank as Colonels from the date of their appointment, and retain that rank throughout their service in the grade. Sooner or later both these demands must be met. The reason why the Surgeons-Major were made junior of the rank was to suit the regimental system and prevent the medical officer being senior in the army to his Lieutenant-Colonel. That reason does not now exist.

75. (L.) *Custody of stores and rationing*.—For the hospital rationing and custody of all equipments, and medical stores in general hospitals and throughout the department, quartermasters of the Army Hospital Corps should be appointed to act under the senior medical officer.

Without some encouragement to the Army Hospital Corps in the way of commissions it would suffer much in *morale*. These officers would carry on their duties as in a regiment, and under them quartermaster serjeants of the corps would be trained for duty with small section hospitals. Introducing all titles like "stewards" and such like which are not used elsewhere in the army is wrong in principle, because soldiers do not understand them and they cause confusion.



We cannot copy too closely the system that works in the regiments. Uniformity is a great comfort if it can be achieved. On this principle, paymasters of the Army Hospital Corps should be so commissioned if needed to carry on the payment of the entire hospital department, &c. The quartermaster otherwise would superintend the payments, but the senior medical officer should be responsible. A hospital should draw its supplies from the Supply Department, in just the same way as a regiment does. In India officials of the subordinate medical department of that country should discharge all the purveying duties, whether as regards rationing, custody of stores, or any other duty, under the responsibility of the medical officer in charge of garrisons, brigades, or divisions.

76. (M.) *Principal Medical Officer's Staff*.—As every officer commanding an Artillery district, or commanding a battalion, has an adjutant to act as secretary and assistant, every medical officer administering a division of the army, or a district in England, should have a medical officer as staff officer or adjutant to him. To assist in carrying out the medical administration of a large body of troops such an officer is quite necessary ; and it would be a capital training for the younger officers in administration. He should be called either the Medical Staff Officer or the Surgeon-Adjutant of the district. In all large hospitals the senior medical officer would of course nominate one of the junior officers to act as adjutant and conduct the routine duties of the administration. He would not be excused from any duty on that head, but an officer is required to intervene between the administrator and the rank and file of the orderlies and patients, &c., &c. Military medical officers will see that this is a necessity.

77. (N.) *Roster of Moves*.—Definite rules as regards moves and change of station should be laid down. A roster should be kept and all moves should go by rotation as far as possible. Constant movings and knocking about the country was the great drawback of the old staff system, and by proper administration it should be reduced to a minimum. For all duties on the march the young men under six years' service should be generally taken to teach them experience. A good Principal Medical Officer will always avoid needless moves. In the hands of a weak man constant changes might occur unless some system was adopted defining his powers.

78. (O.) *Pay*.—We will always be an expensive corps to keep up. All good things are dear and bad medical officers are dear at any price. Our pay in India until promoted to Surgeon-Major is very bad and greatly below the amount it ought to be. The rise in pay given us by the Warrant of 1867 has not taken effect up to the present day in India. All medical officers ranking as Field Officers should be allowed forage as a part of their pay. The allowance to the young officers at Netley should be raised to the pay of a Surgeon. They do work equal to one and it is a shame to let them be paid at a lower rate than sub-lieutenants are paid at.

79. When we remember that we come into the army fully educated as medical men, and able if we choose to seek employment in civil life, we must always be more highly paid than the military department who receive all their training at government expense.



All Engineer officers are so taught at Brompton, and the Staff College, the advanced artillery class and Sandhurst are kept up at great cost to the state to teach officers at government expense. All this is saved in the Medical Department. Add on further the expense of the garrison instruction now going on throughout the army to the cost of the pay of the military department, and it will about double the charge against the state. This is never estimated. We are trained at our own cost, and it seems fair that we should demand either a second course at Netley before promotion, or six months leave on full pay during our service to study in the civil schools. Considering our real value and that for us there are no good things like army staff billets, our services are reckoned at a very low figure indeed, with reference to the value of professional knowledge in the market. The whole charge of the Medical Corps can be and is estimated in one place. The apparently small pay of the military department is really much increased by staff and extra allowances.

80. As regards pensions to widows it is necessary to note that the widows of all medical officers who die during epidemics should draw the higher rate of pension granted for widows of officers dying in the field. Epidemics are our campaigns. In like manner Queen's Cadetships should be granted to their sons.

The State should found Queen's Cadetships for medical officers' orphans at the Medical Schools, to enable them to enter the service in which their fathers died.

81. The young medical officers should be compelled to join the Army Medical Officers' Widows' Fund, for the first five years of their service, if after that time they are so foolish as to discontinue, they will do so with their eyes open. Great pressure should be exercised by the senior officers on this head.

82. (P.)—The Geneva Cross Flag should always be flown over the hospitals even during peace. Our soldiers are so stolid that without this they would never recognize it in war. It should be painted on the ambulance waggons and on the hospital marquees. In every possible place it should be conspicuous. In India it should be the badge of the hospital establishment simply as a distinguishing mark. Our Indian enemies did not sign the convention at Geneva.

83. (Q.)—Servants from the Army Hospital Corps should be provided for all medical officers serving at home, and the servants' allowance withdrawn. It is quite wrong to allow the non-regimental medical officers to be without soldier servants. In the field they sicken and die for want of food and attendance, and a medical officer is far too valuable to be thus expended.

Servants are not wanted in the West Indies, China, Ceylon and India, and the increase to the corps would be quite nominal. There will always be some men in it unfit for orderlies, and they should be so employed. If need be the cost of an orderly over an ordinary soldier could be paid by the medical officer. It is about fourpence a day.

84. (R.) The Departmental Blue-Book should become the life-blood of the department. It is now with its rather old statistics of regimental sick-



ness little read. It should be published quarterly as the returns come in, and if India be late or Hongkong behindhand, let their returns be published in the next number. We live too quickly now-a-days to read the statistics of 1872 in the year 1875. All regimental statistics too are of little use; we want station statistics. Few officers will now write for the blue-book. It is too slow in its appearance. If published in smaller portions quarterly it would succeed. There is a great fund of knowledge in the department if it were properly gotten at, and we very much want a paper or journal for the purpose. The blue-book should be that journal.

85. (S.) The whole question of sitting on military boards should be reconsidered. It would be far better to let us go back to the old system of sitting on the boards than to continue the present one of attending them. Many of the boards do not need any medical officers at all.

86. (T.) Lectures to the rank and file of the army on sanitary and medical subjects should be given at intervals during the year. The men take to them very kindly, and are eager listeners. It is a little trouble, but it does much good.

87. (U.) In certain barracks quarters should be specially told off for the medical officers and lettered accordingly. It is done for the Control service and we should also have it. It saves friction very much. What will be required are officers' quarters and mess rooms near the garrison hospitals.

88. (V.) As a rule when the medical officer in charge of the regiment is junior to the officer in charge of the station hospital, he should be employed there under the orders of the Principal Medical Officer in addition to his regimental duties. In small detachments the one officer will perform both regimental and hospital medical duties.

89. (W.) The following Army List corrections are needed. The Honorary Physicians and Surgeons to the Queen to be placed under the Queen's Aide-de-Camps, and not in their present absurd position. The appointment is given as an "Honor and Reward" and should be placed under that head. The letter H. P. (Honorary Physician) or H. S. (Honorary Surgeon) should be placed after their names in the departmental list, like the letters A. D. C. after the Queen's Aide-de-Camps. The right of private entrée has doubtless been given these officers, in consideration of their honorary post.

90. The names of the Deputy Surgeon Generals in India should be added under the names of the Principal Medical Officers of each Presidency in the list of army staff at the beginning of the book. If every Brigade Major is named surely every Deputy Surgeon General should be so.

Army Medical Officers will note in Hart's Army List the following omissions. The Honorary Physicians and Surgeons to the Queen are omitted from special entry. The Director-General's name and the headquarters staff at Whitehall-yard are omitted in the list of army staff at the beginning of the book. The names of principal medical officers of districts and commands are omitted, although entered in the official Army List. The Army Medical School at Netley is omitted, although Woolwich and Sandhurst are entered. This needs no comment.



91. The names of the British medical department in the Bombay presidency Army List should be placed before the Bombay medical department, the former being the senior corps. The names of the senior medical officers of stations to be entered in the station staff lists at the back of the Bengal Army List.

92. (X.) It still remains for consideration if an organization similar to the Royal Artillery could not be given us. By separating us into units of field hospitals with the doctors permanently working with each hospital, we might thus have the Base hospitals like the Garrison Brigades, the Field Hospitals like the Field Brigades and the Ambulances like the Horse Artillery. No insuperable obstacle prevents this being done.

93. (Y.) A graduated system of fines for neglect of duty, as now used with such advantage in cases of drunkenness in the army, would suit admirably as a disciplinary measure for the Hospital Corps, and for all irregularities in Army Hospitals.

Whether an Army Hospital stands on Aldershot Common, on the plains of Flanders, in a mango-tope in Oude, or amongst New Zealand fern thickets, it should be self-contained, perfectly complete in every way,—as easily moveable and as independent as a battery of field artillery, and have within its establishment every want provided for. The more nearly this ideal is attained, the nearer is efficiency.

### Conclusion.

94. Little now remains to be said. It is necessary on this question to be patient. In England, and particularly in the army, all change is brought about slowly, but in the end all will be well. One hundred and fifty years of Regimental systems did nothing for us. Let us try ten years of unification. No one will dispute that the old system was abolished in a seemingly harsh way, and that it caused pain to many people. Old associations torn asunder are always painful, and we know that the captive long confined learned even to love his prison-house and felt at first homeless when freed.

A better day is in store for us. Higher medical culture, freer room to work, and a truer professional and army basis to work upon, are all bound up with the unification system, and they are great things to achieve. In many ways the grievances put forward by some medical officers are quite illogical. They refuse to undertake any responsibility apart from prescribing. A battery commander might with equal sense say, "My duty is to fight my guns and that alone." To him I reply, "Your duty is to fight your guns doubtless, but to be able to do so, you must look after your horses, train your men, and see to the interior economy of your battery." To the army medical officer I say, "Your duty is doubtless to treat the sick; to do so thoroughly, you must see to the hospital administration, train the attendants, organize the staff, look after the rationing; this is your true duty." If gentlemen object to do this, civil practice offers them a wide extensive field for work; in the military service they are rather in the way. It is wholly impossible to carry out their theories and be efficient or inde-



pendent. If the regimental system exists the regimental commander must have the fullest powers, and that brings back all the old friction, and certain disaster in the field. If the medical department are to be independent, they must be responsible and must undertake *all* the work. There can be no medium course. With the new system properly working, we can, on medical grounds at any rate, go on a campaign] "with a light heart"; working under the old system, nothing but constant dread of a crash could be our anticipations.

95. We build too much for our European efficiency in every department of the army on Peninsular tradition, and Indian victories. From India we may in some European campaign one day learn the lesson that France learned from Algeria, and of the Peninsula few experiences apply to-day. What we want is a system in consonance with modern requirements, and that is the "Unification" one. Any other is striving to fill the round hole with the square block.

96. To the officers of the military and of the medical departments of the army I would say, "Have no fear that under the new system we will grow less interested or less bound up with the soldier and the service than we have been in the past." No organization can change our nature, and we have come into the army freely and for the love of it. Other officers often join the army because it is the only profession open to them, and often when very young, while their taste are still unformed. Not so with us, we can if we choose find other walks of life, but we come to the service when mature in years and of our own freewill. That means that our sympathies are with it. No department in the service has ever been or can ever be so cordially, so intimately bound up with the soldier as we. We have been with the army in every danger and in every success during the past, and we will be with them in every one that is to come. We alone of all the departments have been at all times with the army, and must always be with it. Remember neither the Royal Artillery nor the Royal Engineers, nor the Control department, nor the Chaplains' department ever came to India until 1857, and even now the two latter do not serve there. We on the contrary have borne our share in every Indian campaign, from Plassey to Magdala, and in every other quarter of the globe as well.

All we ask for is a fair field; untrammel us from petty regulations; clear away the forms that seem to keep us up but drags us down and makes us against our will helpless and weak; give us our way, and in the campaigns and epidemics that are to come, we will do, as we have often done in the past, good and trusty service for the army and the country. Amongst the thousand graves that lie to-day uncared for on the heights before Sebastopol are the tombs of sixty officers of the Army Medical Department, who fell by disease and wounds in that most lamentable campaign.

The same spirit of loyal devotion to duty that animated them animates us to-day, and we are ready now to do as they did.

Contented when justly dealt with and when receiving that equal share of the rewards which we no less than the bravest soldier in the army earn at the risk of our lives, we will in the day of trial do our utmost, and men can do no more.

February, 1875.



