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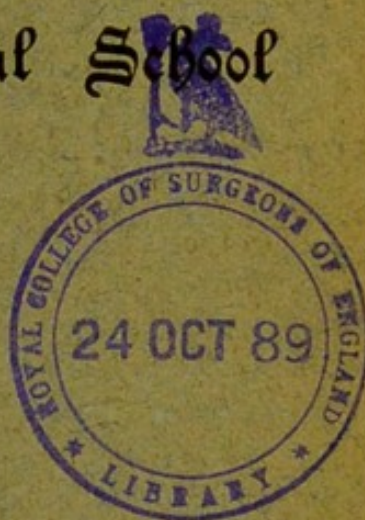
DELIVERED AT THE

ROYAL VICTORIA HOSPITAL, NETLEY

INTRODUCTORY TO THE 53RD SESSION OF

The Army Medical School

OCTOBER 1886



BY

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

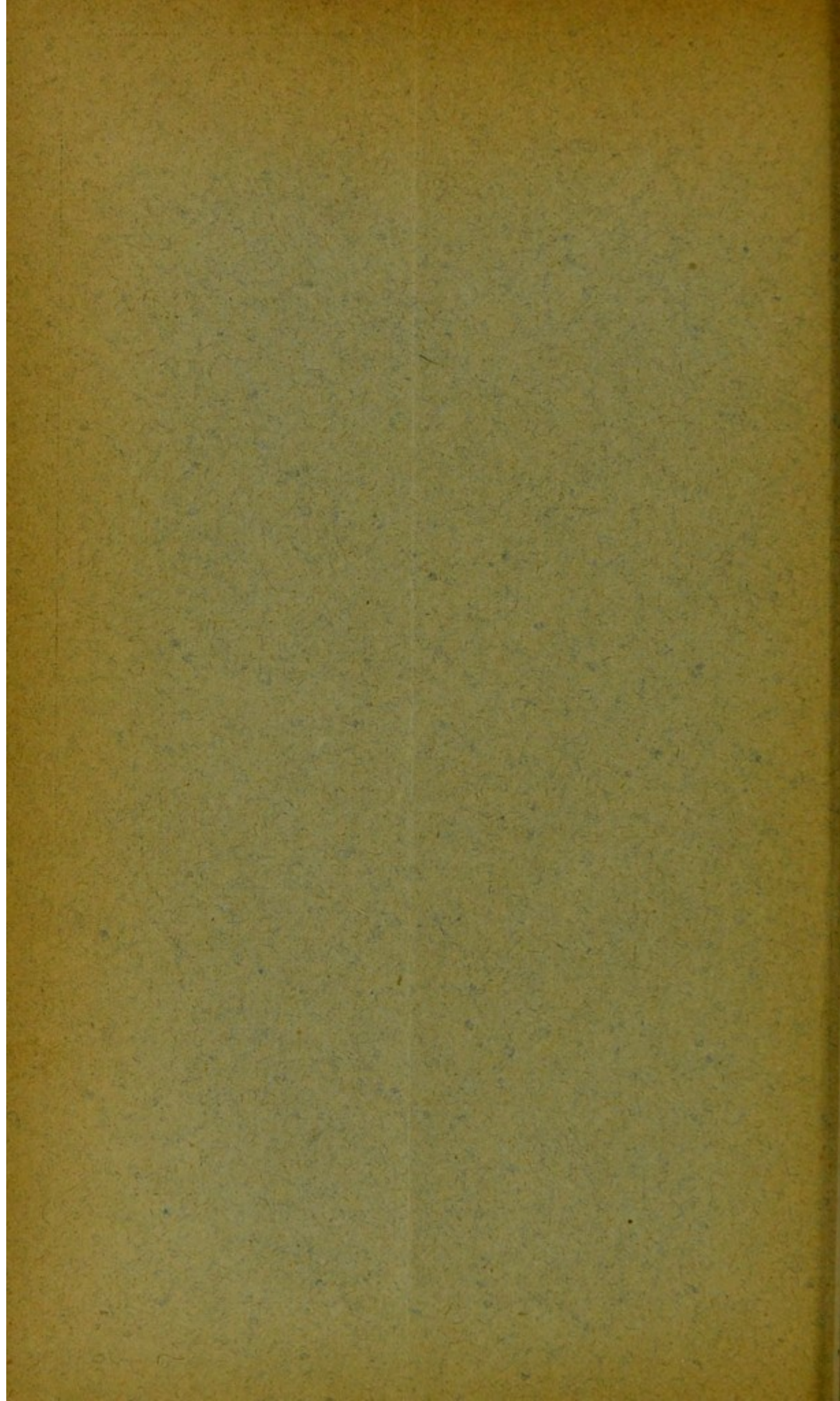
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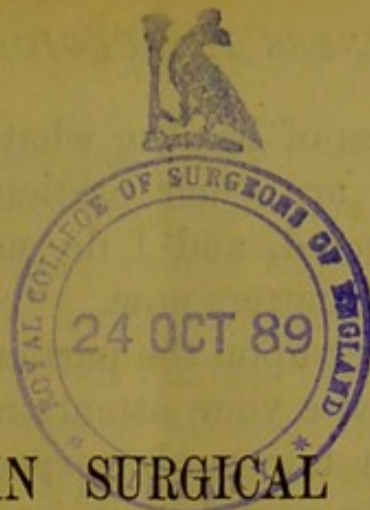
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1888





GENTLENESS IN SURGICAL PRACTICE.

WELCOME to Surgeons on Probation—Death of Dr. Lewis—Subject of address—Some effects of the change from a depressing treatment of disease, to a mild and supporting treatment, as shown by the change in treatment of Ophthalmia—Personal experience of variations in treatment of ocular inflammation—Mercury in the treatment of Eye disorders—Example—Ophthalmia in the British Army in Egypt in 1801 and in 1882—History of the epidemic in 1801, with an account of the treatment of the ophthalmic patients on that occasion—The epidemic in the French Army in 1801 near Alexandria—Special Medical Board on Ophthalmia in England in 1810—Treatment of Ophthalmia in 1838—Treatment in 1882—Changes of treatment in other diseased conditions.*

SURGEONS ON PROBATION :

As this is the first formal address of the present session, I bid you welcome to Netley in my own name and in the name of my colleagues. As you know, you have come here to go through certain courses of special study with a view to increase your fitness for undertaking the duties of surgeons in Her Majesty's military service in the various parts of the world under British rule, and I will only now say in regard to this topic that, while the purpose of your coming must be always kept steadily in view, it is the desire of everyone concerned in promoting that purpose so to arrange the work of the session that your time at Netley shall be passed no less pleasantly than usefully. You will shortly have

* Limit of time compelled some of the illustrative examples which are here printed to be omitted on the occasion of the delivery of the Address.

full opportunities of hearing what the different departments of study are, their particular objects, and how they are conducted, and I do not propose to allude further to these matters now.

Before I enter upon the particular topic to which I am about to invite your attention, I feel it incumbent on me to say a few words respecting one of our staff who has recently passed away from among us—the late Dr. Lewis, whose co-operation we who have been his colleagues shall greatly miss, and whose valuable services you will unfortunately lose, during the ensuing session. Although you may have been strangers to Dr. Lewis personally, you must have all heard of him as the discoverer of that remarkable disease in which the blood of the patient teems with myriads of living worms—the *Filaria Sanguinis Hominis*—but to myself, and to others who are here, he was known from the beginning to the close of his career in the public service. To us he was known as a thoughtful physician, open-hearted cheerful companion, and true friend, while such were his powers of investigation, depth of knowledge, earnestness, and perseverance, that we regarded him as destined to achieve successes in the department of science to which he had devoted himself of still higher value than those he had already accomplished. Now, so far as we who were his friends and admirers are concerned, there remain only the recollections of past association, a sense of satisfaction in his worth and work, and sorrowful regrets at the abrupt termination of his useful life; but to you who are only at the beginning of your course in the public service, Lewis's life furnishes some lessons that, properly appreciated, may be of the utmost advantage to your own. To some of you his history may afford encouragement and support, to others act as a stimulus to increased devotion to scientific work, to all it may well furnish an example for imitation. Have

any of you not had the pecuniary resources which some of your fellow-students have had, not the help of relatives and friends which others have enjoyed, or still enjoy, to smooth the way in your professional progress? Take encouragement from the fact that Lewis possessed none of these advantages at his start in life; but nevertheless, by his own independent exertions and determination of character, he succeeded in attaining all the qualities of an educated gentleman, and the status in the medical profession at which he had aimed. He was not satisfied with simply getting an established footing in our profession, but, from the first, he sought distinction in it. When he determined to compete for an army commission, his ambition led him to try for the first place in the competition; and having obtained that, when he came to Netley, his efforts were all directed to maintain the same leading position here, and they were again followed by the result he desired. Perhaps some may think it questionable, since only one in a class of competitors can gain the first place, whether this solitary chance is worth the labour of the struggle. If such a question were put to me, my reply would be that the exertion, if honestly made, will certainly meet with adequate reward, and here we have an instance in proof of it. It is something to avoid the disheartening consciousness of not having done one's best, but, beyond that, exertion of the kind soon assumes the nature of a habit, and the habit, whatever else it may lead to, will almost certainly attract the notice of some who may have the power to help you on your way in the future. In Lewis's case, his habits of real work convinced those about him that he had the necessary qualities for high professional trust, and hence it was that the professors of the school addressed the Government, through the School Senate, on the benefits that might accrue to science and the public service if, after

some further preparation in Germany, Dr. Lewis were entrusted with an important mission in India concerning the causation of cholera—a subject which, in consequence of certain theories of the time regarding it, was then attracting particular attention. The Government sanctioned the expense entailed in the suggested course of scientific investigation and study in Germany, and also acceded to the exceptional employment which had been asked for Dr. Lewis in India. The large amount of useful work accomplished by Dr. Lewis in India was a complete justification of the decision at which the Government had arrived, and the value of that work has been further stamped by the fact that a short time before Dr. Lewis's premature death he was chosen by the Council of the Royal Society to receive the honour of its Fellowship. Dr. Lewis's writings are to be collected and arranged by a committee of his friends, and they will be preceded by a sketch of his life which has been written by his friend, Professor Aitken.* When they are thus rendered available for reference, I hope you will take an opportunity of making yourselves acquainted with them; you will find they contain an ample justification of the advice I have given you to follow their author as a guide in shaping the course of your own professional work in the future.

I will now turn to the subject I have selected for present consideration, viz., the influence of certain changes in professional practice on the results of disease. The particular alteration of treatment which is uppermost in my thoughts is that from what, relatively speaking, may be said to have been violence to one of gentleness in surgical practice. By violent treatment I understand one in which the measures employed are such as act powerfully in depressing a

* This has since been done.

patient's constitution; by gentle treatment, one in which the vital powers and physical endowments are carefully guarded, while the remedies used to combat the disease are not of a nature to lower, or otherwise injuriously affect, the patient for any lengthened period. I might select several of the numerous disorders that figure in the list of our army medical returns to illustrate this text, but I have chosen Ophthalmia as a serviceable one for my purpose. Some surgeons attach little regard to the effects of the changes in the treatment of ophthalmia, but attribute the diminution in the severity of its symptoms and in the proportions of loss of sight consequent on it, as illustrated in the last Egyptian campaign of 1882, exclusively to sanitary improvements. But the improvements in treatment have also been most remarkable, and the beneficial results of these changes cannot wisely be disregarded. It will probably be found, on full and impartial inquiry, that bad treatment has been no less powerful for harm than bad sanitation, and better treatment no less beneficial than improved sanitation, so far as regards their respective effects on ophthalmia. Personally, I have a strong conviction that the violent treatment formerly in vogue had a greater share in producing the severe and unmanageable symptoms, and frequent instances of ocular disorganisation and blindness, which attended the ophthalmia of old days, than even bad hygiene. But the relative amount of mischief due to these two causes is not a subject on which I feel inclined to dogmatise, although knowing the effects on myself, and from having observed the effects on others, of various kinds of treatment for ocular inflammation without any change at the same time in conditions of sanitation, I am not without some justification for the opinions I hold on the subject.

I will first take an illustration of the effects of a

change from rough to gentle treatment of inflammation of the eye from experience in my own person, and afterwards consider it on a larger and more important scale in army practice. During the second winter of the Crimean campaign I occupied a small but compact stone hut, originally constructed for an officer who was mortally wounded at the final assault of Sebastopol. It was a luxuriously comfortable residence by comparison with the much worn and threadbare bell-tent in which I had passed the first winter, yet while I came out of the first period, in spite of the exposure to very cold and severe weather, and of many privations, without any rheumatic affection, though, like others, with a certain amount of scorbutic taint, and much weakened in constitution, I became saturated with rheumatism and suffered severely from sciatica toward the close of the second winter. Shortly after my return to England, in 1856, I was with my regiment in camp at Aldershot, where I had allotted to me two quarters of limited dimensions in a wooden hut. The leading features of an Aldershot quarter are well known to everyone who was familiar with the camp at that time: how that the occupier could open the window, shut the door, or stir the fire, without moving from his bed wherever he might place it in the apartment, but by no means could avoid being constantly in a draught of air. It was under these circumstances, and not having yet recovered my normal amount of strength, that I became the subject of ocular inflammation: firstly, acute conjunctivitis, then scleroto-
totis, and finally cyclitis, including iritis. A medical Board recommended my speedy removal from the camp, and I accordingly left and placed myself under the directions of a friend who at the time was ophthalmic surgeon of one of the largest hospitals in London. He at once adopted the orthodox treatment of the day. I was brought as quickly as possibly under the constitu-

tional influence of calomel as evinced by salivation, and at the same time subjected to various other depressing measures, the object in view being to reduce by their agency the local inflammatory action and to alter the conditions which favoured it. In spite of these active measures, however, as they were called, the inflammation did not subside; on the contrary, I had numerous repeated exacerbations of it while I was under the treatment. These were said to be due to the obstinate character of the disorder, which was then described as 'recurrent iritis,' as if the recurrence were characteristic of some special form of the inflammation. The general result was that I was kept for a period of about six months on fish diet, and all the while under the continued influence of what was regarded as a moderate employment of mercury—'given as an alterative and just enough to keep the gums tender.' Fortunately for me, it was considered that I had become too weak in constitution from exposure in the Crimea and long-continued illness for the employment of general venesection, and the blood-letting in my instance was limited to the occasional application of a few leeches. I eventually came out of the ordeal without any permanent impairment of central vision, though, owing to adhesions being established between the iris and lens capsule in each eye, my power of accommodation became interfered with, and I was left with the minor inconvenience that attends deficient power of pupillary expansion on going suddenly from a place that is fully lighted into one that is relatively dim. At the beginning of the year 1857 I was ordered with my regiment to India where the Sepoy mutiny was still in progress. At the time the order was received my eyes were free from all acute inflammation, but the sclerotics were chronically more or less injected and tender, and slight irritation sufficed to redden the conjunctivæ.

I doubted what might be the effect of the free currents of air on board ship, and especially of the long-continued glare of tropical light and the dazzle of the sun's rays reflected from the sea, for we had to sail round the Cape and up the Bay of Bengal to Calcutta, but so far from any harm resulting from the exposure, the omission of the medicines I had been previously taking, and the use of the ordinary diet of the ship, I landed in India with my eyes free from congestion, and stronger than they had been since the onset of the attack. Nor had I any return of inflammation in either eye during the time—about two years and a half—that I remained in that country.

On subsequently reflecting upon these occurrences, the conviction fixed itself strongly in my mind—so slight had been some of the causes that had sufficed to bring on sudden accessions of inflammation while I was under the mercurial treatment—that these accessions had been less due to the external causes to which they had been then attributed than they were to the poisoned and debilitated condition of the structures upon which the causes acted. On one occasion, when I had been taking a vapour bath, in going from the door of the house to the closed cab which was waiting for me—although none of the usual precautions were neglected—a stabbing pain darted through one of my eyes, a pain which still returns vividly in imagination when I think of the occurrence, and this brief and apparently trifling exposure was the origin of a fresh severe attack, and, with it, a fresh accession of the mercurial treatment which I now look back upon as having been more hurtful than the disorder itself.

I have lengthened notes of the case of a relative, who was subject to attacks of iritis for many years. The first, very severe and prolonged, was in the year 1845, when he was thirty-five years of age, and this

was followed by other attacks at intervals of a few months for twenty-four years subsequently. He was under the care of successive oculists, the most eminent in London, during this period. All administered mercury—not only while the attack was in progress, but also afterwards to remove its effects—‘to clear the vision.’ On each occasion he was confined to the house for several weeks, and each attack left him deteriorated in health. About the year 1869 he was advised by Mr. Alexander, the oculist, whom he consulted when suffering from an attack, to omit the use of mercury, and though he had various attacks afterwards down to the year 1883, they were all got rid of in a few days, without any resulting injury to health, under such gentle treatment as exclusion of light from the inflamed eye by moistened spongiopiline pads, temporary abstinence from animal food, and saline medicines. No attack has occurred since 1883.

Mercurial salivation is not wholly abandoned as a panacea in eye disorders. About two years ago a workman came to me from the shipbuilding works at Woolstone, and begged me to do something to relieve him from the pain in one of his eyes that had become blind and was torturing him beyond endurance. While he was speaking to me he had to keep a handkerchief to his mouth on account of the profuse flow of saliva. The history he gave me was briefly this—A week before he had been struck and badly bruised in the eye by a piece of iron. There was no cut. For the first three days he could see a little—only dimly—as if he were looking at things in a fog through a piece of red glass. Then even this amount of sight left him, and now all was completely dark to the damaged eye. Immediately after the accident he had taken the advice of a medical practitioner, who had ordered him a course of mercurial pills. When I looked at the eye, I saw it was filled

with pus and completely disorganised. The pain he was enduring was the pain of an abscess pent up in dense, unyielding structures. I think you will feel the same difficulty that occurred to myself in this case—the difficulty of comprehending how benefit could be expected to result from such a rude method of treatment; and perhaps also you will be inclined to join with me in doubting whether, if perfect rest of the organ had been secured by the exclusion of all light from the eye in its injured condition, cooling dressings applied to it, suitable regimen enforced, and the general health regulated by ordinary medicines of the simplest kind, vision might not have been saved and at the same time great suffering and loss prevented.

I will just add one or two more observations from my own case. I remained free from eye attacks for about ten years, when, in February 1868, I had rather a severe one, and after that I had several others, the last being in November 1871. Since that date I have not had any attack worth notice. For two or three years I remained liable occasionally to isolated patches of conjunctival and sclerotic congestion, and localised tenderness, after some unusual exposure, but they never caused me more than very temporary inconvenience, and for the last ten or fifteen years I have been free even from these slight attacks.

The attacks between 1868 and 1871 taught me several practical lessons, which it is not likely I should have learned so thoroughly had it not been for my personal experience. The severe attack of February 1868 originated in an accidental blow, rather a violent one, on my left eye, followed by exposure on the following day to a prolonged storm of cold wind and rain for several hours while I was superintending the landing of a large party of invalids at the Netley pier. Although the experience I had already gained made me

avoid all mercurial medicines, I believe that the treatment adopted was still needlessly depressing, especially as regarded the amount of blood removed locally by leeches, and that the relapses that followed were partly due to general weakness caused by this loss of blood, and partly to unwariness in some matters, the power of which for evil was not sufficiently estimated by me at the time. It is to a better appreciation of such things that I attribute my entire freedom from ocular inflammation of late years, and the ease with which for some time previously I had got rid of the indications of an approaching attack whenever any signs of one accidentally appeared.

My attack in 1868 was certainly prolonged by impatiently exposing the eye to light, and trying to use it before it had sufficiently recovered from the deteriorating effects of the injury and the inflammation it had undergone. I have known better since that time, that the total duration of ocular incapacity is shortened by a due prolongation of abstinence from early exertion; by not exposing the eye that has been inflamed to the stimulus of light, or to visual exercise, or to sudden reduction of temperature, until it is well and strong enough to bear with impunity the strain which such exposures entail. Experience has taught me that a comparatively slight abuse of the weakened eye in any of the directions I have named can easily become the starting point of what may prove to be a severe relapse of disorder; at the same time I am well aware it is not easy for those who have not had a similar experience to appreciate this fact to the full extent it deserves.

Another lesson my experience taught me, and one which it seems worth impressing on others, is the wonderfully small amount of injudicious interference, or apparently small amount, which will suffice to induce a considerable increase of the existing mischief in disorders of

the eye. During the period of occasional eye attacks from which I suffered between the years 1868 and 1871, probably nothing excited more dread in my mind than the prospect of a close examination of the inflamed eye by some surgical friend. Persons, from not themselves feeling it unpleasantly, are apt to forget the amount of muscular power that may be exerted by the pressure of a finger, or between the thumb and forefinger, but those who have happened to undergo pressure of the kind when the parts subjected to it have been in a disordered and abnormally sensitive condition, are soon made painfully conscious of the fact that a very considerable amount of force may be thus brought into action. I learned more than this—I learned what mischief may be done to an inflamed eye, not only by rough handling, but by any fingering at all, however gentle. Occasionally, when some of the vessels of the sclerotic were visibly injected, the mere application of a finger accompanying the inquiry—Is it tender there?—has been followed by aching for hours, and has sufficed to aggravate the attack and extend its duration. My personal experience in this respect has made me very chary of exerting digital pressure on an eye inflamed in any part, and has led me to examine tender eyes, when the touch is necessary, with an amount of caution that I know has often appeared fanciful to bystanders. I sometimes meet with surgeons who do not seem to consider pain inflicted in this way as being of any moment. They regard the shrinking from the approaching touch as a mere act of exaggerated sensitiveness or timidity on the part of the patient that does not deserve attention. Might it not be regarded, however, with more justice as an instinctive act of defence against threatened injury? I am convinced that you cannot inflict any degree of pain by pressure or by any other means in the examination of an inflamed eye—perhaps

I may say on any part of the body in a state of inflammatory disturbance—without adding to the existing mischief; the addition being in direct relation to the amount of pressure exerted, and sufficiently indicated by the amount and persistence of the pain resulting from it.

I will now bring to your notice, as far as time will allow, the effects of ocular inflammation as they have been presented on a large scale at two different periods in army practice. A British force was engaged in military operations in Egypt at the beginning of the present century, and again four years ago. In both British expeditions an epidemic of ophthalmia prevailed to a large extent among the troops, but in the first expedition the ophthalmia assumed symptoms of such intense severity, and led so frequently to destruction of the eyes and loss of sight, that it was regarded by many English surgeons as a specially malignant inflammation, and was designated 'Egyptian Ophthalmia,' while in the second expedition the inflammation did not assume any such intractable character, and most happily was not followed by loss of sight in a single instance. On the first occasion, as will be shown more particularly presently, the disease became highly contagious, and was widely diffused in consequence. Its communicability from person to person led to its transmission from older to younger soldiers, and from regiment to regiment, and so it happened that it was only after many years had elapsed that the ophthalmia was eradicated from the regiments of the British army in which it had prevailed. On the second occasion the epidemic of ophthalmia quickly subsided, and the disease disappeared shortly after the campaign was concluded.

The published records of the first campaign do not show that there were any differences between the climatic and sanitary conditions then met with locally

in Egypt and those experienced in the second campaign in 1882. It is very improbable that there was really any greater virulence in the ophthalmia itself which the troops contracted in Egypt in 1801, than there was in that with which the troops subsequently became affected in 1882, and the question naturally occurs, when the contrast between its effects on the two occasions is noted, whether some difference in the mode of treatment might not have influenced the different course which the inflammation followed, and produced the difference in its results. Even admitting that the troops sent to Egypt in 1882 were less susceptible to the disease, which is probably true, owing to the more hygienic conditions under which they had been previously living than those who were sent to Egypt at the beginning of the century, this will surely not satisfactorily explain the different consequences of the inflammation when once the men had been attacked by it in that country.

When, however, we sift the question of treatment, we find that the contrast between the symptoms developed in the course of the inflammatory action in the two expeditions is not more remarkable than is the difference between the modes in which the ophthalmia was dealt with on the two occasions, and, further, when the probable effects of these different kinds of treatment are fully considered, the differences in the course followed by the disease subjected to them, and in its results, will, I think, be in a great degree explained.

The second experience of the British army in Egypt with respect to ophthalmia enables us to explain with more confidence various points which were subjects of doubt and of frequent deliberation by military surgeons, and civil ophthalmic surgeons also, at the beginning of the present century and for many years subsequently. The complete lesson taught by the two outbreaks is

somewhat analogous in its nature to the instruction afforded in another direction by the experience of the Crimean war, in which two armies, placed side by side, subjected to the same influences of soil and climate, engaged in a similar service, yet presented diametrically opposite conditions with respect to sickness and mortality, each army in turn being in a high state of health and efficiency at the very time when the other with which it was allied was laid prostrate by debility and disease.

It is not likely that many of you have heard much about the first of the two outbreaks of ophthalmia to which I have alluded, and yet its history is of enduring interest in surgical science whether we regard the occurrence simply as an historical event, or consider the value of the instruction that may be derived from it. As the severe treatment which prevailed at the time seems to me to have been the most active agent in causing the special characters of the ophthalmia, the violence of its symptoms, and the loss of sight which attended it, the outbreak, from its extensive nature and striking features, will well answer by way of contrast the object I have in view, of impressing upon your attention the importance and value of what I have ventured to call 'gentleness in surgical practice.' I will, therefore, invite your attention to a rapid sketch of some of the most salient facts connected with this early outbreak of ophthalmia, and the manner in which it was dealt with.

In the spring of the year 1801 a British army, under the command of General Sir Ralph Abercromby, fought a memorable battle against the French at Alexandria. At the same time a force was brought from India to Egypt, just as was done again in 1882, to co-operate with the troops sent from England. The Indian force was under the command of General Baird;

and Dr. McGrigor, Surgeon of the 88th Regiment, subsequently Sir J. McGrigor, Director-General of the Army Medical Department, whose admirable portrait, painted by Sir D. Wilkie, may be seen in the messroom, was appointed its medical chief. He subsequently, in 1804, published a volume entitled 'Medical Sketches of the Expedition to Egypt from India,' and in this work he gives an account, though only a brief one, of the ophthalmia which prevailed among the troops. His words regarding the ophthalmia are that it was 'next to the plague in importance,' and he describes it as being 'though less fatal, a more distressing malady.' Of the Indian contingent, which was under his own medical direction, he mentions 'fifty were sent home invalids from blindness; most of them from the 10th and 88th Regiments' (*op. cit.*, p. 147). Assistant Surgeon Dr. Power of the 23rd Regiment who served in the campaign published a work (Lond. 1803) entitled 'An Attempt to Investigate the Cause of the Egyptian Ophthalmia,' and he describes it as 'one of the most dreadful diseases that has ever visited mankind.' Many similar remarks might be quoted, but these will suffice to show how little control the English surgeons of that day had over the disease. The suffering that accompanied it is described as being terrible. That it must have been so can be readily understood, for it is mentioned in the reports of the time that the ophthalmia usually became purulent; that, in spite of the treatment adopted, the inflammation in many instances did not remain limited to the conjunctiva and superficial parts of the eye, but spread to the whole organ; and that the ophthalmitis thus established went on until the attack ended in suppuration of the globe, disorganisation of the eye, and, of course, total destruction of sight.

In the same year (1801) that ophthalmia was producing such disastrous results in the British army, the

disease was also very prevalent among the troops of the French army. We have an account of this epidemic related by Baron Larrey, who was Surgeon-in-Chief of the expeditionary forces under Bonaparte.* He describes the French army marching from Cairo to repulse the English who had landed at Aboukir, and relates that after the battle of March 21, 1801, the heat by day, the heavy work of the entrenchments, and the coldness of the nights, increased by the mists from the lake Mareotis, on the borders of which the troops were encamped, soon caused ophthalmia to appear among them. In the space of two months and a half upwards of three thousand ophthalmic patients were treated in the hospitals, and so successfully that not one single man lost his sight out of the whole number ('il en est résulté que, sur trois mille et quelques ophthalmiques, il n'y en a pas eu un seul qui ait perdu la vue'). It is noteworthy that Larrey mentions only local bleeding was employed, and that to the slightest amount, being limited to superficial scarifications of the skin (*mouchetures*) of the temples and eyelids. He expressly states that general bleeding was not suitable, '*la saignée générale ne convenait point*' (*op. cit.*, p. 218). There is not the least ground for supposing that the French troops were in a more sanitary condition than the British at this time. On the contrary, knowing that they had already been nearly three years in Egypt, that many of them had previously suffered from ophthalmia on the Nile and at Cairo, we may be sure that there would have been few eyes among them, if they had been examined, that would not have presented the hypertrophied conjunctival papillæ and follicular granulations to which so much attention has been given of late years by all observers of ophthalmia, and that, in fact, the men of the French army must have been

* *Campagne d'Égypte, Mémoires, &c.*, i. 217.

quite as susceptible of the disease, and of the disease in its worst forms, as the men of the British army could have been at that time. We are thus forced to the conclusion, on considering the different results of the ophthalmia on the two armies in 1801, placed almost side by side as they were in the same climate and in the same part of Egypt, that it must have been mainly to differences in treatment that the difference in the course and results of the disease was due.

But the distressing, and almost intolerable, symptoms which accompanied the ophthalmia of the British army in 1801, and the blindness which in numerous instances resulted from it, calamitous as these results were, do not constitute the worst features in the history of the visitation. As the ocular discharges had acquired an infectious character, the regiments of the expeditionary army in which the ophthalmia had been prevalent became so many nurseries, as it were, of the disease. Even after the army was broken up, the ophthalmia remained rooted in these regiments, notwithstanding their removals to other stations, and to different climates, and the disease was communicated by them to other regiments who had not been exposed to its exciting causes in Egypt, and in which it had been previously unknown as a prevailing disorder. The unsanitary conditions under which troops lived in those days, and the drinking habits of the time, favoured the spread of the disease and the maintenance of its virulent character. Ophthalmia thus became endemic in the British army.

There was no such prevalence of ophthalmia among the French troops after they left Egypt, notwithstanding that they had served for a longer period in the country than the British, had suffered from much more exposure and fatigue, and that they had been subjected to the depressing circumstances of defeat. This immunity from the disease after the French returned to Europe

was attributed by some English surgeons of the period to the active service in which the French became engaged on the Continent—proceeding from conquest to conquest, bivouacking in the field, or quartered on the inhabitants whom they subdued—so that dissemination of infection among them was prevented. Looking back as we can now do, it is certainly questionable whether the milder treatment employed by the French had not also an important influence in the result referred to.

In the British army, on the contrary, the disease became so widely disseminated, and the cases in some regiments were so numerous, that a suspicion arose, and in some of the newspapers of the time it was even asserted as a fact, that an extensive conspiracy had been formed among the soldiers of the army to malingering. A belief prevailed that the men produced the ophthalmia by artificial means in order to get themselves discharged from military service. We meet also with traces of another and different notion in the writings of the time, viz., that the men contracted the disease accidentally, but afterwards tampered with their eyes, not so much to avoid military duty as to escape from the confinement and depressing conditions to which they were subjected while under treatment in the hospitals. Those who held this view founded it on a belief that, owing to the numerous instances of blindness which occurred among their comrades in misfortune, the men, despairing of their own recovery of sight, did not hesitate to adopt measures for producing the very end which they dreaded but regarded as inevitable, so bringing their disease to its conclusion by a short and rapid, instead of a prolonged, course of suffering. I have arrived at the conclusion, after perusing many published writings on the subject, that both surmises were baseless, and that there was no general malingering.

ing or tampering at all. This view has been strongly expressed by Staff-Surgeon Farrell, who, referring to the opinion entertained by many military and medical officers that the soldiers wilfully produced the ophthalmia in order to render themselves unfit for service, remarks: 'I have now had under my care some thousands of ophthalmic patients, and I must confess that, although I have used a vigilance sharpened by a bias towards that opinion, I have not as yet been able to make out clearly a case in which the soldier produced the disease in himself by improper means, or even intentionally aggravated its violence' ('Observations on Ophthalmia, &c.,' Lond. 1811, p. 13). As I have already indicated, more extended experience seems to show that the virulent characters and blinding effects of the disease which led to the notion that the patients were tampering with themselves were really due to causes not at all suspected at the time by anyone, and certainly least of all by those in whose views of the treatment necessary for the cure of the disease they had their origin.

It seems not improbable that among other sources of aggravation of the condition of the patients who were attacked by ophthalmia some amount was traceable to the administrative arrangement by which they were congregated in special ophthalmic hospitals. These hospitals were established solely for the reception of ophthalmic patients, whether suffering from the disease in its acute or chronic stages. The convalescents from the disorder were also kept in them. Dr. Vetch* mentions that the ophthalmia dépôt for the exclusive reception of ophthalmic patients, under his superintendence, in the year 1808 contained 900 cases belonging to upwards of forty different corps (p. 184). It must be remembered that the ophthalmic hospitals were not at all analogous to the civil eye hospitals of

* *Diseases of the Eye*, by J. Vetch, Phys. to the Forces. &c., Lond. 1820.

the present time, in which the large majority of the cases treated do not consist of cases of superficial inflammations of the eye accompanied with purulent discharges. These, however, were just the kind of cases which were collected in the military ophthalmic hospitals of that day. The plan of segregating the men labouring under ophthalmia was adopted owing to the general belief in the contagious nature of the disease, and with the well-intentioned object of preventing its spreading among patients of other descriptions. It is only fair to mention that some of the officers, under whose advice these special hospitals were instituted, have recorded that they had the effect of diminishing the number of men attacked, and that the favourable results derived from them far exceeded their most sanguine expectations. This may have been strictly true, but, as regards the patients themselves who were treated in these special hospitals, there is evidence enough to show how greatly the close confinement, and the monotony of the existence in them from the very nature of their maladies, added to their misery. It can readily be imagined what deleterious effects, moral and physical, would probably result from herding together patients under the circumstances in which they were placed. The scenes in the wards, the severe sufferings of the patients in the acute stages of the disease, the depressing effects of witnessing their comrades deprived of sight in one or both eyes, together with the nauseating and lowering remedies employed, the frequent bleedings, the spare diet, &c. must have caused even a short stay in them to be trying enough; a prolonged confinement in them must have made men almost desperate. No wonder that Staff-Surgeon Farrell should have experienced the difficulties he describes in preventing the patients from breaking out at night and occasionally getting intoxi-

cating drinks, when referring to the 'hospitals for ophthalmic patients solely, usually containing from 100 to 150 patients or more' which had been under his care in Egypt and Sicily.

The ophthalmia, originated and propagated as described, did not lose its severe character as time went on, even in the temperate climate and under the clouded skies of England. Dr. Vetch, Assistant-Surgeon of the 2nd Battalion 52nd Regiment, which was not formed until November 1804, and therefore not exposed to the disease in Egypt, mentions that in the period of a year, between August 1805 and August 1806, there were 636 cases of ophthalmia admitted into the regimental hospital, and that of this number fifty were discharged with the loss of both eyes, and forty with the loss of one eye. The regiment was then quartered at Hythe, in Kent, and its strength was 691 men.

Now let us look at the mode of treatment in vogue. Mr. Peach, surgeon of this regiment, has recorded the treatment followed for the cure of the disease, in a paper in the '*Edin. Med. and Surg. Journ.*' of 1807, vol. iii. p. 54. He writes:—'It is not sufficient to abstract twenty or thirty ounces of blood. I have taken sixty ounces very frequently; enjoining perfect rest; avoiding the smallest portion of animal food; and putting in practice every other part of the antiphlogistic treatment. . . . The greatest reliance is to be placed on the strictest antiphlogistic regimen, and very liberal venesection.' And Sir J. McGrigor, then principal medical officer at Portsmouth, adds the remark to Mr. Peach's paper, that the practice so successfully had recourse to by Mr. Peach and Dr. Vetch in the 52nd Regiment had, to his knowledge, been carried out with success in the 89th Regiment, and in the 8th Veteran Battalion. Notice what was regarded as success in treatment at that time. Dr. Edmondston, who served

in Egypt in 1801, and who wrote a treatise on ophthalmia in 1806, also referring to the same battalion of the 52nd Regiment, reports that, 'although it has been removed to Maidstone, the Egyptian Ophthalmia continues to rage in it to a terrible degree.' In the year 1810 the number of soldiers on the pension list for blindness occasioned by the disease was so excessive, —2,317 is the number given for December 1, 1810, by Dr. Vetch—and purulent ophthalmia was still so rife in the army, that the Commander-in-Chief caused a special Medical Board to be assembled to take the subject into consideration. The most eminent civil physicians and surgeons of the day were associated with military surgeons on this committee, and the report made by them was embodied in a general order, and circulated for the information of the commanding officers of regiments, and for the guidance of all medical officers belonging to the army. As the treatment to be pursued in the disease formed part of the subject of the report, the document is still of importance as it remains a source of authoritative information on this point.

Independently of this source, however, the records of the treatment which was employed for the cure of ophthalmia in those days are very ample. The disease seems to have been regarded as an intense form of inflammation that had to be instantly reduced, and that could only be overcome by lowering all the vital powers of the patient. Hence copious abstraction of blood from the general circulation, salivation by mercury resorted to as an alterative (a term which, from a therapeutic point of view, seems to have had about as much meaning in it as amaurosis had before the discovery of the ophthalmoscope), nauseating medicines like antimony, very spare diet, local depletion by cupping and leeching, abscission of portions of the tumefied conjunctiva, repeated scarifications of conjunc-

tival vessels, and counter-irritation by blistering, constituted the chief remedial measures adopted for the arrest and cure of the disease. To change the character of the local inflammation powerful collyria of sulphate of copper, acetate of lead, and nitrate of silver were applied to the eyes. The mixed civil and military Medical Board to which I just now referred divided their report into two parts, one on the means of preventing the spread of the disease, the other on the methods of cure. With respect to the prevention, the Board did not omit hygienic matters; they specially recommended isolation, cleanliness, use of separate bedding, basins, towels, &c.; in fact, much the same hygienic measures as are inculcated and practised in our own day. With respect to the treatment, the first point noted was 'on the necessity of taking blood'; and under this heading the Board gave the following instructions:—'When this disorder attacks persons who are strong and plethoric, there cannot be any doubt relative to the propriety of taking away a large quantity of blood. When the disorder attacks those who are weakly, if the inflammation be accompanied with great tumefaction of the conjunctiva, and a profuse purulent discharge, with much pain in the head and eyes, the necessity of taking away blood also appears to be so strong, that the Board does not think it can be postponed without imminent danger to the patient's sight, but the quantity to be taken away need not be so great in this as in the former instance.' The modes of bleeding mentioned are—opening a vein in one or both arms, opening the temporal artery, cupping on the temples or nape of the neck, and leeches. 'Sometimes,' the Board remarks, 'after taking away blood from the arm, it becomes necessary to repeat the operation more than once, and occasionally to apply leeches many times in succession.' As regards diet,

the Board states:—‘A total abstinence from animal food and fermented liquors, and a very low diet in every respect, are absolutely required, so long as the violence of the inflammation continues.’ Mr. Ware, an oculist of great repute at that time, wrote with regard to the *local* blood-letting, as quoted by Dr. Edmondston:—‘Opening the temporal artery is on all hands allowed to be a mode of bleeding the most effectual as well as speedy for the purpose.’

The extent to which this mode of abstracting blood from the neighbourhood of an inflamed eye was carried by some surgeons may be inferred from a remark by Dr. Farrell on the use of it in his own practice. He is answering the objections raised by some surgeons who had found it impossible to obtain a sufficiently large quantity of blood by opening the temporal artery (*op. cit.* pp. 69–71). Dr. Farrell writes: ‘My assistants and myself have now opened each some hundreds of temporal arteries, without failing, I may safely say, in half-a-dozen instances, to procure fully as much blood as was required. Nay, we have performed the operation on the same persons three or four times, or even more, and have uniformly obtained as much blood each time as we wanted. I have been obliged, in about one case in a hundred, to relinquish the first incision, on account of not getting blood enough from it and to make a second incision, sometimes in the other branch of the artery, and at other times lower down in the same branch. I have uniformly succeeded in the second attempt,’ &c. It is very difficult for us who are under the influence of such different doctrines to understand the immense importance attached to such copious abstraction of blood by our predecessors of the early days of the present century. Nowhere in the writings of the leading surgeons of that time have I met with any expression of doubt as to the necessity of taking blood away largely from

the general circulation as well as locally; the only questions discussed with reference to it seem to have been the most effectual modes of abstracting it.

The remarks I have last quoted on the practice followed in the treatment of ophthalmia have had reference to comparatively a short time after the disease was first contracted in Egypt. But much the same practice appears to have been followed for many years subsequently. In 1838, for example, when Sir G. Ballingall published the second edition of his '*Outlines of Military Surgery*,' the principles laid down by him for the treatment of ophthalmia were these: 'In so far as general remedies are concerned, the practice I would urge in the acute stage of ophthalmia, as it occurs among young and otherwise healthy soldiers, consists essentially in bleeding and low diet.' He mentions thirty to forty ounces as the average quantity of blood to be taken, and refers to the case of a young soldier affected with ophthalmia from whom 'fifty-two ounces were withdrawn, while the patient stood erect with a vein opened in each arm.' The topical applications were also similar. Sir G. Ballingall recommends the undiluted liquor plumbi acetatis, and solutions of nitrate of silver, the application of which he states (p. 401) has long been in general use, and 'is particularly urged by some of those whose experience has been acquired in the extensive field which the army has unfortunately presented for the treatment of this disease.'

Contrast the treatment I have described with that employed for the ophthalmia in the last campaign of 1882—you will find the latter recorded in recent volumes of the *Army Medical Reports*—and I think you will have no difficulty in accounting for the absence of the severe symptoms, at the latter date, that marked the advance from bad to worse of the cases of the disease during the earlier Egyptian campaign, without

coming to the conclusion the ophthalmia contracted at the two periods were diseases of different types. In 1882 no bleeding, no mercury or antimony, no incisions or abscissions of conjunctiva, no famine diet, no powerful collyria, but, on the contrary, the simplest antiseptic applications, or mild astringent lotions, careful protection of the eyes against excess of light and avoidance of all other sources of ocular irritation, with the simplest constitutional treatment, and due attention to the preservation of general health and strength. A very large number of patients invalided for ophthalmia from Egypt were admitted into this hospital (Netley), with the disease subsided into a partly chronic stage, and no trouble was experienced in gradually bringing back the eyes to a normal condition of health under very mild applications and without any reduction of general strength.

At the time of the first outbreak in 1801 the prevailing conviction that ophthalmia of a violent character was especially associated with a vigorous state of constitution led to the logical conclusion, which was carried out in practice, that the general strength ought to be lowered in order to lessen the severity of the disease. The force of the inflammation and the physical force of the patient appear to have been regarded as in some way mutually interdependent.* The Medical Board of 1810 mentions in one part of its report, as a circumstance worthy of remark, that 'some patients, who had been weakened by previous

* 'In the army, where the disorder has been more prevalent than in any other class of people, it has been found indispensably necessary to draw off a large quantity of blood from the general system. The quantity taken away was seldom less than sixteen ounces, and it has been extended with advantage to thirty, forty, and even sixty ounces. When so large a quantity is drawn off, it should be recollected that the object in doing it is not merely to diminish the action of the inflamed vessels, but the *power of the constitution to carry it on.*'—*Remarks on the Purulent Ophthalmia*, by J. Ware, Surgeon, F.R.S. London, 1808, p. 24.

indisposition, had had the inflammation and the purulence more severely than others who, previous to the attack of the disorder, were in high health and strength.' How strange it now appears to us that it should have been regarded as remarkable for the inflammation in some instances to have been more severe, and more unhealthy in character, when it fell upon men whose strength had been reduced by previous indisposition than when it attacked men whose health and strength had been well preserved! The fact is familiar enough to most of us that when epidemics of ophthalmia have occurred in schools, it has always been the weakly children who have most suffered, and whose cases have been the most difficult to deal with. We see the same thing in practice among hospital out-patients. Consider an attack of ophthalmia occurring in a man whose constitution has been reduced by dissipation, want, insufficient or unwholesome food, neglect, and fatigue, or in a sickly and enfeebled child, and remember the apparent virulence and obstinacy of the symptoms presented by it, the difficulty of controlling them, and the many risks attending the attack with respect to the ultimate preservation of sight. How different the character and course of the symptoms, and the readiness with which, in the majority of instances, they yield to ordinary measures of treatment when the attack occurs in a relatively well cared for and healthy subject. May we not trace in the different features and risks presented by an attack of the disease in two such classes of patients an analogy between the different characters and results of the two Egyptian epidemics in the armies of 1801 and 1882?

The great amount of loss of blood, the spare diet, and the lowering remedies to which the patients in the campaign of 1801 were forced to submit, must have degraded their frames physically almost to as low an

ebb of vitality as that presented by the infirm and vitiated constitutions of the exhausted pauper patient or ill-conditioned strumous child ; and when the violent irritants to which the deteriorated ocular structures were subjected, the powerful collyria and the conjunctival scarifications and abscissions, no doubt performed in many instances with surgically impure instruments, are remembered, can wonder exist at the downward course the disease too often took, or at the loss of sight which so often followed ? I have known an instance in which an eye of a sickly clerk, which was only affected at the onset with a simple attack of superficial inflammation, passed, under poulticing and other injudicious treatment, into general ophthalmitis, suppuration, and escape of contents by a spontaneously formed opening, all within the short space of a week !

More enlightened methods of treatment, better precautionary measures, and modern hygienic conditions, have practically banished ophthalmia from the British army ; but, however excellent the sanitary state of a body of men may be, their good health at starting would avail them little if under special circumstances they should become victims to ophthalmia, and the treatment dealt out to them were the same as the treatment of the ophthalmic patients of the army in 1801. Such treatment, in fact, would place them in much the same position as if their sanitary state had been just the reverse of the healthy one supposed. One of the most marked general effects of unhygienic surroundings and a vitiated atmosphere is the decrease in the vital powers of the persons subjected to them. They readily fall victims to any disease that may be introduced among them, while the disease itself is enabled to spread with the utmost facility, just as the least spark serves to ignite and as the fire spreads in a piece of tinder. Had the men of the army who contracted ophthalmia

in Egypt in 1882 been bled and weakened, dosed with mercury and antimony, deprived of their normal amount of nutriment, and if, at the same time, their inflamed eyes had been subjected to powerful irritants of various kinds, the disease would have led to much the same results as if the patients had been exposed to the effects of prolonged unsanitary, instead of sanitary, surroundings before they happened to be attacked by it. The more the two army epidemics of ophthalmia are studied and compared, the more manifest becomes the potency for good of the relatively gentle treatment practised in the second of the two outbreaks, and equally the more obvious appears the mischief done by the rough and depressing treatment pursued in the first campaign.

A further confirmation of the correctness of the view I have taken may be drawn from the evidence afforded on the subject by the experience of the French army in Egypt before the year 1801, when the British troops had to contend with ophthalmia in that country. As already quoted from the writings of Larrey, although upwards of 3,000 ophthalmic patients passed through the French hospitals, near Alexandria, in less than three months of that year, sight was not lost in a single instance, and he expressly states that no general bleeding was then employed. But the French army had suffered from ophthalmia in previous years in 1798 and 1799, and at that time bleeding was employed. Larrey mentions that in those two years the ophthalmia was followed by complete blindness in rather a large number of individuals (*'Chez un assez grand nombre d'individus la cécité complète.'*—Tome i. p. 203). He describes the treatment then followed to have been general bleeding from the veins of the neck, arm, and foot, repeated according to the intensity of the inflammation, together with leeches to the temples.

The contrast between the different results of a rough and ill-judged treatment of disease on the one hand, and of a more rational and gentler treatment on the other, could hardly, I think, be more forcibly illustrated than it is in the histories of the two epidemics I have just brought to your notice. Many other surgical affections and their treatment might have been chosen to illustrate my text. I might have described the revolution in results which has attended the change from the surgically rough modes of dressing wounds of former days to the comparatively painless and gentle modes of treating them since the introduction of antiseptic dressings by Professor Lister. A still more striking illustration might have been furnished by the very great changes that have taken place in the ratios of mortality attending internal diseases, especially the diseases of tropical countries, contemporaneously with changes from violent to gentle treatment of them. This is a subject which has been largely, however, dwelt upon by my late colleague, Professor Maclean, whose earnest teaching for many years past of the vast advantages, the vital importance of the relatively gentle treatment now generally employed must have exerted a great influence for good on many army surgeons at starting in their military career, who have since carried out the improved modes of treatment with such great benefits to their patients and also with such immense advantage to the State, as the figures in the statistical returns of the Army Medical Department sufficiently show. While I was looking through Sir J. McGrigor's sketches of the expedition to Egypt from India for information on the outbreak of ophthalmia among the troops under his medical charge in 1801, I met with the following passage respecting the treatment of tropical dysentery: 'It will not be necessary,' he writes, 'to say much on the treatment of tropical dysentery. Mercury is now the remedy

relied on everywhere.' What a picture this brief summary of the treatment of tropical dysentery raises in the mind! Sanitary science has wonderfully lessened the amount of dysentery, as it has of other diseases in the army, by removing, or neutralising, its causes; but, as we know, cases of dysentery still occur in large numbers in India, and let them be treated by the mercury and extreme depletion of former days instead of the mild measures which are now employed, and notwithstanding the improved hygienic surroundings of the men, how long would the present low rates of mortality remain?

Let me hope that some of the observations I have brought to your notice may linger in your minds, and lead you not merely to maintain the gentler and more rational methods of treatment that have been already achieved, but also induce you to try and extend the principles on which these methods are based to all parts of your future practice in the treatment of diseases and injuries in the army. Let improvements in treatment and improvements in hygiene advance *pari passu*, and with these improvements combined, the mitigation of suffering and the safety of your patients will then be most thoroughly ensured.

