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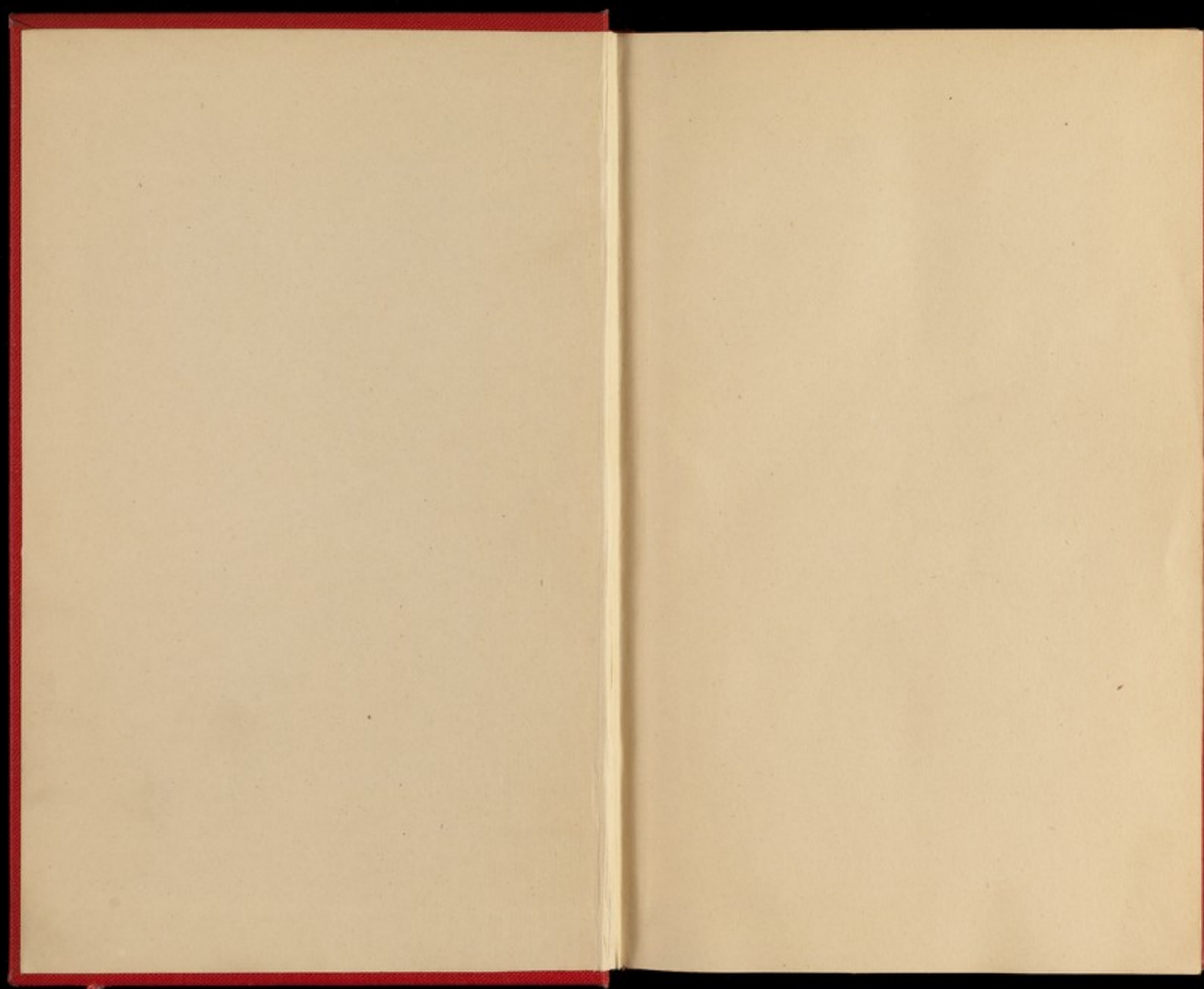
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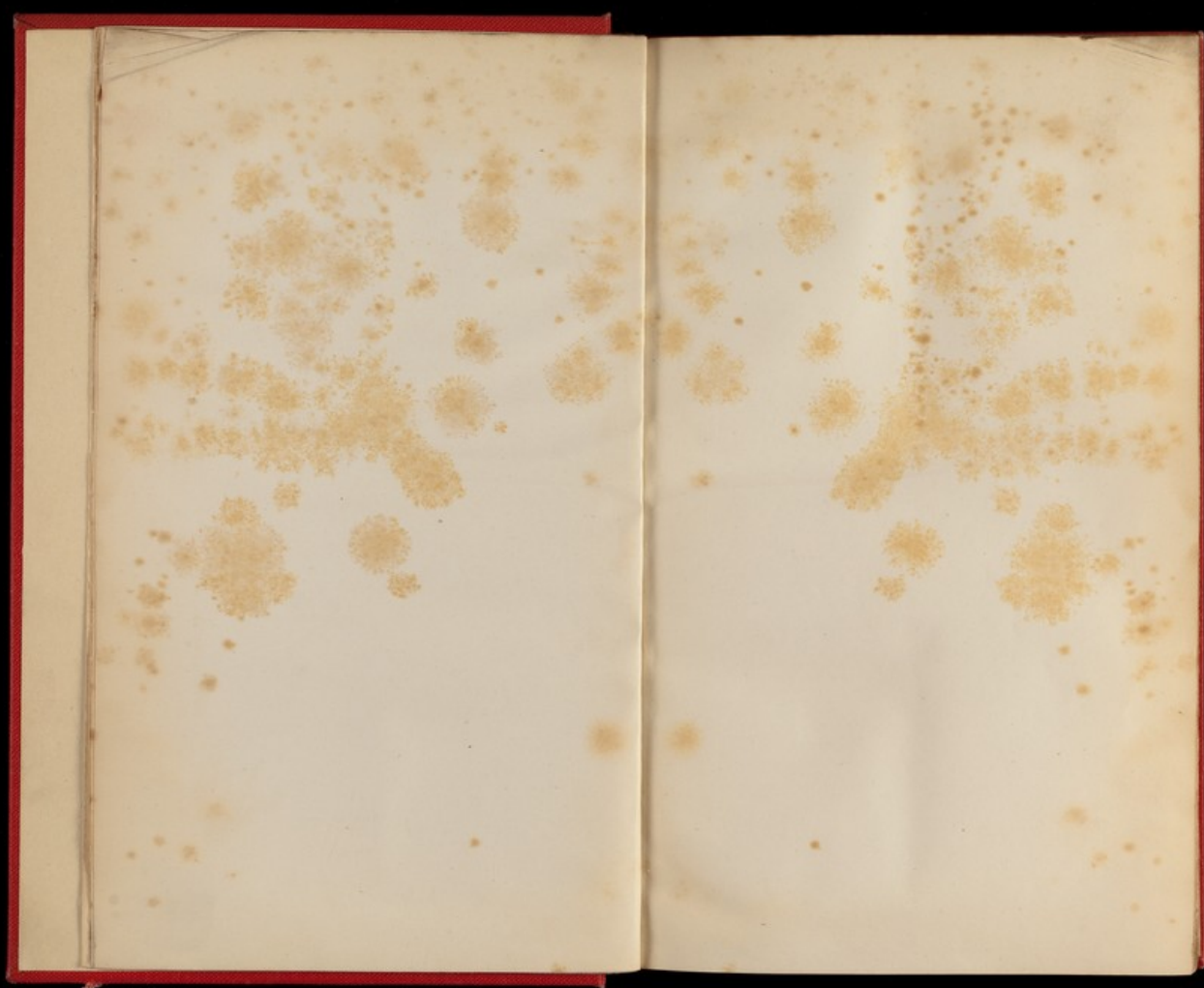
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THE MODERN
PATHOLOGY AND TREATMENT

OF

VENEREAL DISEASES.

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BY

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EDINBURGH: SUTHERLAND AND KNOX.

LONDON: SIMPKIN, MARSHALL, AND CO.

MDCCCLXI.

THE following Summary of the progress made within the last thirty years in the Pathology and Treatment of Venereal Diseases originally appeared in the *Edinburgh Medical Journal* as a review of some of the best French and English works upon this subject.

I have reproduced it in this form for the use of those gentlemen who have done me the honour of attending my Lectures. At the same time, perhaps, it may prove not unacceptable to others whose limited time and opportunities have prevented them from fully investigating the subject.

10, CHARLOTTE SQUARE, EDINBURGH,
April 6, 1861.

PART I.

ANDRAL long ago said that syphilis was so systematic, so symmetrical, that it may serve as a key to all pathology; and if pathology in general has made great advances in the last thirty years, no less has the pathology of venereal diseases made gigantic strides.

While it is a subject compact within itself, it has all grades of pathological processes connected with it. Though a specialism, it includes every organ, every tissue, in its comprehensive domain. If the knowledge of some diseases can only be acquired by the study of their literature, we have the *venereal* everywhere; for where do they not creep? They are rampant in our towns; we find them in every hamlet; the cottage no more than the palace is proof against them. Innocence and purity are tainted—nay, the marriage-bed is not exempted from the ravages of this foul plague.

These diseases, then, the curse and plague-spot of civilisation, have, for many an age, been the same as now we see them. There is certainly a period to which the origin of the venereal disease is referred; but any one who dips into the early literature of venereal diseases, that *mare magnum* of wildest superstition, will feel that he is instantly far beyond his depth, and will gladly retreat to the firm beach of his own observation to watch the tide-ripples which mark the course and progress of these maladies in the present day. The fact is, venereal diseases are probably the same now as ever!—only we know more about them now than formerly. They are no longer mysterious in their commencement, or various in their progress, and doubtful in their effects. The cloak with which shame, superstition, and ignorance had shrouded them has been torn away; and now we see them in all their nakedness—ghastly enough, no doubt, still obedient to laws as are other diseases, and hence subject to our professional rule, and more so, too, than most diseases with which we have to combat. What, then, was the condition of the pathology of venereal affections thirty years ago?

They owned one common source: *that* everybody acknowledged—they resulted from impure intercourse; but this common trunk bore various flowers, and still more varied fruits. There was gonorrhoea; and there were sores upon the genitals; and there were glandular en-

largements; and there were constitutional affections with cutaneous eruptions. Were these all the result of simple filth? were they the product of one common virus—the venereal? and were they capable of reproduction under a different form in another individual? or had they each a separate origin? All these questions were virtually unanswered thirty years ago. The views of the illustrious John Hunter were those principally received at that time; and in his work published in 1786 he most distinctly advocates the identity of the source of gonorrhoea, chancres, and lues venerea; while Fabre, Pressavain, Cullerier (senior), Capuron, Lagneau, Vigaroux, Gibert, and Devergie not only supported these views in the general, but adduced their large experience in proof of the justness of the dogma, that all venereal diseases were identical in their nature, the principle being the same in all, and the difference being only one of form, which they believed to be attributable to individual peculiarities, to the site, and to the greater or lesser intensity of the irritation produced by the action on the tissues of the body by the one common cause—the venereal virus.

No doubt there were dissentients to this doctrine in every age; and long even before John Hunter's day the non-identity of gonorrhoea and syphilis had been very distinctly indicated. John Hunter, in fact, alludes to this himself; and it would appear that it was to the Graduation Thesis of Dr Balfour upon this subject, published in 1767, that he pointed. But the doctrine received little or no countenance; and it was not until the year 1793 that we find any man of distinction giving his support to the doctrine of the non-identity of gonorrhoea and syphilis. In 1793 Benjamin Bell published his work upon venereal diseases; and in the preface to it we find him apologetically introducing his views upon the subject in these words:—"The opinion which I have ventured to support, of the difference between the matter of gonorrhoea and that of lues venerea, will no doubt be censured by many. They ought, however, to recollect, in matters of opinion which cannot be proved by demonstration, that some uncertainty must always take place; and, before censuring with severity the opinions which others may suggest, they should consider whether their own may not be equally liable to objection."¹ But Benjamin Bell did not rest satisfied by asserting, and endeavouring to prove by analogy and argument, that gonorrhoea could not produce chancres or a lues venerea; he also maintained that the pus from the surface of a chancre, or from a secondary eruption occupying a mucous or cutaneo-mucous surface, could not produce a gonorrhoea—that, in fact, a gonorrhoea, though a local, was a *specific* disease, and was only capable of production by means of its specific virus—the gonorrhoeal virus.

Hence the terms Virulent and Simple Gonorrhoea, still so frequently employed both by patients and practitioners.

¹ *Treatise on Gonorrhoea Virulenta and Lues Venerea*. By Benjamin Bell. Vol. I., pp. ix. x., pp. 1-43.

In reviewing carefully, then, the state of opinion thirty years ago with reference to gonorrhoea and syphilis, it will be found that the facts adduced on both sides of this essential question, which formed the turning-point of all progress, tended to prove the following propositions:—

1st. That gonorrhoea was very much more common than chancres.

2d. That a purulent discharge from the urethra was sometimes, though rarely, followed by constitutional symptoms of syphilis.

3d. That the inoculation of purulent matter derived from the urethra sometimes, but rarely, produced chancres in the part inoculated.

4th. That irritants—chemical, mechanical and vital—sufficed to produce a discharge from the urethra.

Such facts, it must at once be obvious, left the whole question of the identity of gonorrhoea and chancres and syphilis quite undecided. The circumstances under which a discharge from the urethra was followed by constitutional syphilis, by suppurating buboes, by rheumatism, by swelled testis—and the connection between these morbid conditions, was quite undetermined; in other words, the commencement, progress, and termination of a case of gonorrhoea were altogether problematical. The prognosis was a matter of hap-hazard, and the treatment was purely empirical. Nay, the specificity of syphilis—its cause, its effects, its treatment—were all undetermined matters, in consequence of a scientific scepticism arising out of the too ready credulity and inaccurate and loose observation of preceding authorities.

In 1830, M. Ricord was appointed surgeon to the Southern Hospital of Paris, from which appointment, after thirty years of the most signal service to science and pathology, after making a reputation which is not only European but wide as the medical profession itself, he, in the zenith of his fame, in the height of his popularity, has retired to enjoy in the private practice of his profession that comparative repose which so long a period of hospital service, of onerous public duties as a teacher, and of zealous warfare in defence of his opinions and doctrines, was ill calculated to afford. Finding things, then, in this unsettled condition, M. Ricord set himself, by means of accurate experimentation, to study the cause of syphilis. The question he had to decide was, Had syphilis a special cause? was there a syphilitic virus? or did all venereal diseases originate from one common source?

Hunter had, long before, shown that the pus of a chancre, when introduced into the tissues of the body, reproduced a chancre. The observations of Bell and of Hernandez sufficiently confirmed that opinion. But then the counter-observations of Caron, Bru, Jourdan, Devergie, and Desruelles gave them a flat contradiction.

Where, then, was the source of fallacy? The use of the speculum showed that apparently simple purulent discharges from the vulva

were very frequently accompanied by chancres within the vagina, just as gonorrhoea preputialis is frequently dependent upon chancres concealed within the foreskin. The true source, then, of the purulent discharge, employed for purposes of experimental inoculation, required to be absolutely determined if the results were to be noted with anything like certainty as absolute facts. Every and any pus from the vulva or urethra, every and any pus from within the cavity of the phymosed prepuce, could not afford unexceptionable results, unless the existence or non-existence of chancres was absolutely determined by preliminary inspection.

A rigorous system of preliminary diagnosis, joined with an extensive employment of experimental inoculation, has, in the hands of Ricord, proved, with reference to gonorrhoea—1st, That muco-purulent matter, obtained from a non-ulcerated mucous surface, gives rise to negative results when introduced into the tissues of the surface by inoculation; and 2d, and conversely, when an apparently simple gonorrhoeal discharge produces chancre by inoculation, it may be certainly predicated of such purulent discharge, that it has been obtained from a surface upon which a chancre exists.

The next question requiring solution was, Whether or not a gonorrhoeal discharge required a specific virus for its production, as we have seen was maintained by Benjamin Bell? Investigation and observation have served to prove that any irritant which suffices to set up inflammation of any other mucous membrane is quite capable, when introduced into the urethra, of exciting a gonorrhoeal discharge; that, in fact, any irritant, whether chemical, physical, or vital, is quite sufficient to give rise to a gonorrhoea, and that the majority of females who communicate a gonorrhoea do not suffer from it themselves.

Gonorrhoea, then, having no specific cause, has no specific progress. It has no period of incubation, properly so called, between the application of its cause and the commencement of the symptoms. A period of time certainly elapses, but it has no approach to being a definite one—it may be hours, it may be days. Accordingly, any deductions made as to the real source of the affection by the length of time which may have elapsed between various possible causes and the first appearance of the discharge, is likely to give rise to nothing but the most erroneous results, oftentimes affixing suspicions upon persons perfectly innocent.

Neither has gonorrhoea any specific site. The urethra is the most common site for a gonorrhoea the result of sexual intercourse in both sexes; but it is just as absurd to limit its site to the fossa navicularis in man, as Hunter did, as it is to attempt to make distinctions as to its being a true or spurious gonorrhoea in a female by the part of the glandular apparatus of the vulva which is principally and primarily affected. In both forms of specific venereal diseases we shall find corresponding glandular affections; but there is nothing specific, or even constant, in the bubo which sometimes

accompanies gonorrhoea; it is a simple bubo of irritation. In the epididymitis which follows neglected cases of gonorrhoea, which some have thought indicative of the existence of a specific poison, we can see nothing but an illustration of the acknowledged law of extension of inflammation by continuity of tissue.

Then, again, the whole history of gonorrhoeal ophthalmia, and of gonorrhoeal rheumatism, tends to prove that there is nothing more specific in the former than in the inflammation of the urethra, which has produced the purulent discharge, which by direct contact has excited the conjunctival irritation. In the latter we only observe a tendency in certain irritations of the urethra of the male so to influence the sympathetic system as to disorder the functions of distant parts, and so produce what is called gonorrhoeal rheumatism—an affection only met with in man, and never once observed in the female.

Cutaneous eruptions have, undoubtedly, often appeared after an attack of gonorrhoea, but they are no proof of a specific development of the disease. The fact that a man has once contracted a gonorrhoea does not, we presume, prevent the possibility of his having suffered from the indurated chancre which is the necessary preliminary of constitutional syphilis, any more than it precludes the possibility of a resinous eruption being mistaken for a secondary syphilitic exanthema by those who are not too well acquainted with the appearances and characters of either.

There is nothing, then, in all this to give even a shadow of probability to the existence of any gonorrhoeal virus, any more than there is to the identity of gonorrhoea and syphilis.

But perhaps it may be urged that there are undoubted cases in which a purulent discharge from the urethra has been followed by most indubitable symptoms of constitutional syphilis. We admit it; but at the same time we have no hesitation in asserting, that the number of cases in which patients attribute an eruption characteristic of secondary syphilis to an attack of gonorrhoea are infinitely more numerous still. Such facts seem at first sight to overthrow the doctrine which we have just attempted to propound; but more accurate observation shows that in all such cases a chancre has existed, which has been the undoubted source of the constitutional affection. This chancre may either have been concealed within the urethra, and been the source of the purulent discharge; or the chancre situated on the penis has coexisted with the gonorrhoea, and escaped observation from the comparatively small degree of uneasiness which it has produced; or the chancre has existed upon some other part of the surface, and has eluded observation. Such chancres situated on the finger, within the anus, upon the hairy scalp, among a thick bush of whiskers, within the cavity of the mouth, or in other unusual and unlikely and often carefully concealed sites, may very naturally be overlooked by any one not alive to the doctrine of the inevitable connection of syphilis with the indurated chancre.

The conclusion, then, to which we must come is, that the great majority of cases of gonorrhoea are simple or benign, but that virulent purulent discharges do sometimes occur from the urethra. These, however, invariably depend upon chancres within the canal, and not upon any specific *gonorrhoeal* virus. Such being the case, can we in any way decide beforehand, with anything like precision, upon the nature of a case of gonorrhoea, as to its *simplicity* or its *virulence*, as to whether there is simple inflammation of the mucous surface, or a specific ulcer situated upon that surface? The source of the infection, as determined by the presumption of comparative chastity, as we have already indicated, must go for nothing in any rigid examination of this question; for the chastity of any female who is unchaste in one instance may very justly be called in question in all. Nay, even when the female herself is found free from all disease, the experiments of M. Cullerier at the Lourcine sufficiently attest that she may serve as the temporary receptacle of the specific chancrous virus. Receiving it from one individual, though unaffected herself, she may hand it on to the next.

Some have laid much stress upon the period of so-called incubation of a gonorrhoea as a means of diagnosis. There cannot be a doubt certainly, as we shall have occasion to mention afterwards, that a comparatively long period may exist between the inoculation with the virus of an indurated chancre and the appearance of the characteristic sore; but as this is not the case with the soft chancre, such a means of differential diagnosis cannot enable us certainly to decide the non-existence of urethral chancres. As little does the *violence* of the symptoms serve as a sure indication of the *virulence* of a gonorrhoea; for, as a general rule, the urethral discharge which is attended by least pain and least purulent matter, is most likely to be produced by an indurated chancre, and therefore followed by constitutional syphilis.

There are symptoms, however, which, when duly appreciated, constitute a very valuable means of arriving at something like certainty with regard to the existence of urethral chancre. The first of these is, that the discharge usually consists of a sero-sanguinolent pus, with but little mucus, therefore usually scanty. The mere admixture of blood, however, in the discharge, is not of itself a sufficient indication to rely upon; for, in simple gonorrhoea, the rough use of instruments—such as syringes for injection, or bougies—the employment of irritating lotions, the presence of chordee or persistent erections, may give rise to this symptom without the existence of any chancre of the canal. The second is, that the pus, when inoculated, gives rise to a chancre. This, of course, is most positive evidence; and were it justifiable to practise inoculation in another individual who has never suffered from constitutional syphilis, or were chancres in all stages of their progress equally capable of inoculation, it would be absolute in all; but, unfortunately, the chancre with an indurated base is not capable

of reproduction, as such, in the individual who has already suffered from it, and all chancres lose in time their specific characters. How, then, can we determine upon the existence of an indurated chancre of the urethra which is the certain antecedent of constitutional syphilis?—for this is the result which all authors who have entered upon this subject have sought most to arrive at. We have that power in some degree; for, certainly, the feeling of an *indurated* point in the course of the urethra, to which the patient refers all his symptoms, when markedly present, is very characteristic, but it must be carefully distinguished from the enlargement consequent upon suppuration within the cavity of one of the follicles opening into the lacuna; and when this induration is associated with the multiple bubo, symptomatic of the indurated chancre, our diagnosis may safely be decisive of the certainty of an outbreak of secondary syphilis within a limited period, the case being one, not of gonorrhoea, but of concealed urethral indurated chancre.

Turning now from these results of pathological inquiry, let us look, in passing, at the most approved methods of treating gonorrhoea. The affection is non-specific; therefore mercurial treatment is quite unnecessary for the cure of either the inflammation of the mucous surface or of any of its results.

Some sure method of prevention, by which the practitioner may pander to the vicious desires of those who would avoid the consequences of their own temerity, although often enough spoken of, does not exist. M. Diday, to be sure, has expended much ingenuity in the invention of a syringe for urethral injection, with a piston and handle closing down like the blade of a clasp-knife, suitable for the waistcoat, and designed to be a constant pocket companion, always ready in time of need. All such measures, fitted to create a feeling of false security in the minds of those whose fear of consequences might have compelled them to put a bridle on their passions, will be found by them, when too late, nothing but a delusion and a snare.

Some years ago, the so-called *abortive* plan of treatment of a gonorrhoea had its share of professional confidence. A solution of nitrate of silver, of the strength of ten grains of the salt to the ounce of fluid, was injected into the anterior part of the canal, with the supposed effect of destroying the cause of the disease, of cutting short commencing inflammation, and substituting in its place an inflammatory affection which runs its course more quickly and with less irritation. Experience has, however, proved that in the male subject, when employed after the characteristic gonorrhoeal discharge has been established, its use is not unattended with serious risks, such as ulceration of the canal, perineal abscess, and inflammation of the prostate and bladder; and that, when employed before the discharge has made its appearance, its use was always open to the objection that, very possibly, we were inducing an actual inflammation for one which we had anticipated on no better ground than mere suspi-

cion. At this early period of the attack, by rest and by avoiding every cause of local and general excitement, by the use of cooling drinks and diluents, starvation, and cold or warm applications, as the sensations of the patient indicate to be best, by being most grateful, much may be done to mitigate or even prevent the acute acme of the inflammation.

When, however, acute symptoms occur, blood-letting need never be had recourse to, and leeching is scarcely ever required. Rest, diluents, laxatives, diuretics, mucilaginous drinks, the hip-bath, fomentations, and the milder antiphlogistic remedies, with opiates if necessary, are all that modern experience can recommend. And then comes the time for the exhibition of those so-called specific remedies, *Copaiva* and *Cubebs*. Dirty, nauseous, permeating drugs though they be, nothing can equal them in the certainty and efficacy of their action; given together as an electuary, and taken after meals in rice paper to cloak the nauseating flavour, they are far more effectual than in soapy emulsions or sophisticated capsules. Their mode of action is a demonstration of recent date. It is not from any influence which they exert upon the system at large, or by promoting the excretion of any poisonous material from the blood, that they do good; for gonorrhoea is a purely local disease, and can only be directly benefited by local treatment. But these remedies, having been absorbed into the system from the alimentary canal, have their active principles again excreted with the urine, giving it a violaceous odour; and that fluid, impregnated with them, must, of course, come to act directly upon the inflamed surface as it is voided by the urethra. Hence it is, as experience long ago proved, that these remedies have no effect whatever in vaginal gonorrhoea or in purulent ophthalmia, or, in fact, in any suppurative inflammation of a mucous surface to which the urine is not applied. This has had ample proof in cases of gonorrhoea occurring in patients affected with partial hypospadias, when the urine, impregnated with the principles of the *copaiva* and *cubebs*, could be made to pass along the affected portion of the canal, or not, according to the will of the patient. Two such cases are detailed by M. Ricord, and carry conviction in their relation. But, while we must admit the powerful remedial effects of these so-called specifics, it must not be forgotten that sickness, vomiting, jaundice, acute resinous exanthemata may be produced, and are frequently produced, by the prolonged use or too free administration of *copaiva*; and that both *copaiva* and *cubebs*, when pushed in large doses, have been known to produce alarming cerebral disturbance. Such facts have induced some theoretically to recommend the direct application of the *copaiva* to the urethra itself in the form of an injection, so that, while its action on the part is secured, the system may be left unaffected; but experience proves that the same good effects do not accrue as from that remedy when filtered through the emunctories. Velpéau, again, has recommended *copaiva* enemata; but these,

though at one time in vogue, are found so dirty, irritating, and inconvenient in their administration, and so uncertain in their effects, that they may be said to be effete.

With the use of these remedies, the good to be obtained from astringent injections must not be overlooked. Gonorrhoea, as we have seen, is a purely local disease, requiring nothing but local treatment; and, as soon as the acute irritability of the urethra will bear the use of astringents, there should be no delay in resorting to their employment. Largely diluted at first, but gradually increased in strength as the diminution of the irritability may indicate; always remembering that there is a point at which the astringent ceases to act beneficially, and commences to produce an irritant effect,—then, of course, requiring that dilution of the remedy, or a few days' intermission of the injection, should be recommended. Those salts which act purely as astringents are recommended by some; while, by others, solutions containing an impalpable powder in suspension are preferred—the latter substance being presumed to act by coating the opposed mucous surfaces, and thus preventing their immediate contact. This theoretical explanation of their action is certainly borne out by the undoubted fact, that the mechanical method of treating vaginal gonorrhoea by the maintenance of a very slight degree of actual separation of the mucous walls of that canal, by means of dry lint or dusting powder, has been found, without any further measures, to effect a complete and speedy arrest of the inflammatory secretion.

It is well known that gonorrhoeal epididymitis is attributed by most patients, and by many practitioners, to the employment of injections; and, no doubt, if strong irritating injections are employed indiscriminately in the treatment of gonorrhoea, such a result may very reasonably be supposed to result from such temerity. When, however, the true pathology of epididymitis, as a sequela of gonorrhoea, is understood, it will at once be granted that, so far from exciting swelled testis, the judicious employment of injections is really calculated to prevent such a calamity. In such cases, it is well known that with the inflammation of the epididymis the discharge from the urethra is usually, for the time, either arrested or checked; and this coincidence is usually quoted as an example of that anomalous mode of extension of an existing inflammation which is called metastasis. Now, morbid anatomy has shown that, in the case of the epididymis and urethra, the extension is simply effected by the gradual progression of the inflammation along the urethra, and its extension by continuity of texture to the vesiculae and vas deferens, usually upon the left side. Hence, if by neglect of a gonorrhoea the inflammation is given time to creep backwards, the affection of the testis may be expected as a natural result; and, accordingly, the period at which we most commonly meet with this complication is from a fortnight to a month from the commencement of the discharge. It seems, therefore, inevitably the conclusion, that

if we can cure a gonorrhoea before it has had time to reach the membranous portion of the urethra, we will secure our patient from all risks of swelled testis, instead of inducing it, as has been feared, by too rapidly arresting the discharge. So true is it that a gonorrhoea allowed to follow its own course is the surest cause of epididymitis, that a burlesque of statistics has been adduced by M. Ricord, to the effect that the most common cause of swelled testis during gonorrhoea is the free administration of lintseed tea. "I have in my possession," says he, "in proof of this point, several elaborate tables of statistics; and the pupils who attend my clinical lectures await with a smile my final query, addressed to every patient affected with epididymitis, 'But haven't you taken lintseed tea?' to which the answer 'Yes' is inevitably returned." The natural conclusion from such statistics and such facts must certainly be, that epididymitis, like the other complications of gonorrhoea, is in no way dependent upon a revulsion, or metastasis, or any other chimerical morbid process, by which some would attempt to intimidate us in the use of means calculated to effect a speedy cure, but is produced by the continuance and extension of the suppurative inflammation; and, therefore, that the use of any means calculated to cure the discharge is the surest way to protect the patient from all risk of the occurrence of any of those disagreeable consequences.

Stricture of the urethra, it is well known, has also very frequently been referred to a similar source; but now-a-days we are wont to regard stricture rather as a consequence of a gonorrhoea allowed to run on, thus keeping up congestion of the mucous membrane and submucous tissue of the urethra, than to suppose that, by checking such pathological processes, we produce structural changes. In fact, whenever a surgeon finds a urethral discharge becoming chronic, it is a rule to examine the condition of the urethra by passing a bougie, so as to satisfy himself that such structural changes have not occurred; and, should they even not be present, the occasional passage of a bougie will be found the most certain means of preventing their formation and arresting the morbid secretion.

In spite, however, of all such treatment, a gleet discharge sometimes still continues—checked, no doubt, so long as injections are employed, but recurring again as soon as they are given up. In such cases the part affected seems to be the membranous portion of the urethra and prostate; and as no injection thrown along the canal can permeate farther than the bulb, if local applications are deemed requisite, some means must be adopted to secure the injection or astringent application acting beyond the barrier. This may easily be effected by means either of Lallemand's *porte caustique*, or by a catheter introduced as far as the prostate, and the injection practised through it as the instrument is withdrawn. In this way the discharge from the posterior part of the canal having been checked, the spongy part of the canal will be no longer contaminated from

behind, and the discharge from it will now be found to yield permanently to the use of ordinary injections.

In treating the gonorrhoeal swelled testis, there are three indications which it is important to attend to:—1st, To check the inflammatory symptoms. For this purpose, leeching or scarification of the scrotum, thus opening several veins, followed by hot opiate fomentations, will be found more agreeable to the sensations of the patient than resorting to the very doubtful measure of employing graduated compression of the inflamed organ, by means of adhesive strapping or collodion, from the very outset—a practice which, in even the skilful hands of Ricord, has resulted at times in sloughing of the testicle. When, however, the acute symptoms have been checked, then graduated compression will be found most satisfactorily to fulfil the 2d indication, viz., to support the congested and swollen part; while, 3dly, no time should be lost in employing appropriate remedies to arrest the gonorrhoeal discharge. This may at first sight appear a mistaken practice; for it is generally the case that, as the testicle becomes inflamed, the gonorrhoeal discharge is either checked or arrested, and, as the inflammation subsides, the discharge recurs, which might seem to indicate the propriety of using measures rather to encourage than repress the discharge. In fact, so strong a hold had this principle, of soliciting the reappearance of the discharge, taken of the minds of surgeons, that even to the present day some really do employ measures calculated to reproduce the discharge, such as introducing bougies coated with irritating substances. And it is no long period since a distinguished surgeon in a metropolitan hospital used to excite the risible faculties of his pupils, at the expense of any unfortunate suffering from swelled testis, by asking how the swelling came on; and when told by the patient that, as the swelling appeared, a "running" ceased, taking a sixpence from his pocket, he would say, "Well, my good fellow, here's sixpence to get another with." So much for the old pathology of a metastasis and its practical results. Now-a-days we believe that, as long as any discharge continues to come from the urethra, the patient is not free from the risk of the re-excitement of the epididymitis. Accordingly, the question is not, should the discharge be stopped, but, when this may be done with best success; and the answer to this must simply depend upon the period at which a patient suffering from acute swelled testis will bear the administration of cubeb and copaiva. Whenever his stomach will bear them, he should begin to take them. The urine soon becomes impregnated with them, and the irritation of the posterior part of the urethra is in most cases very speedily allayed, and with it the tendency to maintenance of the inflammation of the testicle. In other cases, again, where there is a sort of chronic tendency to the re-excitement of irritability and swelling of the epididymis, or when the globus major and cord remain thickened and tender, giving rise to most distressing neuralgic

uneasiness, then the use of bougies, or even of the *porte caustique*, or injections of the deep part of the urethra, and the external application to the scrotum of solution of nitrate of silver, with attention to the condition of the general health, will usually effect a marked change for the better.

Although the existence of gonorrhoeal rheumatism is pretty generally admitted in this country, from the notice taken of it by Sir Benjamin Brodie in his work upon the Joints, some doubt appears to exist in the mind of several eminent writers upon the Continent as to the connection between gonorrhoea and certain forms of rheumatic ophthalmia and articular affections. The most important and recent memoir, in which it is attempted to prove that there is no such thing as gonorrhoeal rheumatism, is written by Professor Thiry, of Brussels; but as M. Rollet's more recent researches upon this subject constitute a most thorough refutation of the Professor's views, it is quite unnecessary to do more than, in a few words, to indicate the prominent facts adduced by M. Rollet with reference to this disease.

Several cases are narrated by him, in which repeated attacks of gonorrhoea are followed by corresponding rheumatic seizures; others, in which the same gonorrhoea, incompletely cured, is reproduced, and with each recrudescence of the gonorrhoeal discharge a corresponding attack of recurrent rheumatism. In all such cases it is the rule that, so far from the discharge ceasing or becoming diminished with the development of the rheumatic seizure, it is rendered more abundant during its existence; thus completely upsetting the idea of anything like a true metastasis. He further adduces proofs of the existence of a gonorrhoeal rheumatic iritis, which sometimes is substituted, at other times alternates with the articular disease, and the peculiarity of which appears to consist in the membrane of the aqueous humour being the texture principally implicated; thus making it in every respect the analogue of the affection of the articulations in which the synovial membrane is the part principally affected, and distinguishing it from the more common forms of simple or specific iritis, in which the substance of the iris is always primarily involved. In the gonorrhoeal rheumatic affection, furthermore, the exudation is characteristically copious, as was long ago pointed out by Mackenzie; but, however copious, the prognosis may always be favourable, as, under ordinary sorbefacient treatment, the flocculent lymph is rapidly removed, and vision becomes restored.

Although the knee-joint is the articulation most frequently attacked, any joint in the body may be affected; and even the pericardium, the meninges of the brain, and other fibrous tissues, have been observed to suffer. Curiously enough, this disease has never been met with in the female sex.

This immunity of the female sex from gonorrhoeal rheumatism certainly constitutes a well-marked difference between the common idiopathic rheumatism and the gonorrhoeal rheumatic affections; and, in fact, so unconnected are they, that the existence of a well-

marked rheumatic diathesis, or even previous attacks of a rheumatic kind, in an individual, appears to have no influence in determining the occurrence of rheumatic affections during the existence of a gonorrhoea. Exposure to cold or damp, the season of the year, particular occupations, constitution, temperament, age, habits,—none of these common causes of predisposition appear to exercise any influence in determining the development of this anomalous disease.

The only constant circumstance in these cases is the existence of a urethral discharge; and to this, apparently, must be attributed the excitation of the rheumatic affections. To explain the connection between this cause and its effects, two hypotheses have been proposed. The first presumes that absorption of some material from the purulent secretion takes place, and evolves itself elsewhere in the form of rheumatism. Those who hold this theory have generally described the gonorrhoea as becoming more or less checked when the rheumatism is set up—a statement which is, however, known not to hold good in almost any case; and the theory to which it would serve as a very efficient proof, has really no foundation whatever on facts or analogies. The second hypothesis would attribute to the inflammatory affection of some part of the urethra from which this copious discharge comes, a power so to influence the sympathetic system as, by reflexion, to produce the local affection of the joints; and with this hypothesis we find certain analogies coupled, such as the intermittent form of febrile excitement produced in some by the passage of a bougie, or the actual effusions into the joints, accompanied by rheumatic pains, which sometimes arise in the progress of a case of stricture of the urethra when too frequent or indiscriminate instrumentation has been had recourse to. What part of the urethra it is that resents irritation in this way, has not been particularized. Some have referred it to the bulb, some to the membranous portion, others to the prostatic part of the canal. Whatever part or parts of the urethra may possess this peripheral influence upon the sympathetic in the case of a gonorrhoea, certain it is that an instrument passed into the bladder, and retained there, in a case of stricture, is more liable to excite rigors followed by febrile reaction when fairly conveyed into the bladder, than when merely lodged with the extremity in the membranous part; and those practical surgeons who are in the habit of retaining the instrument for a time in the treatment of stricture of the urethra, usually recommend that the bougie should merely be passed through the stricture, and not lodged in the bladder.

The rheumatic affection, then, being dependent upon the gonorrhoeal inflammation for its commencement and its maintenance, so far from desiring to increase this discharge, as was the practice among the older surgeons, our object must be to arrest it as speedily as possible; for, cure the rheumatism as we may, so long as the urethritis continues, it is almost certain to relapse, and an exacerbation of the urethritis is certain to excite a fresh attack of the syno-

vial inflammation. Repose, leeching if required, fomentations, the vapour bath, and blistering, followed by pressure applied to the joint, are the local measures usually resorted to in such cases, and generally they are found to be attended with the best results. The acetate of potash, with colchicum and hydriodate of potash, have been recommended by some writers; but experience proves them to be of comparatively little benefit when compared with their excellent effect in cases of idiopathic rheumatism. Should the thickening of the synovial membrane threaten to become persistent, then, instead of repeated blistering, the Emp. Gummos. c. Hydrarg., or Emplâtre de Vigo of the Parisian Codex, will be found, when combined with pressure, to be very beneficial.

It is seldom necessary to resort to the internal administration of mercurial remedies for the articular affections. When iritis, however, exists, then no other remedy produces such speedy and well-marked effects in promoting absorption of the exudation and restoration of vision. In such cases, paracentesis of the aqueous humour, the use of belladonna, and the repeated application of blisters, will be found especially useful where the tension of the globe is considerable, and pain is a well-marked symptom.

In the treatment of purulent gonorrhœal ophthalmia, depletory measures are found to be not only useless, but absolutely injurious. The days are past when, in gonorrhœal ophthalmia, a surgeon would recommend that "as much blood should be taken from the arm as will flow from the vein, and the evacuation should be repeated as soon as the state of the circulation will enable us to get more." And, assuredly, we have better results now-a-days than those related by a distinguished surgeon, who says that "the only case he had seen in which the eye was saved, was that of a young woman in whom venesection was repeated as often as blood could be got from the arm. She lost 170 ounces in a few days, and looked as if every drop of blood had been drained from her body, the skin being nearly the hue of a wax candle." While the experience of modern ophthalmic surgery has certainly no equal to that which induced an Irish surgeon to say, "These are cases which defy all the usual etiquette of regular and ceremonious visits. If we wish to save our patient from the destruction of his vision, we must scarcely depart from his bedside until the inflammatory symptoms are controlled. The lancet must be hardly ever out of our reach; for if ever there was a disease in which blood must be taken away without limitation, it is this." This inflammatory affection, like that of the urethra, is a purely local one, and is in great measure maintained and increased by the presence of the purulent discharge confined within the lids acting as an irritant to the whole conjunctival and corneal surface. The old notion, that such purulent inflammations might be other than the result of the direct application of the gonorrhœal secretion, either of the same or of another individual, to the surface of the conjunctiva, is now completely exploded; at all events, in the minds

and works of those practitioners who, with large opportunities, rely upon their own experience for facts, instead of taking for truths the observations of the older surgeons, whose minds were biased by theoretical speculations which no one is now-a-days inclined to accept. Accordingly, the indications to be attended to are,—1st, to maintain cleanliness; 2d, to apply astringents to the inflamed and inflamed conjunctiva; 3d, to soothe pain; and, 4th, to relieve tension. These indications are carried out in practice by pencilling the solid nitrate of silver over the tarsal conjunctiva, or by applying either a solution of the salt, or Mr Guthrie's ointment, within the lids till the surface is whitened, and repeating it as frequently as the renewed increase of the discharge, and the reappearance of the red velvety surface of the conjunctiva, indicate the necessity of its re-application. Cleanliness is maintained by frequent bathing of the eye, and by syringing beneath the lids with a slightly astringent lotion, which should contain either belladonna or opium, to soothe the pain; and when the chemosis is great, and the overlapping membrane hides a circularly ulcerating cornea, then not only scarifications in the conjunctival membrane, but puncturing of the cornea and the evacuation of the aqueous humour, will be found attended by a marked relief to tension, and will for the time allay the injurious friction of the tarsal conjunctiva against the cornea, which threatened to slough had matters continued much longer unrelieved.

Gonorrhœa in the female, in its early stage, may be checked, when the vagina and vulva are alone affected, by the free application of the solid nitrate of silver to the surfaces; and if there is any pain in micturition and redness of the urethral orifice, a similar application to that canal, by means of a short porte caustique, will be found to arrest the further progress of the attack. When, however, acute symptoms have fairly set in, and such manipulations would give rise to intolerable pain, then rest in bed, warm bathing, the application of a solution of acetate of lead and opium between the folds of the labia, and similar injections up the vagina as soon as they can be borne, will pave the way for our resorting to more effectual measures; of which, astringent injections, such as alum and oak bark, the introduction of strips of lint up the vagina, and injection of the urethra by means of weak solutions of nitrate of silver, will be found attended by better success and less discomfort to the patient than any other method of treatment.

PART II.

THE specific venereal diseases which we have now to consider have very commonly been included under the name of Syphilis. This name has been derived by Fracastor, in his very elegant poem upon this somewhat inelegant subject, from a fictitious hero, Syphilus, who, in an evil hour, having insulted Apollo, brought upon the human race this malady as a fearful penalty for his temerity.¹ A more rational derivation of the word, from either *συ-φιλία*, mutual love, or *συς-φιλία*, piggish or impure love, naturally suggests itself, and obviously indicates that the term must originally have been designed to include all diseases which we now style venereal, that is to say, resulting from impure sexual intercourse.

Those of them, however, to a consideration of which we devoted the first part of this review, had, as we then saw, no specific definite origin, and no specific results. Although they were communicable, they were so simply because they afforded irritating secretions. But those which remain to be considered have undoubtedly a specific origin and a specific transmission. The term syphilitic has, therefore, in the language of modern pathology, been reserved for those venereal diseases which follow this undoubted specific course. But a still more rigid inquiry into the specifically communicable and the consecutive affections has separated them into primary affections or sores, which are commonly called chancres, and a constitutional infection to which the term syphilis is usually restricted.

This constitutional disease called syphilis, as we now-a-days meet with it, is in every case dependent upon the action upon the tissues of the body of a specific morbid poison, which Ricord first designated with any definite significance, "*The Syphilitic Virus*."

There was a time, however, not far distant, when many esteemed pathologists would not have patiently listened to the employment of the word virus to describe the evolution of syphilis. To such days belongs the tragic indignation of the learned and eloquent Jourdan, who, in repelling the arguments of Ricord in support of this doctrine, insisted, in the Academy of Surgery, that, call it what he would, he should not degrade the term virus by applying it to such a disease.

¹ "*Syphilitidemque, ab eo, labem dixere coloni.*"

But, while the onward wave of pathological knowledge has, to our mind, left the statement of Ricord established upon a basis more firm and sure than ever, and swept away all arguments and facts which seemed insuperably to oppose it, still, if our readers will bear with us for a moment while we compare the rigid signification of the term, "*virus*," with the condition of the pathology of syphilis at the period to which we have just alluded, we think it will become apparent that Ricord asked too much when he insisted upon the recognition of a syphilitic virus as a logical deduction from the facts as then observed.

A specific virus, in strict pathological language, is a something which of its own virtue, when introduced into the tissues of the body, infects the whole organism, and is reproduced at the part into which it was introduced in the form of purulent matter—the product of the specific inflammation, which is capable of reproducing itself under similar circumstances *ad infinitum*.

Those who regarded gonorrhoea, warts, etc., as evolutions of a protean disease, which they called syphilis, and which they believed originated in the great common venereal virus, could not be expected, of course, to see in them anything so constant as to enable them rationally to include them in the limits of such a rigid formula as we have just enunciated.

But, rejecting all the simple results of local irritation from the category of specific affections, for reasons for which we think we have already shown sufficient cause in the former part of this article, we would now attempt to face the question, Are all the inoculable affections of the genital organs really syphilitic? In other words, and more plainly, Is every sore upon the genital organs, which furnishes an inoculable pus, a source of the syphilitic virus? For, observe, such was the doctrine of Ricord, as enunciated 30 years ago; such was the pathological truth which he thought he had led captive to the point of his lancet; such was what he believed he had proved, but of which Jourdan so indignantly repudiated the demonstration.

To arrive at any conclusion upon this subject, we must consider the data from which he made this large generalization; and, without entering minutely into the very experiments and observations upon which the conclusions were based, we will consider the subject in the following order:—1st. The Source of the Virus, and its Condition. 2d. The Part and Person into whom it is introduced. 3d. The Effects it produces in the part. 4th. The Effects which follow in the system. And, to avoid confusion, and preserve an historical sequence, we shall examine these particulars only by the light afforded by the clinical observations of Ricord up to the year 1834.

(1st.) *The Source of the Virus.*

We have already had occasion to see how the purulent matter derived from gonorrhoea cannot produce chancres when applied to

a solution of continuity of the surface; and, conversely, that whenever the matter from an unexplored mucous surface, such as the urethra or vagina, produces a chancre by inoculation, we may rest confident that a chancre exists somewhere upon that surface. While, then, a chancre is the only possible source of a purulent secretion capable of giving rise to a chancre upon inoculation, if we take inoculation as an absolute test of specificity, and find that the pus of a chancre will not under all circumstances produce positive results, it follows that there are circumstances which prevent a chancre which was inoculable one day from furnishing an inoculable secretion the next. What, then, are these circumstances? Can we, for example, from the appearance of the purulent secretion, decide as to what the result will be? In reply to this, some surgeons have attempted to indicate certain characters which they believe distinguish the specific pus. Such characters, however, belong to the pus, and not to that which constitutes the essential potency of the pus, and which apparently eludes our best efforts to characterize its presence. We know, however, that it is absent when putrefaction has commenced, or when cicatrization of the sore is in progress. But the chancre poison, when potent, can be preserved in an active condition for any length of time, just as we preserve vaccine lymph, and therefore needs no physiological act upon the part of the organism which furnishes the secretion to make it effectual. The constant source, then, of the chancrous poison is a chancre yielding pus—the sore not cicatrizing, the pus not putrescent.

(2d.) *The Part and Person into whom the Chancrous Poison is introduced.*—Have they any effect upon the action of the poison? Ricord, in reply, showed that, if the poison from a chancre fulfilled the indications we have already stated, its introduction into any part or any individual, provided only there be a slight solution of continuity of the shielding cuticle, specific effects will ensue.

(3d.) *These effects in the part are.*—1st, A pustule, which forms a sore; or, 2d, An open sore. In either case, the characteristic of the sore being, its tendency to extend its limits, or to be tardy in cicatrizing. But this sore, so produced, has it the characters of the parent sore? Now, in 1834, and even at a very much later period, the only reply which could be given to this was, that the sore might present various aspects. These differences, it was presumed, depended, not upon the poison, but upon the state of the constitution of the individual who had been inoculated with the chancrous matter; and it was further remarked, that these different appearances seemed to bear some unknown relation to certain after effects.

(4th.) *These effects which follow in the system* the experience of all ages has shown to be more various in appearance than even the sores themselves. In some cases, for instance, the sore is the whole affair; in others, a swelling in a neighbouring lymphatic gland makes its appearance, resists all treatment, and inevitably terminates in sup-

uration; in others, a glandular enlargement occurs in the neighbouring lymphatic chain, giving rise to no uneasy symptom, but remaining very persistently. In some cases no constitutional symptoms occur; in others, a mild series of cutaneous affections follow; while in others the constitutional symptoms are both severe, protracted, and intractable. Now, if all these affections are really one and the same, they certainly constitute a most incongruous medley—a confusion of results, as originating from a single cause, enough to confound any ordinary mind, and to bring order out of which were a task worthy of Hercules himself. Such was the unsatisfactory condition of the results of M. Ricord's observations at the time alluded to, when he first attempted to prove the existence of a syphilitic virus.

One seed (to employ his own simile)—the syphilitic virus; various plants—the different forms of sore; and still more various fruits—the uncertain consecutive results. Such was all he could adduce in proof of its existence. If this were consistent with his idea of a specific virus at that period, sure we are that it does not fulfil the requirements of the formulæ we commenced by enunciating; nor, indeed, would it tally with what would be demanded by Ricord himself at the present day. The doctrine of a single virus, which produced such various, nay, dissimilar results, quite inexplicable by any known pathological laws, was only calculated to engender a sense of uncertainty in prognosis, and a want of confidence in the employment of treatment. We need not wonder, then, that practitioners, who daily studied facts as well as doctrines, should come to the conclusion, as such a doctrine failed to explain a majority of the facts which came under their observation, that it was far better to reject it altogether, and fall back upon the glorious doctrine of uncertainties on which medicine has been built from the earliest times.

What, then, had Ricord really proved when he thought that he had demonstrated the existence of a real veritable virus? Simply that, apart from gonorrhœa and non-specific affections yielding a purulent secretion, there were sores, usually called *chancres*, which afford a secretion capable of reproducing similar sores upon inoculation; and that, while some of these are followed by constitutional symptoms indicating an empoisonment of the system, others—and these are the majority—are followed by no result whatever. It is true that by many this immunity from constitutional infection was attributed to the employment of timeous treatment; while, again, by others the existence of all such symptoms was held to prove that a poisonous use of mercurials had been had recourse to, and to which, accordingly, the so-called constitutional manifestations of syphilis were referable. Ample experience, however, in the expectant plan of treatment, once in vogue both in Edinburgh and upon the Continent, has sufficed to prove to the satisfaction of the most sceptical that constitutional syphilis will and does occur in a certain

number of cases where no mercury or anything else has been given; while, again, the employment of the most active treatment, whether of the sore or directed to the condition of the constitution, has not been found to diminish the proportion of cases in which constitutional syphilis follows the occurrence of chancres. It became obvious, then, to all attentive observers, that though every chancre might reproduce a chancre, every chancre was not necessarily followed by constitutional syphilis. It was clear that, while some chancres existed only as such, and produced no more than local effects, and while some irradiated their influences no further than the first lymphatic gland in the neighbouring chain, there were others which were followed, after the lapse of some weeks or months, by a series of constitutional symptoms, which invaded in turn the different systems of the body, commencing with the skin and mucous membranes, and terminating with the cellular tissue, bones, and viscera.

It was clear, then, if all chancres were to be held as alike capable of infecting the system, and if treatment could neither be accused of inducing nor depended upon for preventing the constitutional affection, that these dissimilar results, to be rationally explained, could alone be attributed to some difference in the constitution, temperament, sex, or idiosyncrasy of the individual in whom they occurred. And the lymphatic temperament, the scrofulous diathesis, and irregular habits were presumed by some to explain the constitutional evolution of the disease, much in the same way that a debilitated state of the constitution obviously favoured the occurrence of phagedenic ulceration in the chancres themselves. According to this view, the chancre poison resembled a seed which produced different plants and various fruits, according to the soil in which it was planted. In practice, such a generalization was not found to add much to the certainty of our prognosis, for while it implied that every chancre might induce syphilis, the manner how, the time when, and the reason why, such an infection should occur in one case as compared with another, was left absolutely indefinite. One thing, however, remained certain, that in the great majority of cases no constitutional symptoms were to be apprehended. We believe, then, that while M. Ricord, with any or all of these ingenious speculations, failed in his proof of the existence of a *syphilitic virus*—possessed of a specific commencement, a specific transmission, and a specific evolution in the form of an inevitable diathesis—he had proved most completely a minor proposition, viz., that in the chancre there was a specific virus capable of reproducing itself; that in the chancre, and its transmission from individual to individual, there was a distinct revolution of cause and effect alternately; while he indicated the existence of another circle beyond this, consisting of certain consecutive or constitutional effects, which, although obviously revolving around the same centre, he failed definitely to

connect with those revolving within. He certainly seemed to show that there was no syphilitic infection of the system without the pre-existence of a chancre; but at the period of which we speak he certainly had failed to discover how or why some chancres were followed by syphilis while others were not.

In our own days there has, we think, been no greater advance in pathology than that which has enabled us to explain definitely this apparently insuperable anomaly; for, by means of it treatment has become more certain and less empirical, and prognosis has been rendered something approaching to absolute. With special reference to this very important subject of prognosis, we would now pass on to consider whether we possess any definite symptom or symptoms in connection with the chancre, by means of which we can say in what cases the affection will remain a mere local one, and in what cases the constitution will become involved.

In the work of Jean de Vigo we find him directing particular attention to the induration of the chancre; and Marcellus Cumanus actually compares the induration of a chancre to a wart, and speaks of the sore itself as livid in tint and implanted on a hard base. Ambrose Paré obviously attached great importance to this same symptom of induration when he says, "In an ulcer of the penis, should the part be indurated, it will be an infallible sign that the patient is affected with syphilis." Petit has remarked, that those chancres which became indurated were the most constant cause of syphilis; and, in our own country, Benjamin Bell, John Hunter, and Mr Pearson have almost made the induration of a chancre an essential character by which the chancre may be distinguished from those other ulcerative affections of the genitals which had been recognised apparently in all ages, and to which they gave the name of diseases resembling syphilis and pseudo-syphilis. We say almost; for it is obvious, from even a very superficial glance at their writings, that they did admit within the category of true chancres, other sores than those which are followed by constitutional syphilis. It is certain, however, that they had formed no distinct idea of the doctrine of a plurality of specific causes. With them all chancres were liable to be followed by syphilis, or lues venerea, as they called the constitutional affection; and it was to the preventive powers of mercury that any immunity from its dread invasion was to be attributed.

Mr Carmichael, of Dublin, in 1815, first directed attention to certain different appearances in those chancres, and to certain forms of constitutional symptoms, between which he believed there was an intimate connection; so intimate, indeed, that he considered them to be related to each other as cause and effect. He proposed, in fact, to admit of a plurality of poisons, specifying no less than four distinct and different forms of sore resulting from their action upon the tissues of the body, and each accompanied by a corresponding type of constitutional affection.

The following was his classification in accordance with this view of the subject:—

Form of Sore.	Eruption on Skin.	Affection of Throat.	Other Affections.
1. Simple Ulcer.	Papular.	Increased Vascularity.	Rheumatic Pains. Iritis.
2. Ulcus Elevatum.	Pustular.	Dry and granular.	Distension of Joints. Nodes.
3. Phagedenic Ulcer.	Rupia.	Sloughing Ulcer.	Severe Pain in Joints. Nodes.
4. Indurated Chancre.	Scaly.	Excavated Ulcer.	Cephalic pains, glandular enlargements. Nodes.

But this somewhat clumsy classification and fanciful arrangement of symptoms, although it is even still adhered to in a more or less modified form by some surgeons of the Irish school, was admitted by practitioners generally not to be capable of anything like a rigid application, and was, accordingly, soon abandoned. In fact, this hypothetical multiplication of the chancre poison had been pretty well forgotten, when Ricord, in 1835, wrote as follows: "We most frequently meet with induration of the base of the chancre in those cases where secondary symptoms afterwards occur." Again, with greater precision, in 1858, we find him saying: "Indurated chancres are usually followed by secondary symptoms; and the fact that this induration has occurred seems to indicate that the infecting principle has already affected the economy,"—a statement which, in 1840, he completes by asserting, as the result of his experience, that "when a chancre becomes indurated, it is infallibly accompanied by an indurated and non-suppurating engorgement of the neighbouring lymphatics." In 1850-51 these views had received such constant confirmation in practice, that he does not hesitate, in his Letters upon Syphilis, communicated to the *Union Medicale*, to affirm that "when a chancre becomes indurated, there is of necessity constitutional empoisonment; this specific induration is a certain and absolute proof that the constitutional infection has already occurred." And, in another part of the same correspondence, we find him saying that "the variety of the diseased conditions following chancres depends not only upon the condition of the individual, but upon a certain variety in the cause, and therefore in the virus."

What, then, is the nature of the difference between the virus of the indurated chancre which is the source of syphilitic infection, and the chancre which is unattended by syphilis?

Some, among whom we presume those who deal in "Syphilization" may be supposed to range themselves, have ingeniously attempted to prop up their practice by hazarding a theory, viz., that the non-indurated or simple non-infecting chancre is to the indurated infecting chancre what cow-pox is to small-pox. But

this charming analogy should, if true, imply that inoculation with the virus of the non-indurated chancre should protect the system against the indurated chancre and its constitutional sequelæ. Unfortunately, however, we do not find it so. The non-indurated chancre may apparently be reinoculated *ad infinitum*, but it proves no protection to the inoculation with the virus of the indurated chancre and its disastrous consequences.

Another view of the relation which these two forms of chancre bear to each other has been advanced by Dr Clerc. The simple non-infecting chancre, according to this gentleman, is merely a modification of the indurated or infecting chancre, resulting from the inoculation of the virus of the indurated chancre in an individual who has already suffered from an indurated chancre and constitutional syphilis. The more recent investigations of Ricord tend to overthrow this theory, and apparently indicate rather that the results of the inoculation in a virgin subject¹ of virus obtained from a chancre existing in a patient who has already suffered from syphilis, will depend entirely upon the nature of the chancre from which he derived his infection. From such, and various other analogous facts, Dr Bassereau, a pupil of Ricord's, has advanced a step further. He regards the virus of these two forms of chancre as perfectly distinct the one from the other, and each capable of transmission after its own kind. According to this view, there is no longer *one* chancre poison, with various inexplicable results, but a *duality* of virus and a duality of effect.

There is, I., The Simple, *Soft*, Non-infecting Chancre—The *Chaneroid*, as Dr Clerc calls it—the chancre without syphilis, as it really is; and there is, II., The *Indurated*, The Infecting, The Hunterian Chancre, The *Chancre* proper, with its *inevitable* syphilitic infection, in which we recognise what at the commencement of this review we set out in search of—the alone source of the syphilitic virus, because always constant, and tallying in every item with our formulæ of a true virus.

To the description and diagnostic recognition of these two forms of virus—the syphilitic and the chaneroid—we now turn; for upon a right comprehension of their distinctive manifestations must depend our prognosis, and the treatment to be adopted in the early stage of these similar but essentially distinct diseases.

I. THE SOFT OR SIMPLE CHANCRE.—Its essential characters may be summed up in a few words.

The margins of the sore have a sharp, definite outline, giving it the aspect of having been cut out of the tissues with a punch. The surface is irregular, as if worm-eaten, and is of an ashy hue. The base is free from any specific induration, or, at most, it is accompanied by simple inflammatory thickening. The discharge is usu-

¹ By *virgin*, in such a collocation, the Continental syphilographers intend to designate those who have never been affected with syphilis.

ally copious, thin, and sanious, very irritating, containing the specific virus, and long maintaining its specific qualities. Therefore the soft chancre is rarely single, generally multiple, or, at least, rapidly multiplying itself by a series of spontaneous inoculations of contiguous parts; and, besides tending to extend its limits by the superficial invasion and destruction of surrounding parts, it is particularly liable to become affected with phagedena; and, under all circumstances, it is an excessively sensitive and painful sore.

The soft chancre produces either no effect upon the lymphatics, or, when it does affect them, the bubo may be, *1st*, a simple sympathetic inflammatory engorgement, such as may result in the course of any inflamed wound or sore; or, *2d*, it may be an acute monoglandular virulent affection, the result of specific absorption, which infallibly suppurates and furnishes an inoculable pus. Chancres with such characters are purely local affections; they are never followed by any constitutional infection; they irradiate their influence no further than the first gland in the neighbouring lymphatic chain.

Such being the case, we have practically, in the soft chancre, only to deal with a nasty, painful form of ulceration, which tends to extend its limits, *1st*, by invading surrounding parts; *2d*, by multiplying itself; *3d*, by producing buboes; *4th*, by becoming phagedenic; and the cause of all this local mischief is contained in the specific virus which reproduces itself in the discharge from the ulcerating surface. The whole secret, therefore, of the successful treatment of the soft chancre lies in the complete destruction of the specific ulcer, and its conversion into a common granulating sore. This we can effect most certainly and speedily by means of such cauterization as shall destroy not only the whole surface and margins of the sore, but the tissues around and underneath to a slight extent. For this purpose, the actual cautery, caustic potash, or soda, Vienna paste, chloride of zinc, nitric acid, the fluid pernitrate of mercury, the saffro-sulphuric caustic of M. Velpeau, or the carbo-sulphuric caustic of M. Ricord, will succeed equally well, if only they are thoroughly applied; while nitrate of silver, sulphate of copper, sulphate of zinc, and other favourite applications, can only act in a very modified degree as caustics, and are therefore not to be depended upon as means for summarily destroying the virulence of the sore. Where, however, the patient objects to the employment of powerful caustics, then solutions of these salts, suited in strength to the irritability of the part and person in which they are to be employed, will be found well adapted to act as alternatives in checking the copious irritating secretion from the sores, in limiting their extension, and in hastening cicatrization when it once commences. In acceding, however, to a patient's wishes in employing these modified measures, it must never be forgotten that, so long as the specific character of the sore remains, the virulent bubo may occur; and hence the propriety of early and complete destruction of its specificity before any virulent absorption has taken place. When,

however, a virulent bubo has commenced, no measures, whether derivative, soothing, stimulating, or revellent, can check its certain termination in suppuration; but in sluggish cases, where we may remain in doubt for some time as to its true character, such treatment may often be advisable. Even after suppuration has taken place, incision should be delayed until the purulent collection has made its way through the capsule of the gland, by which time the fluctuation will be distinct and the skin discoloured; then a free cracial incision should be made, so as to avoid the after-formation of sinuous tracks beneath the undermined skin; and at the end of a day or two, should the characters of the chancre appear in the incision which has been made, either caustic should be applied, so as to transform the specific ulcer into a simple sore, or nitrate of silver may be occasionally applied, and the whole surface of the ulcer should, from day to day, be carefully dressed with lint soaked in some astringent lotion, while pressure, by means of a pad and bandage, should be applied if there is any tendency to the continuance of chronic inflammatory swelling.

When phagedena attacks these sores, if they are limited in extent, cauterization, efficiently employed, will generally arrest its further progress, especially if ferruginous tonics are administered internally at the same time. Where, again, the ulcerating surfaces are very extensive, then certainly nothing acts so much like a charm in checking ulceration and promoting the progress of cicatrization as the oft-renewed application to the surface of a strong solution of tartarized iron, and the concomitant employment of large doses of the same salt internally, with the administration of stimulants and nutritious articles of food, of such kind and in such quantities as the patient can take most readily, and as the state of his pulse and system generally appears to indicate that he requires. Constitutional remedies to purify the blood, or to prevent the occurrence of constitutional infection, are quite uncalled for; mercurials can do no good, and, as experience shows, when carelessly administered they are a very common cause of the invasion of phagedena.

II. THE INDURATED INFECTING CHANCER—The Hunterian Chancre—Primary Syphilis.

When a well-marked example of the indurated chancre has been once seen, and its characters recognised, there is no difficulty in knowing it at once when it again presents itself. These characters, however, present different degrees of intensity, and may be obscured by various local and constitutional conditions to such an extent as sometimes to prevent, or at all events to delay, our arriving at an absolute diagnosis. To avoid such confusion in description, we will first describe the characters of a pattern or standard example of an indurated chancre, and then point out what are the modifying influences which come into operation, and what effects they produce upon the characters of the chancre.

The surface of the sore is smoother, of a less worm-eaten and

irregular appearance, than the soft chancre; it has a glossy appearance, as if it had been varnished; its colour is usually of a dark grey, varied with a russet or purplish tint.

The margins, of a uniformly rounded or oval form, are elevated above the centre of the sore; and their whitish hue, as contrasted with the comparatively dark colour of the surface, makes them appear to stand out in bold relief. There is no edge proper to the margins, for they descend with a gentle slope towards the surface of the ulcer, giving to it generally the aspect of having been gouged out of the tissues of the part.

The discharge is usually small in quantity, of a thick and gummy consistence, of a sero-sanguinolent character, but possessing no naked eye or microscopic specialism by means of which it could without fail be recognised. It speedily loses all specificity so far as inoculation in the individual who suffers from it is concerned, and hence indurated chancres are usually *solitary*; but, so long as the sore exists, the discharge rendered from it is apparently capable of inoculation, with specific effects, in virgin subjects.

Pain is by no means a characteristic of the indurated chancre; in fact, in many cases so little pain is experienced in any period of the existence of the sore, that its very existence is constantly overlooked by patients.

While the indurated condition of the subjacent and surrounding parts constitutes the specific characteristic of the infecting chancre, this is not usually or necessarily accompanied by any inflammatory blush such as would direct attention to its existence. Still, it is something quite *sui generis*, and more nearly resembles a thin and elastic bit of cartilage enclosed within the tissues of the part in which the sore is situated than any other normal tissue with which we are acquainted. This induration is confined to the immediate surface and margins of the sore, being, as John Hunter said, "circumscribed, not diffusing itself gradually and imperceptibly into surrounding parts, but terminating rather abruptly." Its size and extent, therefore, varies with the size of the sore; sometimes no larger than a barley pickle, it is at other times as large as a garden bean, but always distinct from the parts in which it is, as it were, implanted.

The infecting chancre usually becomes very speedily arrested in its extension. Where it is small in size, cicatrization rapidly ensues; where of large extent, cicatrization may sometimes be long delayed. The cicatrix which forms usually retains the pathognomonic induration of the sore, and is frequently characterized by a macular discoloration.

In the earlier stages of an indurated chancre, although the constitution may apparently be unaffected, before six months have elapsed some remote manifestation of the evolution of the syphilitic diathesis will infallibly point to the infection of the system.

Such are the characteristics of a model indurated infecting chancre—a Hunterian chancre, as in this country it is usually

called; but every infecting chancre has not these characters so well marked, and to the varieties which occur we would now wish to direct attention.

1st. Varieties with reference to the Characters of the Sore.—The indurated chancre is usually speedily limited; but at times, like the soft chancre, it may be attacked by phagedena. This is, however, a rare occurrence; but its occasional appearance, as a complication of the indurated chancre, serves to explain the importance which Mr Carmichael attached to the phagedenic chancre as prognostic of the very worst form of tertiary syphilis, but which must, of course, remain quite inexplicable to those who consider phagedena as the prerogative of the soft chancre, or, in their language of experience, regard the occurrence of phagedena as affording a certain immunity against any constitutional infection.

This fact of the occurrence of phagedena as a complication of the indurated chancre has a further important practical bearing. The older surgeons remarked, that, while the administration of mercurials in most cases of phagedenic chancre was productive of the most disastrous results, there were cases, on the other hand, in which the careful employment of mercury tended to arrest the unhealthy action and improve the characters of the sore. These exceptional, and to them inexplicable cases, we now recognise as examples of the phagedenic indurated chancre, and believe that the remedial agency was due to the effect produced upon the induration, not the phagedenism, of the sore.

2d. Varieties with reference to the Induration of the Sore.—Well-marked examples of the indurated chancre are very rare; so much so, that we have known a surgeon of very extensive hospital practice speak of having seen, in the course of his experience, only two or three real Hunterian chancres. Now, if this is the case, and if constitutional syphilis is very common, and if the indurated chancre is the inevitable preliminary of syphilis, it is perfectly obvious that there must be some variety in this symptom of induration which renders its recognition less simple than appeared at first sight. We find, accordingly, that it varies with the tissues in which the sore is implanted; and so very marked is this, in some instances, that some surgeons (such as Mr Holmes Coote) have attributed the induration of the chancre, not to its specific character, but simply to the laxness of the tissue in which it is situated. While, however, experience cannot support such a doctrine, there can be no doubt that wherever the tissues are loose, and possess a large number of lymphatic vessels, then the induration of a chancre is always most developed. This is well seen in chancres situated in the sulcus, behind the glans penis, on the prepuce, on the lips, etc., where the ulcer may be sometimes seen so raised upon its indurated base as to constitute a positive *ulcus elevatum*. Again, in some other situations, such as the *caruncula myrtiformis* on the mucous membrane of the vagina, and within the anus, the induration is so slight, that

except to the *tactus eruditus* of an experienced practitioner, if this character is alone referred to, the essential nature of the sore may easily enough be overlooked.

But the induration also varies with the period at which we examine the sore to test its presence. Induration is always an early symptom of an infecting chancre; if a chancre is to be a source of infection, the induration will appear about the third, and rarely later than the seventh day after the commencement of the sore; but having once appeared, unless developed in a very characteristic degree, it may be evanescent, often, as Ricord says, "disappearing before the work of reparation is finished, and before cicatrization is complete."

When the induration of an infecting chancre is but slightly developed, it has received from Ricord the title of "*Induration en surface*," or "*parchiminde*." Here we have no longer the characteristic cup-like mass of induration; but the sensation, when the base of the sore is gently manipulated by skilful and experienced fingers, is that of a bit of parchment implanted beneath the sore.

The diagnosis of the specific induration of the infecting chancre, therefore, is beset with difficulties; and as further difficulties may arise from the simulation of the indurated chancre by the artificial "*hardening*" of the textures around a soft chancre, it is incumbent on us to look for some other symptom which may assist us in arriving at something like precision in our diagnosis and prognosis.

We have seen how the simple gonorrhœa frequently was accompanied by the sympathetic inflammatory bubo, which rarely suppurates; how the soft chancre had its virulent bubo, which always suppurates; and we have now to study the bubo symptomatic of the indurated chancre. "*Nihil in inguine quod non prius fuit in pene!*" says M. Diday, and certainly here we find in the bubo of the indurated chancre a counterpart of the induration of the sore itself.

This bubo symptomatic of the indurated chancre is a multiple indurated adenopathy of the neighbouring chain of lymphatics interposed between the part affected and the general lymphatic system. Between the enlarged glands and the sore, we can usually trace the lymphatic vessels enlarged, knotted, but painless. The gland, into which these vessels open, is usually the most enlarged; the others vary in size in different cases, but their special characteristic is their induration. This induration, which communicates to the fingers the same sensation of cartilaginous hardness which we saw existed in the base of the chancre, is unaccompanied by any inflammatory tension, fusion of surrounding parts, or pain; and although the indurated enlargement may continue for an indefinitely long period, it has no tendency *as such* to undergo suppuration. No doubt suppuration may occur in these specifically enlarged glands, as in any other lymphatic chain, from the existence of any common cause of simple irritation, or from a soft chancre occurring as a complication, a virulent bubo may be produced; but this con-

stitutes no true exception to the constant indolent character of the bubo appertaining to the indurated chancre; for where suppuration does occur, it is not the result of the specific character of the sore, but produced by either a simple inflammatory or a virulent complication. A further peculiar feature of the indurated bubo is, that it is bi-lateral—that is to say, when the indurated sore exists in a central situation, such as the penis, the (inguinal) glands on both sides are characteristically enlarged.

The indurated bubo, furthermore, is very persistent; dating its commencement from the period at which the induration of the sore is first observed, it remains well defined for months, nay, frequently for years after the sore has healed. Such a constant, well-marked, persistent accompaniment of the indurated chancre is of the very greatest importance in the diagnosis of venereal diseases. It serves infallibly to indicate the true character of a sore; it serves with un-failing certainty to indicate the source of a syphilitic eruption when all trace of the sore has disappeared; and by means of it you may detect the existence of a chancre occupying an unusual locality; in fact, the "indurated multiple glandular pleiad," with its "*index*" gland, may be invoked as a witness with the greatest certainty, and depended on far more implicitly than any statements made by a patient; and although the exact site of the chancre which produced it may remain a mystery, which you either do not choose or fail in the circumstances to explicate, you may safely act upon the indication which its existence affords in forming a prognosis of the likely progress of the case, and employ a course of treatment appropriate to the indurated chancre and its consequences.

To the prognosis and treatment of the indurated chancre we would now direct the reader's attention. The soft chancre, we saw, was a local affection, bounded in its influence by the first lymphatic gland in the neighbouring chain. In the indurated chancre the ulcer is comparatively a trifle; the real disease is the infection of the constitution, the syphilitic diathesis, which it has served to introduce. We saw that Ambrose Paré regarded the induration of the chancre as an indication of the inevitable syphilitic infection; but modern investigation tends to prove that the induration of the sore, as well as the induration of the bubo, is not merely the first step towards the infection of the system, but is in reality the reaction upon the part of the effect which has already been produced in the system. The indurated chancre is, therefore, rightly enough called primary syphilis, for it is the first outward manifestation of that constitutional infection which is fully developed in the induration, but when manifested in cutaneous eruptions constitutes the confirmed pox, as our forefathers would have called it—the constitutional syphilis of our own days.

This constitutional disease, so commencing, is most regular in its further development. At its outset, a very obvious condition of

chloro-anæmia manifests itself, accompanied by a sense of lassitude, with neuralgic or rheumatic pains, cervical glandular enlargement, falling out of the hair, and certain eruptive manifestations, observable both upon the cutaneous and upon accessible mucous surface, and in the involvement of certain fibrous tissues.

These are the symptoms popularly called *secondaries*; and although only affecting the surface of the body, manifestly indicate the empoisonment of the whole system. Such symptoms are *certain* to make their appearance within the first six months after the occurrence of an infecting chancre; and no treatment can prevent this evolution, though it may delay or confuse their regularity, and modify their severity. At a somewhat later period, symptoms commonly called *tertiary* make their appearance. They occur in the deeper seated tissues of the body, such as the cellular tissue, the bones, joints, and in the textures of organs. These symptoms rarely occur within the first six months; but, on the other hand, they continue to evolve and repeat themselves for an almost unlimited period. They are of a very much more serious nature, both as regards the part and system at large, than those we have just specified as secondary, and are so completely distinct as almost to constitute, as Hunter says, a different disease.

The primary disease, the indurated chancre, is the only stage of syphilis which has been proved to be certainly contagious. Some have asseverated and adduced reputed facts in proof of the communicability of some of the forms of secondary eruption; and some have even gone so far as to assert that the blood of syphilitic patients, when brought into intimate contact with the textures of the body, through the medium of a wound, abrasion, or ulcerated surface, is capable of inducing secondary constitutional affections. To avoid the risk of fallacy in investigations connected with this subject is almost impossible; for as syphilitic inoculations are devoid of results in persons already suffering from syphilis, the majority of facts which have been collected are derived from so-called physiological inoculations with the secretions or blood of individuals supposed to be suffering from secondary symptoms alone. Results, however, deduced from such facts cannot be regarded as unexceptionable; for, very possibly, the existence of an indurated sore, or some source of contamination other than the presumed one, but which has been overlooked, may have interfered to vitiate their certainty. It may be observed in those cases, again, where absolutely positive results have been believed to be attained after certain very *quis quis* attempts to induce inoculation with the secretions of supposed secondary affections introduced into the tissues of "virgin subjects," that there is a very great vagueness in the descriptions given of the different stages of the process by which the material for inoculation had been obtained, of the mode in which it had been employed, and of its immediate effects produced upon the part where it had been introduced; and as we find, besides, that these

asserted facts are flatly contradicted by other similar experimental researches made upon their own persons by medical men of known integrity.¹ We are compelled, at the present stage of the question, to recur to the doctrine of Ricord, that we have as yet no evidence that secondary or tertiary syphilis has ever proved inoculable, or given rise to the development of secondary or tertiary symptoms.

The secondary form of the disease is, however, communicable from parent to child, and from the male parent to the female, through the medium of the fetus. Such hereditary transmission is by no means, however, constant or inevitable, and becomes less and less likely as the diathesis becomes older. The tertiary symptoms, again, are not apparently communicable as such, even by hereditary transmission. It seems, however, very probable that, in some cases, children of a very scrofulous habit of body, owe this in no small degree to the fact, that one or other parent, or both, have been subjects of the syphilitic diathesis.

While the diathesis becomes, as it were, exhausted in its external manifestations, there is no well-authenticated example of its complete extinction. This permanence of the diathesis is evinced by the non-inoculability of the indurated chancre in persons who have once suffered from syphilis. In them the virus usually produces no effect whatever, or, at most, produces a chancre in which the characteristic induration is wholly wanting.

From the occasional production of sores, with all the characters of apparently simple soft chancres, by the fresh inoculation in a syphilitic patient of the virus of the indurated chancre, some have supposed that the syphilitic virus, by this mode of transmission, gradually loses its specific qualities, becoming exhausted as it were, and thus, after repeated transmission, no longer capable of infecting the economy, but producing merely a local disease. Some have accordingly attributed the soft chancre to this source, considering it as a mere variety of the infecting chancre; and, from analogy, attempted to explain the very modified symptoms of the syphilis of the present day, as compared with the disease as described by authors of the fifteenth century. Indeed, this supposed exhaustion of the potency of the syphilitic virus has been employed as an argument in support of the practice of artificial syphilitic inoculation, as a means of exterminating the syphilitic virus generally; and it has actually been proposed that, as we vaccinate children to save them from variola, we should also *syphilize* every infant that comes into the world, in order to modify the type of syphilis—in other words, that the whole world should be poxed, that the pox may be arrested. Even admitting, for the sake of argument, that the practical development of this proposal could afford any advantage (to the immediately succeeding generation, it most certainly could only do an incalculable amount of mischief), the whole theo-

¹ e.g., Cullerier, Fournier, Sarroha, Rattier, and Lindmann.

retical superstructure is founded upon two false assumptions:—1st, that the soft chancre is essentially the same with the indurated, being merely a modification of it; and, 2d, that the indurated chancre is absolutely incapable of effecting an inoculation in (a) a patient who has already been "saturated" with the virus of the soft chancre, or, according to others, (b) who has already been the subject of a true syphilitic infection.

The first statement, and the first part of the second, our readers must already recognise as untenable; and as to the second part of the second statement, although so far true, it is not definitively so. For while it is indubitable that the indurated chancre cannot appear as such in an individual who has once suffered from syphilis, and that if any result whatever is obtained, in him it is only a chancre with a soft base, it is equally certain, that the pus from such a chancre inoculated in an individual who has never previously suffered from syphilis, again reproduces the chancre with the indurated base, with its characteristic bubo, and with its constitutional symptoms. The chancre, then, with a soft base, which occurs in a syphilitic patient, may be either essentially a soft non-infecting chancre, derived from a similar source, and transmissible as such, or it may be the temporary nidus of the virus of the infecting chancre, derived from such, and transmitted as such,—only remarkable in this, that it wants its specific characteristics; and these characteristics, viz., induration of the base, and the indurated multiple bubo, are only absent, because, as we have seen, they constitute a part of the syphilitic diathesis, and, unless a diathesis becomes extinguished, its symptoms cannot be reproduced in the same individual.

In treating the indurated chancre, then, it is a diathesis, not a mere local disease, with which we have to deal. The local disease is comparatively a trivial, painless, limited affair, and will get well almost of its own accord, if only we attend to the infected state of the constitution. In the soft chancre, we said that the whole disease might be destroyed by the efficient cauterization of the sore, and some have supposed that by a sufficiently early destruction of an indurated chancre, the irradiation of the poison throughout the economy and the establishment of the diathesis may be prevented. When the specific induration and the pathognomonic bubo have appeared, as they are symptomatic of the constitutional intoxication, it is, of course, too late to employ ectrotic measures—the period is past when we can "punch out the primary," when we can "nip the syphilis in the bud," as Ricord has expressed it. But before this infection has occurred, in that uncertain period which intervenes between the appearance of the sore and the first evidence of its having produced constitutional effects, it may reasonably be asked, Is there no period in which the employment of cauterization will destroy the focus from which it is about to irradiate its baneful influence? Ricord has replied in the affirmative; and, from his extended experience, has taught for many years, that infection has

never been known to follow upon chancres which have been effectually cauterized within the first four days from their appearance. Professor Sigmund of Vienna, although he similarly limits the period of certainty in the destruction of the chancre, and with it all further effects, to the fourth day, believes that the fifth day is not too late to prevent absorption, and even practises ectrosis much later. It must of course be remarked, that during this period, as every pathognomonic symptom is absent, the sore, to all appearance, is a mere soft chancre; and this fact merely renders the general rule, already laid down, of efficiently destroying every soft chancre, only more obligatory than it seemed before. At the same time, more recent experience tends to throw doubt upon the absolute certainty of the results obtained from protective cauterization, even when practised at the earliest possible period. Dr A. Dron,¹—pointing to the analogies of the virus of vaccinia of glanders and farcy, and comparing them with the experiences of M. Diday and M. Langlebert in the ineffective destruction of infecting chancres, before either induration of the sore or specific adenopathy had appeared, although practised within hours, instead of days, from the appearance of the sores,—has concluded, that as soon as the chancre has made its appearance, abortive measures are too late; and that the constitutional infection will inevitably occur. Still, for other reasons, he thinks the rule imperative, and recommends the use of caustic at this stage:—1st, Because we are as yet uncertain whether the chancre will prove indurated (i.e., infecting), or soft and non-infecting; and, therefore, lest it should prove to be the latter, cauterization is to be employed. 2d, Although it cannot prevent the patient from suffering from syphilis, by its employment we can prevent the transmission of the disease to another individual.

Should the patient, however, object to the use of caustics (as he very naturally may, when we can promise him by their use no certain immunity from the constitutional disease which he dreads above everything), then any simple dressing of a slightly astringent and stimulating kind will suffice in most cases to provide for the speedy cicatrization of the sore. Should it again prove tedious from the amount of induration deposit, either blistering or the occasional application of the nitrate of silver will usually effect its healing. At times, however, such sores, when of large size, resist all local treatment; but as soon as the system is brought under the influence of constitutional remedies, the tawny varnished surface becomes covered with healthy granulations, the thick white ring of induration smooths down to the same level with the surface of the sore, and contraction of the cicatricial pellicle rapidly ensues.

But our attention must not be limited to the sore alone. We have a diathesis to treat. Its evolution is impending. Our object

¹ In his paper upon the "Destruction of Chancres," in the *Annuaire de la Syphilis*, etc.

should be to ward it off—to mitigate, if we cannot altogether prevent, its development. Are there any means, then, at our disposal by which we can fulfil such indications? The older writers upon venereal diseases had no difficulty in replying at once affirmatively to this all-important question. They believed in a universal venereal virus, and mercury was its constant antidote. Had a patient a sore? Mercury was the agent by which it could be healed! Were constitutional symptoms apprehended? Mercury was a sure preventive! Did they, nevertheless, appear? Mercury sufficient had not been given! more mercury still must be administered! Had a patient the venereal? Well, run him up with mercury from morning to night, till his face blanched, and his tongue was swollen, and his teeth were loose, and the saliva ran in pints from his slaving lips. Such was the reign of mercury! Mercury triumphant! Mercury and the mercurialists run mad! Those were the days when there were lodging-houses kept for the use of young gentlemen who required to go through a course of mercury, as it was called; for it was seldom that a young man could remain with his friends, and undergo the severe discipline to which the surgeons of those days thought it necessary to subject him. But while mercury was deemed essential in all cases of so-called syphilis in this and other countries in Europe, sudorific decoctions and diet drinks were found in warmer and more genial climates to obtain quite as great a success as the mercurial treatment in the supposed prevention and cure of the constitutional symptoms. Such success very naturally led to the adoption of a similar plan of treatment by professional men in Europe; and, so far as the supposed prevention of the constitutional symptoms was concerned, it was found that pretty nearly the same results attended the use of "the decoction of the woods" as was obtained by the employment of mercury; while, under the non-mercurial treatment, phagedenic ulceration, caries, and necrosis were very much less common accompaniments of the advanced stages of the disease. Since that period, however, various waves of fashion in the treatment of venereal diseases have passed over the face of the world; and while one remedy and then another has gained a great reputation, it is a remarkable fact that there are few men of practical experience, whatever their theoretical leanings, who will not admit that there are many cases of syphilis which resist all non-mercurial treatment.

In considering the advantages of a mercurial or non-mercurial treatment, one great source of fallacy will be removed, if the doctrines of the essentially local character of some sores, and the inevitable constitutional irradiation of the poison producing others, is admitted. It will then be obvious that all comparative estimates of the number of cases of chancres in which constitutional symptoms made their appearance, with and without the employment of mercury, are simply coincidences, and must have been due, not to the treatment, but to the original essential characters of the sores. The

dogmatic statement of the non-mercurialists, that "all kinds of sores, or primary symptoms of syphilis, may be cured without mercury," although readily assented to, so far as the sore itself is concerned, in the case of most indurated chancres, and admitted as perfectly correct in those sores which are soft chancres, must be carefully understood to have no reference to the constitutional disease, which is the inevitable accompaniment of the indurated form of sore. But when they advance a step further, and tell us, "there are good grounds for believing that, in the majority of cases, where secondary symptoms have occurred, when the primary symptoms have been treated with mercury, that the secondary symptoms have been more severe and more intractable than where mercury had not been used for the primary sore," we demur to the accuracy of this deduction, and, admitting their facts to be correct, attribute these results to one of two things: 1st, the poisonous extent to which the remedy must have been given; and 2d, to their having, in their own practice, restricted the employment of mercurials to the very worst cases of indurated sore, which, as they were obstinate in their commencement, might be expected to prove equally serious in their further manifestation.

While, then, we readily admit that the indiscriminate administration of mercury in every case of chancre which comes under our notice, and more especially if carried to the well-nigh poisonous extent of profuse and continued salivation, can only be injurious, and give to any comparative estimate a great preponderance in favour of the non-mercurial treatment, we do claim for the judicious and careful administration of mercurials in the treatment of the syphilitic diathesis results which, in cold climates at all events, cannot be attained by any other mode of treatment. We do not claim for mercury any specific influence by means of which it follows out the syphilitic virus, and neutralizes it; nor do we maintain that, in order completely to extinguish the diathesis, it only requires that a certain indefinite quantity of mercury must be given. We merely claim for mercury an eliminative power, by means of which a rapid metamorphosis of tissue is effected, and the symptoms of syphilis are hurried through their regular evolution by the elimination of those modifications of tissue which the introduction of the syphilitic virus has produced. So long, then, as any modified tissue, constituting a nucleus or centre of infection, exists unmodified or uneliminated by the restoration of the tissue to its original typical condition, a fresh outbreak of the constitutional manifestation may occur. So long, therefore, as we are unable to judge of the extent or degree of modification of tissue produced by the syphilitic virus, it must of course remain problematical how much of the eliminating material should be administered. In estimating practically the period during which mercury should be given, Ricord recommends that mercurials in daily doses should be taken for six months. Dupuytren, again, gave mercury so long as any secondary constitutional symptoms appeared,

and then continued its use for as long a period thereafter. Some practitioners recommend its continuance for a few weeks, some for a few days only, after *every* symptom of the disease has disappeared. This, however, is a very doubtful period; for it depends entirely upon what is meant by *every* symptom;—some intending by that term merely to indicate the cutaneous manifestations and the induration of the cicatrix of the original sore; others, again, more reasonably including the indurated adenopathy as constituting a part of the disease.

However much doubt may exist as to the length of time mercurials should be given, there is at the present day but one opinion as to the effect which the drug should be permitted to produce when given. Whenever the gentlest possible physiological effect of the mercurial has occurred, then the full therapeutic effect has been attained, and anything further must prove injurious. Whenever the gums become tender, our eliminative ultimatum has been reached; and all we can hope to attain by the employment of the remedy will be gained by keeping up this condition for such a period of time as it seems to act, by improving the general health of the patient. Should the mercurial treatment tend to affect the mouth too readily, or actually to induce salivation before we can check its administration, the chlorate of potash, given internally, will be found admirably suited to check its poisonous and irritative effects. And this fact is now so generally admitted, that, by many surgeons, mercurials are never administered with the view of affecting the system at large, without at the same time giving the chlorate of potash to act as a corrigent, and so to prevent salivation, which it is generally recognised as well suited to cure.

It is with some persons a disputed point, at what period in the progress of the syphilitic infection the use of mercury should be commenced. Some, such as Ricord and most English practitioners, give it at the very outset,—so soon, in fact, as the characters of the indurated infecting chancre have appeared; while others reserve its employment against the first manifestation of a cutaneous eruption, or even restrict its use to the period of the squamous efflorescence of lepra and psoriasis. If any doubt exists in the diagnosis of the true character of the sore, by all means defer all specific treatment. If the disease turn out to be a soft chancre, the use of mercury might have been quite injurious,—at all events it is unnecessary; and by giving it, you prevent anything like absolute certainty as to the true nature of the sore and its consequences; for the undoubted effect of the remedy is to disturb, and even to prevent the natural evolution of the external manifestation of the diathesis. But where the case is an indubitable one of an indurated chancre, then the mercurial treatment should be commenced without any delay, with the view of preventing the outward manifestations of the diathesis. Some have feared that all such treatment, calculated as we see it is to arrest the external evolution of the diathesis, may, like

the wolf shut up in the sheepfold, do untold mischief, while there is a semblance of outward security. Such speculations, however, have no foundation in anything but the superstition of a vague and antiquated humoral pathology.

Some practitioners and patients, however, have a dread of the use of mercury in the treatment of syphilis which might be said almost to amount to a monomania. In some cases, this is traceable to the prejudices of early education and limited practical experience; in others, to popular prejudice, or a melancholy personal experience of mercurial poisoning on some previous occasion. In such instances, although we believe that mercury, properly administered, is the most safe and certain method of arresting the manifestation of syphilis and preventing its hereditary transmission, we have no hesitation, where prejudice exists, in complying with the wishes of the patient, and giving what we believe to be not so good, but still undoubtedly useful, in effecting the expulsion of the disease from the economy,—such as the hydriodate of potash or soda, guaiacum, mezercon, sarsaparilla, diuretics and sudorifics, accompanied with warm bathing, the vapour bath, a regulated diet, moderate exercise, and the avoidance of exposure, or of any cause likely to determine a fresh accession of constitutional symptoms. There are cases, too, where in any circumstances a tonic treatment is quite essential; as, for example, in those rare cases where the indurated sore is phagedenic, when tartarized iron will be found invaluable; or, again, when the symptoms of chloro-anæmia are accompanied with great lassitude and debility, then, besides the iron, quinine and stimulants must be employed. In very scrofulous cases, too, where mercurials will generally be found to be badly borne; then iodide of iron and arsenic, zinc, and cod-liver oil should be rather confided in. We must remember, too, as the disease gets older in the system, mercury becomes less useful than at first, and that the therapeutic effects of mercury are most markedly apparent in the early secondary symptoms; when these merge into the tertiary stage of the disease, then mercury either produces no effect whatever, or, if it is pushed, becomes an undoubted source of incalculable injury, hurrying on the destruction of the structurally altered textures by inducing suppuration, ulceration, and sloughing. It is in this, the tertiary stage of syphilis, that iodine in the form of hydriodate of potash comes to our help, and acts like magic both in improving the general health and in restoring the diseased tissues to their normal condition. Various vegetable tonics may render this more agreeable in its administration, and less irritating in large doses (which should always be employed); but there is nothing so specifically advantageous in the selection of sarsaparilla as to make it stand so high, as it undoubtedly does, in popular esteem. In its combination with iron, iodine will be found better borne in children, and more rapid in its good effects in anæmic adults. At one time fears were prevalent that the continued employment of iodine would give

rise to serious results, such as poisonous iodism and atrophy of the testicles. Iodism certainly is readily induced in many cases where there is no tertiary syphilitic taint; but in tertiary syphilis, iodine is well borne both by the stomach and the system in very large doses without producing discomfort or doing any injury. The supposed effect of iodine in producing atrophy of the testicles, is founded upon the fact, that in cases of syphilitic sarcocele of long standing, when the diseased condition is removed under the use of iodine, the organ is frequently found to become completely atrophied, and, on dissection, little of the tubular structure remains. But this atrophic state is due not to the iodine, but to the pressure of the tertiary syphilitic tubercular deposit. Of course, therefore, when the deposit is absorbed, the condition of atrophy, which had been previously disguised, is revealed.

The local treatment of tertiary syphilis consists, generally, in the use of blisters; in the application of stimulating lotions and applications to open surfaces, and occasionally, where sloughing cellular-tissue sores resist these other means of stimulation, in the application of potassa fusa, to destroy the enfeebled textures involved in the syphilitic tubercular deposit. Such, then, is a very meagre and brief sketch of the most approved principles upon which the treatment of syphilis should be conducted. One word further remains to be said with reference to a novel method, which has been much spoken of as a means of effecting the elimination of the syphilitic diathesis. We allude to curative syphilization. This method of treatment has, so far as we can see, no theoretical basis upon which it can stand; it has only the results of alleged success in its favour. This so-called remedy consists in the inoculation of chancres every third day upon the sides of the patient's trunk, until no further inoculation can be effected. Fresh virus is then obtained, and the inoculations proceeded with. When the sides become proof against any further inoculation, then the skin of the thighs is subjected to the same process, until they too, in turn, become proof against the influences of the virus. The patient is then supposed to be completely syphilized. (?) And it is said that the induration of the original chancre disappears during this process, buboes are beneficially affected, secondary eruptions and iritis are cured, and that even tertiary affections, such as periostitis and necrosis, get well under its magic influence. This so-called cure has been obtained by a period of continuous inoculation, extending, in Dr Sperino's published experience, over a period varying in different cases from one to seventeen months; and the majority of cases so cured were under treatment for the longest period. Under any circumstances, such a nasty, filthy mode of alleged cure is not likely to find much favour in this country. But, looking at it speculatively, it becomes at once obvious that this term of syphilization is a palpable misnomer, as it is no syphilization at all. That, from what we have seen, the patient acquired when he contracted

the indurated chancre; and having once become the subject of the syphilitic diathesis, he has acquired an immunity against all further repetition of the diathesis. If the matter of an indurated chancre is inoculated upon him, it usually produces no effect whatever; or, if it does, the sore is a mere soft-based sore, which produces no effects whatever, but cicatrizes rapidly. If, then, Dr Sperino, M. Auzias Turenne, and Professor Boeck are correct in their statements, that this inoculation is so easily practised, it must be with the matter of soft, non-infecting chancres that they have inoculated their patients: they have *chancrezied* their patients, if they please, but not *syphilized* them! And such, in fact, seems to be the case; for the examples of inoculation given by Professor Boeck of Christiania are obviously produced by the virus of the simple, soft chancre, and not by the indurated, which, as we have seen, is the only possible source of syphilis. These so-called cures, then, of this all-prevalent diathesis are, after all, effected in reality by a mere local irritation, attended by a long-continued suppuration spread over some extent of surface; and an interesting fact, which bears out the truth of this explanation, is, that Professor Faye, also of Christiania, finds that repeated inoculations with tartarized antimony, or the introduction of a seton,—and others, that repeated blisters, produce equally good results, and in as short a space of time, as the so-called process of syphilization.

Such being the case, we must resort again to what we have already said, that there is no specific treatment which is calculated to *cure* syphilis. Various methods may serve to effect its elimination; and in our choice of these, we must be regulated by the constitution and circumstances of the patient, the stage of the disease, and the generally admitted fact, that ever since its commencement, mercurials have been found, when properly employed, to effect this elimination more speedily and more persistently than any other plan of treatment which for a time has obtained a great reputation.

REQUISITIONS
OF THE
NAVAL MEDICAL OFFICERS,

BASED ON THE PRINCIPLE OF EQUALITY
WITH THE ARMY.

BY
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"It often falls in course of common life,
That right longtime is overcome of wrong."—*Spenser*.

SECOND EDITION.

Third Thousand.

LONDON:
PRINTED BY J. E. ADLARD, BARTHOLOMEW CLOSE.

1865.

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OPINIONS OF THE PRESS.

"This pamphlet is a very valuable one, and has evidently been written with great care." "The subject is of great importance."

"United, the so-called civil branch of the service is a power; divided, its strength is frittered away."

"We think it greatly to be regretted that the different classes of the so-called civil branch weakens their cause by not contending on the broad principles in which the classes unite."—*United Service Gazette*, June 10th, 1865.

"The evil is a crying one, and must be dealt with, unless their Lordships are content to commit once more the charge of the health of our seamen and marines to people of the type which was supposed to have disappeared from the navy even before the conclusion of our great war with France."

"We must look further for the causes which have been at work to bring about so unhealthily a state of matters, and we despair of seeing any wholesome change until either the First Lord or Parliament consent to deal with the evil."—*Army and Navy Gazette*, June 17th, 1865.

"The time has certainly arrived when, if the Admiralty are unconcerned at the dearth of medical officers, some superior authority in the State may justly, for the good of the public service, enter on the inquiry into the causes of this paralyzing discontent."—*Lancet*, June 10th, 1865.

"We feel that our naval brethren may safely rest their claims for redress on the statement thus advanced."—*Medical Times and Gazette*, June 24th, 1865.

"We sincerely recommend Dr. Brown's admirable and forcible exposition to the consideration of the profession."—*British Medical Journal*, June 24th, 1865.

PREFACE
TO THE SECOND EDITION.

IN submitting a second edition to the public, I think it well to state that the pamphlet has met with the cordial approbation of the medical profession.

The authorities of the Universities and Colleges are in accord with the humblest member of the profession on the question that I strenuously advocate; and the naval surgeons, supported by their army brethren, feel grateful for the sympathy evinced towards them.

The opinions of the press now quoted show that the public are not unconcerned spectators of the struggle of right against wrong, by which longtime it has been "overborne."

Encouraged to persevere in the course that I have entered upon, I proceed to notice certain statements that have been made in Parliament touching the subject-matter of this pamphlet.

The Secretary to the Admiralty asserts that scarcity of assistant-surgeons is the normal condition of the Royal Navy, and that surgeons of junior standing are purposely employed in the place of assistant-surgeons that they (the surgeons) may be prevented from leaving the service.*

* See the 'Times' for the 24th June, reporting the speech of the Secretary in the House of Commons on the 23rd.
NAVY SURGEONS.—Sir J. Pakington (for Colonel Dunne) asked the

Doubtless the Honourable Secretary is in some degree correct in this statement; but since there are several mis-statements in his speech, I purpose to examine the same *seriatim*, responding to the statements collaterally.

The Secretary's Statements.

"The Admiralty certainly is not in great want of assistant-surgeons."

"There is always more or less difficulty in keeping the places of assistant-surgeons filled, there being so much employment for them elsewhere."

"The Admiralty did not think it necessary to take any steps for giving additional facilities for assistant-surgeons entering the service."

Replies.

I believe that I can show facts contrariwise.

This is a statement showing that the naval service is not popular among the juniors of the medical profession seeking employment.

Since it is rumoured that assistant-surgeons have been admitted recently, without being tested by the ordinary Naval Board of three examiners, apprehension is felt that the Admiralty do contemplate reducing the stringency of the present pass-examination, mild as it now is compared with the competitive examination of the army. It is scarcely possible that the Admiralty can return to that ancient order of matters when students without diplomas were admitted into the service.

I blush to own that so late as May, 1859, the diploma of one of the Royal Colleges of Surgeons was a superfluous rather than a necessary document. It is true that candidates were examined specially for the position of assistant-surgeon, both at one of the

Secretary to the Admiralty the reason why surgeons in the Royal Navy had been recently appointed to do assistant-surgeons' duty, and if it be owing to a scarcity of the latter officers, or that there are no candidates on the list for admission into the medical service of the navy; and if the Admiralty had taken any steps to remove so great an evil.

Lord C. Paget said several young surgeons had been lately appointed on promotion, particularly on foreign stations, in order to retain their services on board ship, and with the view of keeping young surgeons well employed, as there was always more or less difficulty in keeping the places of assistant-surgeons filled, there being so much employment for them elsewhere. The Admiralty were certainly not in a great want of assistant-surgeons, but the young surgeons were employed to do surgeons' duty with the view of keeping them from going into private practice. The Admiralty did not think it necessary to take any steps for giving additional facilities for assistant-surgeons entering the service.

The Secretary's Statements.

Replies.

Colleges of Surgeons and at the Navy Board, still the fact is just that stated by me, they had no diplomas of fitness to practice. Unless closely watched, the Admiralty might rather lower the qualifications of candidates than raise the inducements for young surgeons to enter the public service.

This is class feeling operating against the best interests of the seamen of Her Majesty's Fleet.

This statement is inaccurate. The young surgeons (as they are termed by the Secretary, although they are gentlemen of middle age and promoted by seniority after many years of service) have been appointed in lieu of assistant-surgeons; and whilst thirteen have been in such manner appointed at Home Ports and on the Home Station, only two have been retained on foreign stations,* where they were serving previously to promotion.

These appointments please no one.

The "young surgeons" like not to take service under other surgeons, and the assistant-surgeons find themselves kept out of Home appointments to which they naturally look as a relief to foreign service. Nothing will cause more dissatisfaction amongst the assistant-surgeons than this measure, fraught, as it is, with mischief.

This statement is inaccurate. Surgeons are employed to perform assistant-surgeons' duty under surgeons senior to themselves, and not to do surgeons' duty. This measure will speedily disgust surgeons of talent and ambition that trust that they have become full-fledged on promotion but find themselves again employed in a subaltern professional position.

No act of the Admiralty is more likely to drive "young surgeons" out of the service into private practice than this.

Let it be remembered that the

"The young surgeons were employed to do surgeons' duty with the view of keeping them from going into private practice."

* See 'Army and Navy Gazette,' July 8th, 1855.

*The Secretary's Statements.**Replies.*

shifts resorted to by the Admiralty to prevent surgeons from leaving the sea service of Her Majesty are practised during a state of profound peace.

What degradation of the naval medical service might we not expect to see during war, should such a course be persisted in?

In bringing my remarks on this subject to a conclusion, I would ask the question, Does public opinion concede to Government officials the right to employ special pleading in their writings and speeches in the service of the State? I am aware that the law of man (not the law of God) permits lawyers to use special pleading, but in all other instances I have always considered yea to be truly yea, and nay, nay.

"It is not in the power
Of painting or of sculpture to express
Aught so divine as the fair form of truth!"

However, the noble Secretary is master of the art of finesse, and (as is always the case) has become entangled in the net that he has spread for others.

I advise him to betake himself to plain dealing in word and deed, and to earn the gratitude of the naval surgeons by the remedying, so far as may lie in his power, those grievances that are patent to everyone. Such a course of conduct would number him with Nelson, Melville, and Pakington, as benefactors of the service. It would also put him in accord with certain living admirals that know, *in propria persona*, the worth of capable surgeons, and that sympathise with them in their struggle for equitable treatment.

There is another subject that I desire to bring before the public, namely, the institution of one Examining Board for the army, navy, and East India

service, as recommended by the Royal Commission of 1858.

The disdainful neglect of whole classes of officers by the Admiralty is evidenced by recent measures such as the Greenwich Hospital Act, in which naval instructors, engineers, and medical officers, are omitted from beneficial interest. Similarly, in a recent Circular, giving officers that qualify themselves for the office of interpreter, additional pay of eighteen-pence per diem—*there is the omission of medical officers*. It is time for the ancillary professions to demand equality with the military profession in every particular *save command*.

With the exception of emoluments—a question equally affecting the army and navy—there is nothing in this pamphlet that diverges from the principle of *equality with the army* upon which it is based.

FREDERICK JAMES BROWN.

ROCHESTER: July 20th, 1865.

PREFACE

TO THE FIRST EDITION.

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, the occupant of this office 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.

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 landsmen serving on board ship. It is only when united with arrogance of behaviour that such feeling is deserving of reprobation.

In early English History a Royal Fleet, according to our modern notions, did not exist.

On every emergency merchant ships were hired for the occasion, together with their officers and crews. Soldiers and military officers were placed on board by the king to engage the enemy, whilst the navigation and ship-manceuvring were executed by the merchant officers and mariners.

The admirals and captains of that day were generals and colonels of the land forces.

All authority was vested then in the military or fighting officers; all the honour of the victory was bestowed upon them; all the glory (so-called) of war belonged to them.

But there came a day when true sea-water admirals arose, when Narborough, Shovel, and Benbow distinguished themselves by their nautical knowledge and daring, and by their address in the command of fleets in battle.

Then it was that relative naval rank was instituted, for land officers were slow to recognise the position of nautical men, chiefly because amongst the early "pure admirals" there were many of humble origin;—men

that reached the quarter-deck by entering at the hawse-holes (as sailors say).

The Naval Reserve, now in course of organisation, testifies to the fact that Britain still reposes her trust (humanly speaking) in the nautical skill and patriotism of the mercantile marine under emergencies, as in the days of Elizabeth.

At the present period there is a growing desire not only to resume the titles of officers of the land service in lieu of those of naval origin (excepting only the titles of admiral and commodore), but there is the disposition to treat the members of the ancillary professions as the merchant officers were treated in days long past.*

Viscount Melville, First Lord of the Admiralty in 1805, impressed by the opinions of Lord Nelson, as to the claims of Naval Medical Officers, and the injustice to the service in not encouraging the best surgeons to enter the navy, obtained the Royal authority to rectify that state of things (based on the causes referred to), which debarred from the service medical practitioners of due education.

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

* Lest there should be any misunderstanding, the writer begs to state that he does not object to the use of land titles for nautical officers, but he does object to the disposition to ignore the claims of the ancillary professions of navigation, engineering, finance, theology, tuition, and medicine, to equality of status, of pay, of allowances, and of privileges with the military branch. The military and the ancillary professions should differ solely in the matter of command.

† I have since been told that surgeons were always treated as gentlemen, when prisoners of war, by virtue of their profession.

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 service, unlike that of the army. The Army Warrant of October 1st, 1858, 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 instruc-

tions 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 emoluments and 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 as 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 command 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 to-

gether, 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.

ONE BOARD OF EXAMINERS.

It has been suggested to the writer that the most certain mode of equalising the services would be the institution of One Portal for the admission of medical gentlemen to the war-service of the country.

Since this proposition has been seven years before the public, it cannot be regarded as novel; and since it emanates from a Royal Commission, it can scarcely be considered revolutionary.*

In the Report of the Sanitary Commission of the Army presented to the House of Commons by command of Her Majesty on 9th February, 1858, page 79, the following recommendation occurs:—"And we think it desirable that, if possible, one and the same Board should conduct the examination for the medical service of the East India Company, the navy, and the army."

Should this recommendation meet with the approbation of the authorities of the three services, it would go far to bring about an equalisation that would prove to be eminently satisfactory.

Further, the service-education of inceptive assistant-surgeons of the three services might be advantageously carried out in common at one institution. Thus the war-service of the country would be equalised as

* See 'Report of the Commissioners appointed to inquire into the Regulations affecting the Sanitary condition of the Army, the Organisation of Military Hospitals, and the Treatment of the Sick and Wounded; with Evidence and Appendix, presented to both Houses of Parliament by command of Her Majesty.'

regards the pupillary condition of the profession of Medicine, and complete parallelism between the services in every grade of rank would follow as a matter of certainty.

If service-education *in common* should be deemed unadvisable, each service must organise an educational establishment for itself, and Haslar or Greenwich might constitute the naval medical school, when endowed with suitable provision for instruction after the model of the Army Medical School at Netley.

SECTION III.

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. 65].

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. 65].

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.

By the Proclamation of December 29th, 1853, and by the Proclamation of 29th June, 1865,* 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.

* The Proclamation of 1865 (an occurrence of yesterday) shows that the Admiralty are resolved to persevere in a course of treatment towards the medical officers that renews their grievance on this head. The only difference between the Proclamations of 1853 and of 1865 is the location of staff surgeons in the third class, by which regulation this medical officer, although holding the rank of lieutenant-colonel (junior of the rank), receives the prize-money due to captains and majors in the army.

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. 66].

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 was recently 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. Lately the C.B. has been conferred upon the Director-General.

The 'Army List' shows two K.C.B.'s and fourteen 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.

In the first edition the disparity between the two services as regards honorary distinctions was only lightly touched upon. Since that publication there has been a marked display by the authorities, of the derogatory view entertained by them of the position of the medical officers of the navy, in the circumstance that whilst five army medical officers have been decorated with the Order of the Bath only one medical officer of the navy has received that distinction. Two of the army officers were made K.C.B., and three C.B.; and amongst the latter were one surgeon-major and one regimental surgeon. The solitary naval medical officer was the Director-General, upon whom was conferred the *third* class of the Order, that to which regimental surgeons are freely admitted.

Such an invidious distinction needs no comment, but it is time that the cause of the evil should be laid bare and brought before the entire profession that

they may understand the true *status* of their naval brethren.

In the appendix there will be found a reprint of two Ordinances in the Statutes of the Order of the Bath, showing that whilst, in the army, regimental surgeons and staff surgeons, and in Her Majesty's Indian Military and Naval Forces, the senior surgeons, are admissible to the second class of the Order of the Bath, viz., that of K.C.B., as well as to the third class or that of C.B.; in the Royal Navy, the lowest grade of medical officer that can be decorated with the Order in its *third class*, is that of Deputy Inspector-General.

It would be an injustice to the memory of that Prince whose sign-manual is affixed to the Statutes, to conceive that he was aware of the derogatory disparity between the services, particularly as he placed confidence in the professional skill and social qualities of those medical officers of the Royal Navy that had access to his presence.

Prince Albert was remarkable for his appreciation of scientific men, and he delighted in encouraging and rewarding those that laboured to benefit their fellow men.

It is certain that he must have overlooked rather than have disregarded the equal rights of army and navy surgeons.

A collation of facts and dates will place the entire matter in a clear light, completely exonerating His lamented Royal Highness.

1st October, 1858, date of army Warrant, giving regimental surgeons the rank of major.

31st January, 1859, date of Statutes admitting regimental surgeons fully to the honours and distinctions of the second and third classes of the Order of the Bath, by virtue of their newly acquired rank of major.

30th May, 1859, date of Admiralty Warrant giving to naval surgeons equality of rank with their brethren in the army.

No further edition of the Statutes has taken place, although such was necessary to the rectification of the position of the medical officers of the navy.

The authorities of the army acted with promptitude in obtaining an issue of the Statutes containing Ordinances suitable to the altered circumstances of the medical officers, thus showing (in this particular) *bona fides* in the treatment of their surgeons.

The authorities of the navy neglected to take action under similar circumstances, and thus showed *mala fides* to their surgeons.

The inference is fair, either that the Board of Admiralty are insensible to the indignity offered to the Royal Navy in this disparagement of the medical department, or that *class feeling* has caused them to view with satisfaction this depressing disability of the medical profession serving under their authority.

After such continued ill-treatment and insult, can the public wonder that the Admiralty find it to be a difficult task to fill up the ranks of the naval medical department? Medical gentlemen possessed of fine feeling shrink from entering a service in which they meet with nought but disparagement and insult, and those of active and ambitious minds despise the few inducements to a successful career in life offered by the Lords Commissioners of the Admiralty.*

5. Rank and Command.

The public naturally regard social position and rank as inseparable attendants upon each other, and will

* See a copy of the Statutes of the Order of the Bath in the 'Appendix.'

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.

Same date. Commissions in lieu of warrants given to masters, medical officers, and pursers (now styled paymasters).

1840 [10th August]. Commissions and relative rank given to mates, now styled sub-lieutenants.

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 IV.

FULL PAY.

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 IV, page 59.]

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 "	33
{ 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 profession 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

* Table-money and allowances are counted as pay in the comparison between the executive and medical branches. Allowances are in cash, or of a stated money value, and are justly included in the calculations. No one can object to this mode of computation except cavillers.

spirit of the Order in Council of 1st April, 1853, viz., that the Surveyor of the Navy (now styled Controller) should receive his half-pay in addition to the salary attached to his civil office.

	Fre dien.
Inspectors-general, after 3 years' service in rank	£3 3 6
" " under 3 " "	2 12 0
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 16 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. There-

* The amount stood as 15s. in the first edition.

fore 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.

Half a century ago a parallelism existed between the emoluments of certain grades of the executive and medical branches, which is now wanting. For instance, early in the present century a lieutenant by serving until he attained to the rank of a rear-admiral increased his emoluments from £118 12s. 6d. to £881 5s. 1d. per annum. At the same period an assistant-surgeon, by serving until he attained to the rank of physician to hospital or fleet (of ten years' service in physician's rank) increased his emoluments from £118 12s. 6d. to £766 10s.

Since that time cardinal changes have occurred in the service, so that in the present year of 1865, lieutenants rise from the pay of £182 10s. to be rear-admirals, with the minimum pay of £1672 10s. (the maximum being £1825), whilst assistant-surgeons rise from £182 10s. to be inspectors-general with the maximum pay of £821 5s.

Thus the medical branch has not increased its emoluments, *pari passu*, with the executive branch. Increase of rank has been conferred upon medical officers for the advantage of the service without corresponding advance of emoluments, and this is most strikingly shown on a comparison of the superior grades of the two branches.

For the relative rank of medical officers see the

Warrant of May, 1859, clause 9; and for the relative pay of the branches, see note to Section IV.

Had the emoluments of the medical officers risen in a corresponding degree with those of the executive officers, their pay in the superior grades would now be much greater than it is.

The medical officers are dissatisfied that such correspondence does not exist. They freely concede to the Admiralty the right to reserve to the military branch command and enforcement of discipline, but they maintain their claim to advance in emoluments suitable to the period.

A better income progressively increasing might induce "*young surgeons*" to continue in the service instead of quitting it for the purpose of private practice.

On the present scale of pay, the medical officer that without loss of time completes 25 years of service, viz., 10 as assistant-surgeon, 10 as surgeon, and 5 as staff-surgeon, receives the following:

	Per annum.
For first 5 years' period	£182 10 0
For second "	209 17 6
For third "	273 15 0
For fourth "	328 10 0
For fifth "	401 10 0

The mean sum for 20 years amounts to £248 per annum; but should the full-pay service extend to 25 years, the mean sum will be about £280 per annum. The scheme of pay that is now advocated (which is the minimum that the medical profession can regard as fitting remuneration for their naval brethren), would yield a mean sum of £283 per annum for 20 years' service, and £318 per annum for 25 years' service.

By this scheme, increase of pay would take place at

determinate periods of short duration; inducing officers to continue in active service.

The Government must expect to pay market price for professional talent. Experience shows that the naval medical service is becoming more unpopular with surgeons day by day; for, as Lord C. Paget admits, "*there is so much employment for them elsewhere.*" This is tantamount to saying that the terms offered by the Admiralty are insufficient to induce gentlemen of the medical profession to take service under their Lordships' rule.

SECTION V.

HALF-PAY AND RETIREMENT ALLOWANCES.

THE legitimate aim of the authorities of the public service is to obtain from their *employees* the full benefit of active and continuous *work*.

If the half-pay be disproportionate to the pay for active employment, officers have but little inducement to serve. This fact is well shown by the Report of the Royal Commission on Naval and Military Promotion in 1840, page 53, "We have no doubt, however, that the deficiency of service and unwillingness to be employed, as shown in the evidence before us, has arisen in many cases from the little inducements to lieutenants to remove from half-pay to full pay."

Evidence of Sir W. Parker, then a Lord of the Admiralty, in his examination by the Commission:

Page 151, Replies 22, 23. "Now, I experience the greatest possible difficulty in getting lieutenants to serve."

And speaking of half-pay being allowed to mates, he says, "They might assign inability from infirmities such as rheumatic pains, headaches; or give other reasons for exemption to which it would be difficult to object, and thus they would avoid service."

The Admiralty increased the full-pay of the lieutenants and thus induced them to seek employment. Inasmuch as all classes of officers are liable to frailty of a like nature to that mentioned, it is wisdom to

pay better, proportionately, for *work* than for *retainment of services*.

Retirement after long service is of a nature wholly different from half-pay. The principle that should guide the authorities in providing for their *employees* is this, That every officer should attain to honour and competence after long and faithful service. The period of twenty-five years, constituting a quarter of a century, is one that is not surpassed by officers of any class, as a general rule, and may be accepted as a good practical amount of active service. Officers of every class attaining to this amount should retire with one grade of substantive rank with the minimum retiring allowance of that superior rank. Retiring rank is given to officers pretty generally, but it is only accompanied by corresponding pecuniary allowances in the case of the military branch.

It is a requisition of the medical officers that staff-surgeons shall retire with *the substantive rank* of deputy inspector general, and with the minimum retiring pay of that rank, namely, *one guinea per diem*, after twenty-five years of active service.

In justification of this requisition several arguments may be adduced in addition to the one just discussed.

There is the alteration in the appointments at the dockyards limiting the period to five years, thus bearing hard upon the staff-surgeons by preventing them from attaining to the ten years of civil service necessary to entitle to a civil pension additional to their half-pay. Also the loss of full-pay time (common to all naval officers) acts disadvantageously to naval surgeons by rendering them advanced in age by the time that they attain to staff title, so that in frequent instances they become compelled to retire through age after a tenure of office insufficient to realise its advantages. It is cal-

culated that naval surgeons lose 20 per cent. of active time; consequently they are five years older than army surgeons upon retirement.

It is the opinion of certain economists that the naval medical service might be conducted by a small working staff, with perfect efficiency and with advantage to the State, provided that incentives to continuous active employment were afforded, together with certainty of honourable rank and competence on retirement.

If due incentives be offered, the result will be that surgeons will seek employment even in small ships on foreign stations, so as to make up time.

It is important to give increment of pay at short intervals.

It is the proper function of gold to encourage exertion in the path of duty, and it may be legitimately employed to that end.

Optional retirement need not be accompanied by any grant of honour nor by any augmentation of allowances. When asked for, doubtless it will be a boon that will be as thankfully received as it is much desired.

SECTION VI.

GREENWICH HOSPITAL PENSIONS.

Soon after the issue of the first edition of this pamphlet from the press, the attention of the writer was 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 to provide for the better government of Greenwich Hospital, and the more beneficial application of the revenues thereof, that received the Royal assent on the 5th July, which may be cited as the Greenwich Hospital Act, 1865, provision is made 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.

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 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 pensions is as follows:

Retired list.	
20	Flag-officers (10 at the date of the Act of Parliament).
16	Captains (10 at the date of the Act of Parliament).
24	Commanders (15 at the date of the Act of Parliament).
80	Lieutenants (50 at the date of the Act of Parliament).
24	Masters (15 at the date of the Act of Parliament).
15	Paymasters (0 at the date of the Act of Parliament).
0	Surgeons (0 at the date of the Act of Parliament).
0	Engineers (0 at the date of the Act of Parliament).
9	Warrant officers (0 at the date of the Act of Parliament).
Pensions to Chaplains (livings at the date of the Act of Parliament).	

Table of number of officers of the specified classes on the active list. [See Navy List for July].

	Number on active list.	Number of pensions 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	773	80	50	4000
Staff-Commanders 126	370	24	50	1200
Masters				
Paymasters	299	15	50	750
Warrant officers	900	9	25	225
Chaplains	139	(Proposed to be pensioned by the sale of livings)		
Naval Instructors	38	Nil	Nil	Nil
Medical officers	596	Nil	Nil	Nil
Engineers	243	Nil	Nil	Nil

Whilst the Bill was in Committee, Captain Sir John Hay, R.N., obtained the sanction of Parliament for the establishment of a sinecure office endowed with a salary of £1000 per annum out of the Hospital Funds,

for the benefit of some flag-officer; that is, the creation of a *sinecure governorship* in "A Bill to provide for the better government of Greenwich Hospital and the more beneficial application of the revenues thereof"!!

This addition of £1000 to the £3000 already appropriated to the flag-officers is an instance of the influence and prestige of the military branch when the weightiest interests of the Navy are being discussed.

It remains to be seen whether medical officers, naval instructors, and engineers, can be much longer excluded from participation in the Greenwich Hospital pensions.

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 so high 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, naval instructors, 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 since it has been decided to grant pensions to the commissioned officers, agreeably to the purport of the Bill lately passed by Parliament, 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	£800 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 "

SECTION VII.

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. Removal

* This is a requisition of the medical officers of the army as well as of the navy.

of existing restrictions affecting the medical officers invidiously as regards admission to the Order of the Bath.

(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. Increased emoluments 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, or on final retirement.*

(q.) Substantive rank of Deputy Inspector-General, with the minimum retiring pay of that rank, to be given to staff-surgeons on retirement, after 25 years, 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

* Requisitions n, o, p, appeared in the first edition as suggestions of the writer, but the medical officers have endorsed them, and they consequently become their own requisitions.

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 *malu 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. 17.]

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 required. 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 foretell 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 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 shipmates 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'BRIEN " 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 herewith 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 IV (see p. 38).
Tubular View of Comparative Increase of Full Pay since the Peace of 1815.

	YEAR 1815.	YEAR 1862.	INCREASE.
Rear-Admirals and Commodores of the First Class, serving under a Senior Officer	£381 5 1 Nil. 881 5 1	£1095 0 0 750 0 0 1825 0 0	Total 107 per cent.
Captains (Seniors)	881 5 1 812 6 0 Nil. 812 6 0	1095 0 0 1672 10 0 600 14 7 328 10 0 57 5 10 986 10 5	Total 90 per cent.
Captains (Juniors)	284 3 9 Nil. 284 3 9	399 19 7 91 5 0 57 5 10 545 10 5	Total 21 per cent.
Commanders in command of sea-going Ships	368 10 9 Nil. 368 10 9	365 0 0 68 8 9 48 13 0 482 1 9	Total 93 per cent.
Commanders serving under Captains	261 8 0 148 12 10 Nil. 148 12 10	365 0 0 280 15 0 68 8 9 48 13 0 317 16 9	Total 31 per cent.
Lieutenants in command of Vessels	148 12 10 Nil. 148 12 10	317 16 9 48 13 0 182 10 0	Total 39 per cent.
Lieutenants (Juniors), on promotion	118 12 6	182 10 0	Total 107 per cent.
			Total 54 per cent.

MILITARY OR EXECUTIVE BRANCH.

	YEAR 1864.		INCREASE.
	£ s. d.	£ s. d.	
Physicians of Hospital or Fleet, with ten years' service in rank.....	766 10 0	821 5 0	Total 7 per cent.
Inspectors-General, with thirty years' entire service on full pay .....	.....	.....	
Physician to Hospital or Fleet, with three years' service in rank.....	574 17 6	620 10 0	Total 8 per cent.
Deputy Inspectors-General, with thirty years' entire service on full pay .....	.....	.....	
Surgeons of Hospitals on promotion	500 0 0	511 0 0	Total 2 per cent.
Deputy Inspectors-General, on promotion .....	.....	.....	
Surgeons of Dock Yards.....	500 0 0	500 0 0	Nil.
Surgeons serving afloat	328 10 0	456 5 0	Total 38 per cent.
Surgeons "	182 10 0	273 15 0	" 50 "
Assistant-Surgeons.....	136 17 6	237 5 0	Total 73 per cent.
Assistant-Surgeons.....	118 12 6	182 10 0	" 54 "

MEDICAL BRANCH.

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. [See Navy List of April, 1st, 1865.]

	YEAR 1864.		INCREASE.
	£ s. d.	£ s. d.	
Physicians of Hospital or Fleet, with ten years' service in rank.....	766 10 0	821 5 0	Total 7 per cent.
Inspectors-General, with thirty years' entire service on full pay .....	.....	.....	
Physician to Hospital or Fleet, with three years' service in rank.....	574 17 6	620 10 0	Total 8 per cent.
Deputy Inspectors-General, with thirty years' entire service on full pay .....	.....	.....	
Surgeons of Hospitals on promotion	500 0 0	511 0 0	Total 2 per cent.
Deputy Inspectors-General, on promotion .....	.....	.....	
Surgeons of Dock Yards.....	500 0 0	500 0 0	Nil.
Surgeons serving afloat	328 10 0	456 5 0	Total 38 per cent.
Surgeons "	182 10 0	273 15 0	" 50 "
Assistant-Surgeons.....	136 17 6	237 5 0	Total 73 per cent.
Assistant-Surgeons.....	118 12 6	182 10 0	" 54 "

MEDICAL BRANCH.

APPENDIX.
THE UNFULFILLED WARRANT.

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' Service on full-pay.	After 25 years' Service on full-pay.	After 20 years' Service on full-pay.	After 15 years' Service on full-pay.	After 10 years' Service on full-pay.	After 5 years' Service on full-pay.	Under 5 years' Service on full-pay.
Inspector-General of Hospitals and Fleets	£ s. d. 2 5 0	£ s. d. 2 5 0	£ s. d. 2 0 0	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..
Deputy Inspector-General of Hospitals and Fleets	£ s. d. 1 14 0	£ s. d. 1 10 0	£ s. d. 1 8 0	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..
Staff-Surgeon	£ s. d. ..	£ s. d. 1 5 0	£ s. d. 1 2 0	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..
Surgeon	£ s. d. ..	£ s. d. ..	£ s. d. 0 18 0	£ s. d. 0 13 0	£ s. d. ..	£ s. d. ..	£ s. d. ..
Assistant-Surgeon	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. 0 13 0	£ s. d. 0 11 0	£ s. d. 0 10 0	£ s. d. ..

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' Service on full-pay.	After 25 years' Service on full-pay.	After 20 years' Service on full-pay.	After 15 years' Service on full-pay.	After 10 years' Service on full-pay.	After 5 years' Service on full-pay.	Under 5 years' Service on full-pay.
Inspector-General of Hospitals and Fleets	£ s. d. 1 17 6	£ s. d. 1 13 6	£ s. d. 1 10 0	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..
Deputy Inspector-General of Hospitals and Fleets	£ s. d. 1 5 6	£ s. d. 1 2 6	£ s. d. 1 0 0	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..
Staff-Surgeon	£ s. d. ..	£ s. d. 0 18 6	£ s. d. 0 16 6	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..
Surgeon	£ s. d. ..	£ s. d. ..	£ s. d. 0 13 6	£ s. d. 0 11 0	£ s. d. ..	£ s. d. ..	£ s. d. ..
Assistant-Surgeon	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. 0 10 0	£ s. d. 0 8 0	£ s. d. 0 6 0	£ s. d. ..

* 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.

* 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.

STATUTES OF THE MOST HONORABLE ORDER OF THE BATH.
31st January, 1859.

BY THE SOVEREIGN'S COMMAND,

"ALBERT,"

Great Master.

Ninth Ordinance.—"It is ordained, that the Military Division of the Second Class, or Knights Commanders, shall not exceed one hundred and ten in number; and that no person shall be appointed thereto who doth not, at the time of his nomination, actually hold a commission in Our Army or Marines of or above the rank of Colonel, or a corresponding commission in Our Indian Military Forces, or a commission in our Navy of or above the rank of Captain, or a commission of or above the rank of Assistant Commissary-General in Our Army, or a commission of or above the rank of Deputy Commissary-General, of or under three years' standing in Our Indian Military Forces, or of *Staff or Regimental Surgeon in Our Army*,* or a commission of or above the rank of *Deputy Medical Inspector of Fleets and Hospitals* in Our Navy, or a commission of or above the rank of *Senior Surgeon* in Our Indian Military or Naval Forces."

Eleventh Ordinance.—"It is ordained, that the Military Division of the Third Class, or Companions, shall not, except under temporary exigencies, exceed five hundred and fifty in number; and that no person shall be nominated thereto who doth not actually hold, at the time of his nomination, a commission in Our Army or Marines, or in Our Indian Military Forces, of or above the rank of Major, or a commission in Our Navy, or in our Indian Naval Forces, of or above the rank of Commander; or a commission of or above the rank of Assistant Commissary-General, in Our Army, or a commission of or above the rank of Deputy Commissary-General, of or under three years' standing, in Our Indian Military Forces, or of *Staff or Regimental Surgeon in Our Army*, or a commission of or above the rank of *Deputy Medical Inspector of Fleets and Hospitals* in Our Navy, or a commission of or above the rank of *Senior Surgeon* in Our Indian Military or Naval Forces; nor shall any person be admitted into this division, unless his services have been marked by the especial mention of his name in despatches, as having distinguished himself by his valour and conduct in action against the enemy, in the command of a ship of war, or of Our troops, or at the head of a military department, or as having, by some active service under his immediate conduct and direction, contributed to the success of any such

* All the italics in this "Ordinance" are those of the writer.

action: Provided, nevertheless, and We hereby declare, that this last-mentioned regulation shall not be applicable to Commissariat and Medical Officers, and instead thereof, We further declare that no Commissariat or Medical Officer shall be competent to be an Ordinary Member of the Military Division of the Second and Third Classes of the said Order, unless it shall appear to Us that by his meritorious services in actual war in providing for the wants of Our Army or of Our Indian Military Forces, or in taking care of the sick or wounded Officers, Soldiers, and Seamen of Our Army or Navy, or of our Indian Military and Naval Forces, he has deserved such distinction."

COMMENTS

ON THE

RECOMMENDATIONS OF THE COMMITTEE

APPOINTED TO INQUIRE INTO THE POSITION OF THE
MEDICAL OFFICERS OF THE ARMY AND NAVY.

BY

FREDERICK JAMES BROWN, M.D.

LONDON:
PRINTED BY J. E. ADLARD,
BARTHOLOMEW CLOSE.
—
1866.

Comments on the Recommendations of the Committee appointed to inquire into the Position of the Medical Officers of the Army and Navy.

ROCHESTER; March 7th, 1866.

HAVING lately brought before the public the Requisitions of the Naval Medical Officers, I trust that I shall not be considered out of place in giving expression to my sentiments on the present occasion.

In speaking for the Royal Navy, I feel that the Committee have acted fairly in the selection and examination of witnesses, and I know that they have bestowed much labour on the inquiry. The Report is evidence of the ability displayed in the management of the subject, and in the conclusions thereon. The recommendations, taken collectively, are liberal, but as they are not equal to the evidence on which the Report is founded, they are too much after the nature of a *compromise*. There is only one point that I am compelled to animadvert upon strongly: it is the pecuniary punishment attendant upon optional retirement. On reference to my pamphlet (second edition, page 46), I read the words: "Optional retirement need not be accompanied by any grant of honour, nor by any augmentation of allowances. When asked for, doubtless it will be a boon that will be as thankfully received as it is much desired."

Such continue to be the feelings of the Naval Medical Officers, but these gentlemen are astonished above measure to

find that they will be mulcted of the half-pay of their period of service on the occasion of retirement upon the completion of twenty years of active service, probably after twenty-five years from the date of joining the Navy.

This is giving with one hand and taking with the other. This can scarcely be deemed a "boon." Naval Surgeons expect to be permitted to retire upon the half-pay of their period of service, which is 16s. 6d. by the scale of pay now in force; for twenty years is a fair amount of service, equal to that obtained on an average by Commissioned Officers. There is no precedent for commutation of pay upon retirement. And in the recently issued Admiralty scheme for the retirement of executive officers the principle is not entertained. Commuted pay in former days was a punishment for refusal to serve or for "shirking service;" but a recognised period of service is entirely different in principle.

I judge that the two Services should be equalised in every feasible point, and I consider that the question of pay ought not to be one that should be permitted to constitute inequality. The question of 4-yearly against that of 5-yearly increase of pay is only one mode of compensation for loss of time by half-pay. It is inferior to continuous service on full pay, with optional retirement after twenty or twenty-five years' service, on the terms recommended for the Army.

I regret that the Committee have not thought fit to endorse the recommendations of the Sanitary Committee of the Army (9th February, 1858, page 79):

"And we think it desirable that, if possible, one and the same Board should conduct the examination for the Medical Service of the East India Company, the Navy, and the Army."

Nothing would be more conducive to the equalisation of the Services than "one portal for the admission of Medical gentlemen to the War Service of the country."

It affords me great pleasure to observe that the Greenwich Hospital Pensions have been readjusted, so as to include all classes of Officers in Her Majesty's Navy and in the Royal Marines.

On bringing these general remarks to a conclusion, I beg leave respectfully to state that I shall ever feel it to be my pleasure to watch over the interests of the Naval Medical Service, in which I passed a few years as an assistant-surgeon.

At the same time, I shall be happy to be able to say to the authorities of the navy:

"Once more the Medical profession will repose trust in your good faith. Carry out the regulations of Orders in Council and Warrants in their strict integrity, and you will never want physicians and surgeons for your fleets."

I proceed now to compare the recommendations of the Committee with the requisitions of the Naval Medical Officers, *seriatim*, and to comment on points of variance.

I append to these Comments a reprint of the Report of the Committee so far as it relates to the Royal Navy.

In my pamphlet (second edition, pages 52, 53), the Requisitions of the medical officers are grouped under two heads:

I. Equality with the medical officers of the army in every particular.

II. Increased emoluments to meet the altered circumstances of the age.

Requisitions of the Medical Officers of
the Royal Navy.
(See second edition of my pamphlet.)

(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.

Recommendations of the Committee.

7. That in regard to cabins, while the requirements of the service render it necessary that the senior executive officer and the staff commander or master should have the cabins placed most advantageously for their special duties, medical officers should after them have cabins more in accordance with their relative rank in the service, and that cabins for all assistant-surgeons should be specially ordered, to prevent future difficulties or neglect of the existing Admiralty order.

2. That the whole time an assistant-surgeon serves on full pay should be allowed to qualify for the rank of staff-surgeon, provided he passes his examination for surgeon before he completes ten years' service.

1. That staff-surgeons be placed on a separate list, and considered as a distinct rank, and that promotion to that rank (although twenty years on full pay may not have been completed) should be open to officers for distinguished or special service.

14. That in order to place staff-surgeons on an equality in rank with surgeons-major in the army, they should rank with commanders by date of

Comments.

Cabins are usually allotted to assistant-surgeons, but in H.M.S. Leander, serving in the Pacific, one assistant surgeon is unprovided with a cabin.

Moreover, the cabins are often in the worst part of the ship, unsuitable for officers.

In a ship now fitting at Portsmouth a change has been made in the disposition of the cabins, detrimental to the interests of the assistant-surgeons.

In the case of surgeons it is to be regretted that the clause is permissive instead of being compulsory: the word "more" ought to be expunged.

Conceded, with a limitation that is not objectionable.

Conceded, together with the recommendation of promotion into this rank for distinguished service.

The intention is to fix the naval rank of staff-surgeons. This clause restores the equality of the medical officers of the army and navy, and is accepted as evidence of the sense of justice entertained by the Committee.

The limitation respecting precedence is proper, but it is erro-

Requisitions of the Medical Officers
of the Royal Navy.
(See second edition of my pamphlet.)

Recommendations of the Committee.

commission; but we are of opinion that officers in command of H.M. ships must on all occasions be considered senior in rank and precedence to all officers placed under their command, and that a ship, as a regiment, must always be represented by an executive or combatant officer, after whom all officers should take precedence, according to the relative rank conferred on them by Royal authority. See clause 10 of the Order in Council of 13th May, 1859.

(e.) Compulsory retirement of staff-surgeons at the age of fifty-five, and of the inspector class at the age of sixty-five.

10. That the periods of retirement by age be fixed for staff-surgeon, surgeon, or assistant-surgeon at fifty-five years; inspector-general and deputy inspector-general, sixty-five; but this regulation should only apply to new appointments.

(f.)* Optional retirement of medical officers of any grade after twenty years of active service.

16. That, as the prospect of optional retirement at an earlier period than at present permitted would prove a further inducement to young medical men to enter Her Majesty's service, naval medical officers should be permitted to retire after twenty years' service on full-pay; but at the same time, in order to guard the interests of Her Majesty's service, the

* This is a requisition of the medical officers of the army as well as of the navy.

Comments.

neous to use the words "senior in rank," for it is impossible to render a lieutenant or master of two years' seniority *senior* to a surgeon of two years' seniority. It is entirely different as respects precedence under the circumstances indicated by the Committee.

Articles 3 and 4 (page 40) of the 'Naval Instructions' ought to be cancelled, so as to prevent misconstruction of the warrant that is expected to follow the recommendations, more particularly as these articles appear to have been framed for the purpose of contravening the advantages conferred by the warrant of 1859.

Conceded.

This requisition cannot be considered as conceded, for a commuted allowance in lieu of the half-pay earned by active service is not a boon.

Unless this recommendation be reconsidered, the labours of the Committee will be thrown away, for young surgeons will not join the service, with the intention of remaining in it, and the medical officers will continue to be discontented. The requisition is not for augmentation of retiring pay, but for leave to retire, and, as a matter of course, on the half-pay of the period of service completed.

If the Committee had wished to cause a great influx of surgeons into the public service, they possessed the opportunity by augmenting the retiring allowances (which was not asked) and allowing of early exit from the service.

rate of half-pay awarded to officers so retiring should not exceed five-tenths of their full pay, and that officers with this service should be permitted to retire on the half-pay of their rank, if after one year on half-pay they are found on medical survey to be permanently unfit for further 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. Removal of existing restrictions affecting the medical officers invidiously as regards admission to the Order of the Bath.

4. That naval medical officers be granted the same allowances at hospitals, at home and abroad, as the army medical officers, in respect to servants, fuel, furniture, or pecuniary allowances in lieu.

6. With respect to the question of prize-money, the Committee, owing to the present principle on which the prize proclamation is drawn, are unable to agree upon a special recommendation, but are inclined to the opinion that the share of medical officers should after the officer in command of the ship, be regulated by relative rank.

11. That naval medical officers be considered equally eligible to honorary distinctions as army medical officers.

Conceded.

The Committee have not been able to make a recommendation on this subject, because of the "principle on which the prize proclamation is drawn." Therefore, as a matter of justice, it is necessary to issue a new proclamation for the purpose of equalising the medical department of the army and navy, in accordance with the spirit of the Warrant of 1859.

Since the Warrant of 1859 was intended to equalise the two services, it would only be an act of justice to confer honorary distinctions upon naval medical officers that have been overlooked during the late wars.

Requisitions of the Medical Officers
of the Royal Navy.
(See second edition of my pamphlet.)

(k.) Social privileges in
alliance with relative rank,
without reference to command.

Recommendations of the Committee.

5. That the scale of travelling allowances, extra pay, lodging money and compensation for losses, be fixed for naval medical officers according to relative rank.

7. That in regard to cabins, while the requirements of the service render it necessary that the senior executive officer and the staff commander or master should have the cabins placed most advantageously for their special duties, medical officers should after them have cabins more in accordance with their relative rank in the service, and that cabins for all assistant-surgeons should be specially ordered, to prevent future difficulties or neglect of the existing Admiralty order.

8. That a staff-surgeon, ranking with commander, be allowed a servant.

(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.

Comments.

Conceded.

Not conceded.

Not promised.

Requisitions of the Medical Officers
of the Royal Navy.
(See second edition of my pamphlet.)

Recommendations of the Committee.

(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, or on final retirement.*

15. That the pay of the naval medical officers be increased in accordance with the following scale:—

Scheme of full pay requested in my pamphlet.		Scheme of full pay recommended by the Committee.	
	Per diem.		Per diem.
Inspectors-general, after 3 years' service in rank	£3 3 0	Inspectors-general above 30 years	£2 10 0
Do. under 3 do.	2 12 6	Do. 26 years	2 7 0
Deputy inspectors, after 9 years' service in rank	2 2 0	Do. 22 do.	2 5 0
Do. do. 6 do.	1 17 6	Deputy Inspectors-general above 30 years	1 17 0
Do. do. 3 do.	1 15 0	Do. above 26 years	1 15 0
Do. under 3 do.	1 10 0	Do. do. 22 do.	1 12 0
Staff-surgeons, after 25 years' entire service	1 10 0	Do. do. 18 do.	1 10 0
Do. under 25 do.	1 5 0	Do. Or on promotion	1 10 0
Surgeons, after 16 do.	1 2 6	Staff-surgeons, above 26 years	1 7 0
Do. do. 14 do.	1 0 0	Do. do. 22 do.	1 7 0
Do. do. 12 do.	0 17 6	Do. do. 18 do.	1 4 0
Do. under 12 do.	0 16 0	Do. Or on promotion	1 4 0
Assistant-surgeons, after 10 years' service	0 14 0	Surgeons above 18 do.	1 2 0
Do. do. 6 do.	0 12 6	Do. do. 14 do.	1 0 0
Do. do. 3 do.	0 11 0	Do. do. 10 do.	0 17 6
Do. under 3 do.	0 10 0	Assistant-surgeons, above 14	0 17 6†
		Do. do. 10 do.	0 15 0
		Do. do. 5 do.	0 12 6
		Do. On entry	0 12 6

* Requisitions n, o, p appeared in the first edition as suggestions of the writer, but the medical officers have endorsed them, and they consequently become their own requisitions.

† Provided that he passes his examination before 10 years' service.

Comments.

Not considered by the Committee.

Not considered by the Committee.

Efficiency of the public service is economy. This is an axiom in political science.

The market value of skilled labour governs all considerations, and it is impossible to obtain efficiency without remuneration based on this principle.

The naval stations of China, the West Coast of Africa, and the West Indies, are loud in their demand for medical aid, and it is to be hoped that an understanding may be arrived at between the authorities and the medical profession, so as to meet this demand.

The proposal to give 12s. 6d. to assistant-surgeons on admission to the service, and to leave them at that rate of pay for 10 years, will be a sure means of causing young surgeons to enter the Navy for a cruise and then to abandon it.

I suggest that the 4-yearly period of increase (instituted by the Committee in the case of the naval medical officers generally) should be observed in the grade of assistant-surgeons as well as in the other grades of rank.

I am of opinion that 10s. on entry, with periodical increase, would be a more satisfactory scale than that recommended. I therefore submit the following scheme of pay for assistant-surgeons:

Assistant-surgeons above 12 years	£0 17 6
" 8 "	0 15 0
" 4 "	0 12 6
" on entry	0 10 0

A comparison of the schemes of pay recommended by me on the one hand, and by the Committee on the other, brings out differences unfavorable to the medical officers, more particularly those of the higher grades. It is a matter of regret that these differences should exist.

3. To compensate the naval surgeon for loss of time, by his being placed on half-pay, and unable to obtain employment, the surgeons' and staff-surgeons' full pay should increase by periods of 4 years instead of 5 years as at present.

(g.) Substantive rank of Deputy Inspector-General, with the minimum retiring pay of that rank, to be given to staff-surgeons on retirement, after 25 years' service.

17. That as a special reward to officers of long and good service, who, owing to the comparatively small numbers of the inspectorial ranks, have not been promoted to any higher position than that of staff-surgeon, such officers of the rank of staff-surgeon as have served for 25 years on full-pay should, on being compulsorily retired at 55 years of age or retired on medical survey, receive the half-pay of 1*l.* per day. We further recommend that competitive examination for admission of medical officers into the Navy be established at Greenwich

Recommendation No. 3 is an attempt to compensate naval medical officers for unavoidable loss by half-pay time. The compensation relates to full-pay only, and does not touch the difference of age at retirement. It is clear that the army surgeon can retire 25 years from date of entry, whilst his naval confrère will occupy about 30 years in making 25 years' service. The difference of full pay (4-yearly instead of 5-yearly increase) is not more than sufficient to compensate for loss of money by half-pay, without considering the difference of age finally. Naval medical officers feel that there should be no difference in the actual full pay of similar grades in the army and navy, and they regret to find that a difference is recommended in the case of assistant-surgeons (on entry), and of the inspector classes. They consider that compensation for loss by half-pay time is necessary to equalise the services.

At the present time staff-surgeons have the right to retire on the completion of 25 years' active service, regardless of age. The recommendation appears to restrict that right, rendering age or illness necessary as well as service. It is possible for a staff-surgeon to complete 25 years' service by the age of 52. Probably it has been an oversight on the part of the Committee.

The requisition is for £1 1*s.* per diem, and I feel sure that £1 will not afford satisfaction: doctors are noted for observing the distinction between pounds and guineas.

The substantive rank of Deputy Inspector-General conferred on staff-surgeons retiring after 25 years' service would gratify old officers, and would induce most men to serve the full period of 25 years.

Hospital, after the plan adopted in the Army, at Chelsea, and that professional instruction by a course of lectures and attendance at Haslar be given to medical officers on first entry, in some measure on the system adopted at Netley Hospital. Some of the medical witnesses have stated that it is desirable that naval boards of survey should be made purely medical boards as they are in the Army; on this question, however, the committee are not agreed, and therefore offer no opinion.

There remain some other recommendations to be commented on, viz.—

9. That a staff-surgeon should be appointed to all flag-ships bearing the flag of a commander-in-chief on foreign stations, with an allowance of 5s. a-day in addition to his established pay.

12. That they [naval medical officers] should have equal consideration for Greenwich Hospital pensions with other officers of the service.

13. That assistant-surgeons after completing their time for examination for the rank of surgeon, be granted two months' leave of absence on full pay, on the condition of their resuming their studies at a medical school or hospital.

This is not a full compensation for the usage of the navy between the years 1840 and 1845, viz., the appointment of deputy-inspectors in flag-ships on foreign stations, as recommended by the Commission of 1839.

To render it more nearly a compensation, the allowance should be accorded to staff-surgeons serving in flag-ships at home as well as abroad.

I congratulate all classes in the Royal Navy on the liberal spirit of this recommendation. The pensions granted by Order in Council of 20th February are not, however, in amount according to relative rank, and the inspectorial grades are ill provided for.

This recommendation shows that the Committee were actuated by the spirit of progress, but I consider that 6 months would not be more than sufficient for the purpose of study.

POSTSCRIPT.

SINCE the type has been set it has come to my knowledge that a considerable proportion of the naval medical officers regard the present period of retirement for staff-surgeons, viz., sixty years, as preferable to that requested by me in my pamphlet, and recommended by the committee, in order to equalise the Services. It has been represented to me that the equalisation of the army and navy in the matter of retirement requires compensation in time as well as in money, and on these grounds I advise a reconsideration of the period of retirement for staff-surgeons.

I submit the following scheme as that which would afford satisfaction—

Inspectors-general	65 years.
or { Deputy Inspectors-general . .	} 60 years.
Staff-surgeons	

F. J. B.

17th March, 1866.

APPENDIX.

Abstract of the Report of the Committee appointed to inquire into the whole question of the Rank, Pay, and Position of the Medical Officers of the Army and Navy.

MEDICAL OFFICERS OF THE NAVY.

The committee having met to consider the rank, pay, and position of naval medical officers, the chairman stated that Captain Henry B. Phillimore, R.N., had been appointed a member of the committee, and would attend in the place of Lord W. Paulet, K.C.B., on the inquiry respecting the medical officers of the navy.

The evidence and report of the royal commission in 1840 on Navy and Army Promotion; and

The evidence and report of the committee of the House of Commons on the navy estimates in 1848; were added to the other papers already on the table.

A memorial addressed by the Royal College of Physicians, dated the 12th July, 1865, to his Grace the Duke of Somerset, First Lord of the Admiralty, pointing out the "general and settled feeling of discontent with their condition which prevails among the medical officers of the navy;" and "that it is highly desirable that the medical services of the army and navy should be assimilated as closely as their relative nature will admit in rank, pay, position, and retirement," was read; also three letters respecting that memorial, from Dr. Bryson, C.B., medical director-general of the navy, to the Lords Commissioners of the Admiralty.

At the commencement of the inquiry into the condition of the Naval Medical Service, the committee was informed by Dr. Bryson that he experiences the very greatest difficulty in obtaining young men to join the service; and that at present he has only three candidates on his list, while upwards of forty

assistant-surgeons are required to supersede surgeons employed in lieu of assistant-surgeons, to fill up vacancies, and to provide for the common exigencies of the service.

Deeply impressed with the gravity of this condition of the service, the committee have in the first place endeavoured to discover the reason for so great a deficiency of candidates, and from the evidence brought before them have come to the conclusion that it may be referred chiefly to the following causes:

1. The committee was informed that when the royal medical warrant of 1st October, 1858, became known to the lords commissioners of the admiralty, they obtained an order in council, dated 13th May, 1859, and in the same month issued a circular order conferring rank, pay, and retirement on naval medical officers, on the same terms as were granted to army officers.

It is alleged that the non-fulfilment of this order in council in some of its provisions has acted prejudicially to the interests of the service, by deterring medical candidates from entering the naval service, and that the professors at the various schools have dissuaded students from doing so.

The existence of this alleged grievance, and the unfavorable impression produced by it upon medical teachers and students, and consequently its prejudicial effect upon the service, appears to be fully established by the evidence before the committee, and it is also confirmed by Dr. Bryson in his letter of the 9th August, 1865.

2. A second reason may be sought in the fact that, although the number of surgical diplomas from the colleges of London, Edinburgh, and Dublin has apparently increased during the last ten years, the general impression of medical gentlemen is that the actual number of medical students has decreased or not kept up with the large increase of the population.

3. A third reason for the deficiency of medical candidates for her Majesty's service, and one which would seem to be of great force when taken in conjunction with the foregoing, is the wider field which of late years has been opened for surgeons, both in this country and abroad, in emigrant ships, and in the service of the large steam navigation, mining, and other companies, and in the colonies, etc.

Her Majesty's service therefore is necessarily brought into a much more severe competition with the general public demand for medical men than was formerly the case.

Exclusive, however, of these considerations, the committee are led to believe that a general opinion prevails at the medical schools that the naval service does not hold out the same inducements nor the same prospects as the army medical service; that, independently of the personal and social discomforts which are inseparable from a sea life, and which are especially experienced by young men on their first joining the naval service, the pecuniary and social advantages are in favour of the military service; and that young men, in the choice of a profession in which their future prospects are so materially involved, naturally prefer that service which appears to them to hold out the greatest advantages. That this is the case appears to be confirmed by the fact that, whilst the army obtains as many medical officers as are required, the navy does not secure the requisite number of candidates for the service, and many young men resign their appointments to seek other employment.

The contrast between the two services with respect to the relative rank, pay, allowances, and position of the respective medical officers is shown in the following statement of particulars; and from returns which appear in the appendix it was ascertained that, although the full and half-pay and retirement are the same, there are certain differences in pecuniary and other allowances between the two services disadvantageous to naval medical officers.

1. For instance, by the royal warrant of October 1, 1858, and the order in council of May 13, 1859, it is stated that there shall be four ranks of medical officers, namely:—

Inspector-general; deputy inspector-general; surgeon, who after twenty years' service shall be styled surgeon-major in the army, and staff-surgeon in the navy; assistant-surgeon. But in the army the surgeons-major have not only been put on a separate list, but promotion to that list has been made by royal warrant, virtually establishing "surgeons-major" as an additional or fifth rank.*

In the navy no such distinction has been made, either in respect to a separate list of staff-surgeons, or a distinct rank, the order in council only admitting of the four ranks. This difference of practice gives the army service an advantage.

2. The assistant-surgeon of the army counts all the time he

* In May, 1865, Dr. Cogan, Surgeon of the 2nd Regiment, was specially selected for advancement to Surgeon-Major after only fourteen years' service, in consequence of meritorious service at Bermuda, during the epidemic of yellow fever in 1854-55.

serves on full pay towards his future promotion, advanced pay, and retirement.

The assistant-surgeon of the navy, although his full service counts towards increased pay and retirement, can only count ten years of his service towards his promotion as staff-surgeon.

3. The army surgeon is always on full pay, except in cases of reduction, consequently all his time from his entry into the service is available continuously for future advancement.

With the navy surgeon it is different; he is placed on half-pay so soon as his ship is paid off, and may not be again employed for one, two, or more years, all of which time is lost to his future advancement and retirement; and from the evidence as well as the return it appears the naval surgeon on an average has to be about twenty-four years in the service before he can complete twenty years' full-pay time.

4. Although the order in council of May 13, 1859, established the same rates of full and half-pay and retirement to naval medical officers as were given to the same rank of army medical officers by the royal warrant of October 1, 1858; yet the pecuniary and other allowances have not been equalised; for instance:—

5. At the military hospitals at home, army medical officers and naval medical officers at the royal marine infirmaries, in addition to their full pay, are allowed servants, or an allowance of one shilling a day for each, and the number of servants is fixed according to relative rank. They are also granted fuel and candles, or money allowance instead, also barrack furniture (abroad 1s. 6d. for servants).

The naval medical officers at hospitals above the rank of assistant-surgeon have no allowances of any description whatsoever; they have only the full pay of their rank, but on foreign stations have allowances in lieu of provisions.

6. The pecuniary travelling allowances for army officers are fixed according to relative rank.

The naval allowances are not fixed according to relative rank, but at a lower rate according to a classified scale (see Admiralty Instructions, pages 235-6).

7. By the royal warrant prize money in the army is to be shared according to relative rank.

In the navy the distribution of prize money by royal proclamation is not classified in the same manner as in the army,

and is consequently not shared according to the principles of relative rank.

8. Military officers when serving in India, and also in some of our colonies, receive pecuniary allowances of a local character.

The naval officer, unless when serving on shore, does not benefit by these regulations.

9. The senior medical officer serving on a foreign station has an allowance according to the number of the troops on the station (see Article 9, of Medical Warrant).

The naval medical officer has no such advantage.

It has been stated to the committee, in the course of the evidence given by naval medical officers, that, independently of the differences which exist in allowances granted to army medical officers from which navy medical officers are excluded, there are several other causes for complaint on their part in respect to their position, which they consider should be remedied.

10. They consider that they are entitled from their relative rank to the choice of cabins, in the same manner that army officers are entitled to choice of quarters, with a view of obtaining a cabin between decks for some period of their service instead of being always in the cockpit.

11. That the claim of assistant-surgeons to cabins should be more clearly acknowledged, as the existing admiralty order is sometimes not carried out or is evaded.

12. That staff-surgeons from their rank are entitled to more consideration than at present, in respect to servants.

13. That in the army, with nearly the same number of medical officers above the rank of assistant surgeon, there are seven inspectors-general, and twenty-six deputy inspectors-general on full pay, whilst in the navy there are seven inspectors and only fifteen deputy inspectors, three only of the former and thirteen of the latter being on full pay, and they request consideration as to an increase of these few rewards for long and meritorious service, either by appointing deputy inspectors to flag-ships, in place of surgeons, or otherwise as may be thought fit.

14. That the periods of retirement by age should more nearly correspond with the army regulations, in order to advance promotion.

15. That more opportunities for shore or home appointments should be open to naval medical officers by limiting such appointment to five years.

16. That they should have equal consideration in the award of honorary distinctions under the statutes of the Order of the Bath as army medical officers.

17. That extra pay, lodging money, and compensation for losses to naval medical officers should be determined according to relative rank.

18. That naval medical officers should participate in the advantages of Greenwich Hospital pensions.

19. That when surgeons are required by the exigencies of the service to perform the duties of assistant-surgeons they should enjoy all the advantages of the higher rank.

20. That from the difficulty of keeping up their professional knowledge when at sea, assistant-surgeons should be allowed leave of absence to attend a medical school to enable them to qualify for their examinations.

21. That staff-surgeons, in order that they may be placed in their proper position according to relative rank, should rank with commanders by date of commission, and that the wording of Articles 3, 4, page 40, of the Admiralty Instructions, and the last clause, paragraph 9, of the Circular of May, 1859, require reconsideration as affects the position of medical officers.*

22. That the full pay should be increased, as an inducement for those qualified candidates to apply for admission

* On the subject of relative rank, it appears that on the promulgation of the Order in Council of May, 1859, the rank of Naval Medical Officers became advanced, and they were placed in the same relative position as the Army Medical Officers. The Naval Surgeon, from being junior to all lieutenants in the navy, became equal in rank with commanders, in accordance with the dates of their respective commissions; and when he became a Staff-Surgeon, he ranked with, but junior to, a lieutenant-colonel in the army, or a captain of the navy under three years' standing, and senior to all commanders. An Order in Council, in April, 1861, defined the relative rank of naval officers with officers of the army; by which the commander of the navy was raised in rank from major to lieutenant-colonel, but junior—the rank then held by Staff-Surgeons. In June, 1863, a further Order in Council was obtained, defining the relative rank between naval officers of the military and civil branches of the service, &c.; in which the Staff-Surgeon was stated to rank with commanders, but junior of that rank. It is this clause which is said to place the Staff-Surgeon in a subordinate position; for although his relative rank with the army officer is the same—namely, lieutenant-colonel, but junior,—he considers himself, from his position in the naval service to be below his proper rank with the Army Medical Officer.

into the service, who now seek other and what they consider to be more advantageous employment.

1. The committee have given careful consideration to these various subjects of complaint with respect to the service itself and to the circumstances which appear to be efficient causes of the dearth of medical candidates, and impressed with the reasonableness of some of the alleged complaints, and with the propriety and justice not only of placing the medical officers of the navy in the same position in regard to all advantages as those of the army, but in view of the circumstances which naturally render the naval the less popular service of the two to men who enter it at a mature age, they are of opinion that, so far as is practicable, such additional advantages should be held out to naval medical officers as may in some degree compensate for the less favorable nature of the naval service; and particularly for the difference which exists between the two services in the matter of forced loss of time upon half-pay.

2. They are further of opinion that in order to meet the increased competition with other fields of employment open to medical men in civil life, it is necessary to increase the pay and prospective advantages of the service in order to obtain a due supply of well and liberally educated candidates.

In fulfilment of these objects they have resolved to submit the following recommendations to the consideration of the Lords Commissioners of the Admiralty.

Recommendations.

1. That staff-surgeons be placed on a separate list, and considered as a distinct rank, and that promotion to that rank (although twenty years on full-pay may not have been completed) should be open to officers for distinguished or special service.

2. That the whole time an assistant-surgeon serves on full-pay should be allowed to qualify for the rank of staff-surgeon, provided he passes his examination for surgeon before he completes ten years' service.

3. To compensate the naval surgeon for loss of time, by his being placed on half-pay and unable to obtain employment, the surgeons' and staff-surgeons' full-pay should increase by periods of four years instead of five years as at present.

4. That naval medical officers be granted the same allowances at hospitals at home and abroad as the army medical officers, in respect to servants, fuel, furniture, or pecuniary allowances in lieu.

5. That the sale of travelling allowances, extra pay, lodging money, and compensation for losses, be fixed for naval medical officers according to relative rank.

6. With respect to the question of prize money, the committee, owing to the present principle on which the prize proclamation is drawn, are unable to agree upon a special recommendation, but are inclined to the opinion that the share of medical officers should, after the officer in command of the ship, be regulated by relative rank.

7. That in regard to cabins, while the requirements of the service render it necessary that the senior executive officers and the staff-commander or master should have the cabins placed most advantageously for their special duties, medical officers should, after them, have cabins more in accordance with their relative rank in the service, and that cabins for all assistant-surgeons should be specially ordered, to prevent future difficulties or neglect of the existing Admiralty Order.

8. That a staff-surgeon, ranking with commander, be allowed a servant.

9. That a staff-surgeon should be appointed to all flag-ships bearing the flag of a commander-in-chief on foreign stations, with an allowance of 5s. a day in addition to his established pay.

10. That the periods of retirement by age be fixed for
Staff-surgeon, surgeon, or assistant-surgeon, at . 55 years
Inspector-general and deputy-inspector-general . 65 „
but this regulation should only apply to new appointments.

11. That naval medical officers be considered equally eligible to honorary distinctions as army medical officers.

12. That they should have equal consideration for Greenwich hospital pensions with other officers of the service.

13. That assistant-surgeons, after completing their time for examination for the rank of surgeons, be granted two months' leave of absence on full pay, on the condition of their resuming their studies at a medical school or hospital.

14. That in order to place staff-surgeons on an equality in rank with surgeons-major in the army, they should rank with

commanders by date of commission; but we are of opinion that officers in command of H.M. ships must on all occasions be considered senior in rank and precedence to all officers placed under their command, and that a ship, as a regiment, must always be represented by an executive or combatant officer, after whom all officers should take precedence according to the relative rank conferred on them by royal authority. (See clause 10, etc.)

15. That the pay of the naval medical officers be increased in accordance with the following scale:—

Scale of Pay proposed for Naval Medical Officers.

RANK.	Under 5 years' service.		Above 5 years' service.		Above 10 years' service.		Above 14 years' service.		Above 18 years' service.		Above 22 years' service.		Above 26 years' service.		Above 30 years' service.	
	Present rate.	Proposed rate.	Present rate.	Proposed rate.	Present rate.	Proposed rate.	Present rate.	Proposed rate.	Present rate.	Proposed rate.	Present rate.	Proposed rate.	Present rate.	Proposed rate.	Present rate.	Proposed rate.
Assistant-Surgeons	10 0	12 6	11 6	12 6	13 0	15 0	13 0	17 6	18 0	22 0	22 0	24 0†	23 0	27 0	34 0	37 0
Surgeons	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Staff Surgeons	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Deputy Inspector-General of Hospitals and Fleets	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Inspector-General of Hospitals and Fleets	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Provided he passes his examination before ten years' service.

† Or on promotion.

16. That, as the prospect of optional retirement at an earlier period than at present permitted would prove a further inducement to young medical men to enter Her Majesty's service, naval medical officers should be permitted to retire after twenty years' service on full pay; but at the same time, in order to guard the interests of Her Majesty's service, the rate of half-pay awarded to officers so retiring should not exceed five tenths of their full pay, and that officers with this service should be permitted to retire on the half-pay of their rank, if, after one year on half-pay, they are found, on medical survey, to be permanently unfit for further service.

17. That as a special reward to officers of long and good service, who, owing to the comparatively small numbers of the inspectorial ranks, have not been promoted to any higher position than that of staff-surgeon, such officers of the rank of staff-surgeon as have served for twenty-five years on full pay should, on being compulsorily retired at 55 years of age or retired on medical survey, receive the half-pay of £1 a day.

We further recommend that competitive examination for admission of medical officers into the navy be established at Greenwich Hospital, after the plan adopted in the army, at Chelsea, and that professional instruction by a course of lectures and attendance at Haslar be given to medical officers on first entry, in some measure on the system adopted at Netley Hospital.

Some of the medical witnesses have stated that it is desirable that naval boards of survey should be made purely medical boards, as they are in the army; on this question, however, the committee are not agreed, and therefore offer no opinion.

(Signed)

A. MILNE.
H. B. PHILLIMORE.
DOUGLAS GALTON.
J. B. GIBSON, D. G.
A. BRYSON.
W. O. MARKHAM.
GEORGE BUSK.

APPENDIX.—PROTEST FROM SIR J. R. GIBSON.

In signing these reports, I feel called upon to record my dissent from those recommendations in which the committee suggest a different rate of pay for the officers of corresponding rank in the respective services, and a different period of service as qualifying for an increase of pay.

I do not think that the inspectorial officers of the navy are subject to more unfavorable conditions of living than those of the army. I fully concur in the augmentation of pay recommended for the former, but I am clearly of opinion the claims of the latter to equal consideration have been as fully established.

The proposal to give the medical officers of the navy an increase of pay after four years' full pay service, while the same advantage is only attainable in the army after five years, is still more objectionable. Full pay service in either department is equally valuable to the State, and so long as the rate of pay is regulated by length of service, no distinction as to the duration of the periods qualifying for the increase should be made.

When medical officers of the navy are unavoidably placed on half-pay while still effective, and when, in consequence of such reduction, they are deprived of an opportunity of completing the full pay service necessary to entitle them to the highest rate of retired pay, before being retired, under the superannuation clause of the existing warrant, their case might be met by giving to all officers so superannuated the highest rate of retired pay for which they are by rank eligible, without reference to their full pay service, and their compulsory retired service might be allowed to count for increase of pay on their re-employment. Such a measure would be but just to those whose cases form the grounds of the committee's recommendations, and it would remove all cause of complaint, without provoking discontent or affecting injuriously the interests of the army medical service, and through it, of the army.

(Signed) J. R. GIBSON, *Director-General.*

ARMY MEDICAL DEPARTMENT;
February 8, 1866.

Purchased the Army 1857
RE-ORGANIZATION

OF THE

MEDICAL DEPARTMENT OF THE ARMY,

A LETTER

TO

THE RIGHT HON^{BLE} LORD PANMURE,

MINISTER OF WAR.

BY

PHILO-MEDICUS,

FELLOW OF THE R. M. C. SOCIETY, &c. &c.

LONDON:

JAMES RIDGWAY, N^o 169, PICCADILLY.

1855.

LONDON:
PRINTED BY T. BRETTELL, RUPERT STREET, HAYMARKET.

A LETTER,

de.

MY LORD,

The Medical Officers of the Army, individually and collectively, have reason to rejoice that there is at length a positive determination to re-organize the department to which they belong. Their professional brethren in civil life share in the satisfaction; and so inseparably connected are the interests of the medical department of the Army with those of the public, that all are interested in the result.

The necessity for reform in this department has long been acknowledged. Recent events enforce it. As far back as 1844 it was whispered that the then Secretary-at-War, Sir Thomas Freemantle, was occupied with this important question; and had he remained a few months longer in office, it is not improbable that some measure improving the condition of the medical department, and benefiting the service generally, would have been promulgated. Whether his plans were not sufficiently matured, or whether they did not exactly meet the views of his immediate successors, they alone can tell who

were in the secret. The subject once dropped, there appears to have been an unwillingness to meddle with it. Education in the Army, and the normal school at Chelsea, meanwhile engaged their attention, to their honour be it said; and while every portion of the service underwent more or less supervision and change through the labours of the select committee of the House of Commons, appointed in 1851 to inquire into the expenditure on account of the Army and Ordnance, their report left "this extremely important branch of the service, one in which principles of economy should be cautiously yet vigilantly applied," in *statu quo*, with the solitary exception of recommending as a measure of economy and convenience, the consolidation and amalgamation of the Ordnance medical department with that of the Army. It would thus appear that they considered the department and its affairs either perfect, or of secondary consequence, or, feeling themselves unequal to deal with what they may have conceived to be a purely professional matter, they were constrained to leave its reformation entirely in the hands of the Director-General who, under the authority of the Secretary-at-War, has hitherto enjoyed the control over the internal economy of this branch of the Army. The commissioners may also have been deterred from entering fully into the subject by their knowledge of recent fruitless attempts to legislate for the medical profession in civil life. Medical reform has puzzled the most pains-taking committees of the House of

Commons, and for upwards of twenty years confused and perplexed the ablest Home Secretaries; but the difficulties almost insurmountable to an equitable and satisfactory remodelling of the medical profession in civil life have no existence as respects it in the Army, nor are the questions analogous or in any way connected. With a sincere and honest desire to accomplish the task, it is our conviction it would be found more easy of execution than its vast extent and importance indicate. With this belief, and trusting to the good faith of the Government, we do not despair of seeing the organization and efficiency of the medical department raised to the highest perfection.

Fortunately for all concerned, this task now devolves on one who, from the flattering circumstances of his selection to the high and honourable position he occupies in the councils of his Sovereign, offers the best hopes of its impartial consideration and successful issue. Educated in the Army, familiar with the details of staff and regimental duty, your long and tried experience at the War Office eminently qualify your Lordship to deal with the question in its full extent, while your known energy of character and firmness of purpose ensure the eradication of existing evils and the removal of palpable defects, whether the growth of time and prejudice, the vices of bureaucracy, or the consequences of a long peace and parsimonious economy. As a reformer, the eyes of the public are upon you; as Minister of War, you will be judged by the

Army, and among the numerous questions now before your Lordship there are not many, be assured, of more importance for its welfare than the one relating to the organization and efficiency of its medical department.

The faults and misfortunes recently exposed and severely commented upon are less the consequences of defective organization than of insufficient means, the false position the department holds in the army, and a vicious, enervating system, regulated by no fixed principle, pervading its constitution and depriving its administrative officers of all just influence and authority. Exercising duties, and loaded with responsibility of the highest importance, these officers lack the power to give weight to their opinions, or efficiency to their acts. Fettered and controlled by so many different authorities, subject to the Commander-in-Chief, the Master General of the Ordnance, the Adjutant-General, the Secretary-at-War, powerless with the Quarter-Master-General, unknown at the Admiralty, the Chief of the medical department occupies a most unenviable and embarrassing position. He has himself, not inaptly though somewhat humbly, characterised the department over which he nominally presides as parasitical, and living upon every other department of the Army. This officer, as things are, may suggest,—he may petition and urge,—but of himself he cannot act, except in minor matters of a purely professional nature, relating to the internal organization and

discipline of the department. The high-sounding title of Director-General is a misnomer,—an official fiction,—for virtually he possesses no power whatever out of his own office in St. James's Place. There the heart may beat vigorously, the machine may appear to work to perfection, but if examined closely, its action is circumscribed, cramped, and clogged. Hesitating, jarring, and uncertain at head-quarters, it is feeble or irregular at the extremities, and utterly incompetent or inoperative beyond the sphere of its immediate influence; it is an instrument for evil, scarcely for good to its members.

Is it surprising then that a system so complicated, eccentric, and cumbersome, a hand to mouth system that cripples action and energy in its Chief, damps zeal and paralyses the individual parts of the machine, or fetters them by routine and formalism, should, on a sudden and great emergency requiring elasticity and freedom of movement, disclose its weakness and imperfections, and fail in its intentions? Ill-adapted in time of peace, it has signally "broken down" in time of war. But who is to blame? In all justice, not the Director-General of the medical department of the Army, but the promoters of this system, the men who tied his hands and left him a victim in the hour of trial.

If he is to blame at all, it is for tamely submitting to a systematic encroachment on his office, which, in the end, leaving him but the shadow of authority, impaired his usefulness, brought down

obloquy on the department, and exposed his administrative officers to unmerited censure.

It is with no ordinary satisfaction we learn that there is likely to be a speedy end to this pernicious and obstructive mode of carrying on the duties of the department. Destroy it at once, my Lord, with a high hand. Take the medical department under your own immediate jurisdiction as Minister of War; free it from the benumbing grasp of other departments, and place its Chief in direct communication with your Lordship, and you will have accomplished the first great step towards its perfect organization and efficiency. Our next recommendation is this:—give the department individuality and independence, in a military sense, place it on a footing with the other scientific branches of the Army, the Engineers and Artillery, and bestow on its members substantive, instead of merely dubious, relative rank—thus you will insure obedience to its councils and efficiency to its acts, which, under existing circumstances, as a purely civil branch of a military body it never can command, nor ever will possess.

The medical profession in this country has not, as a body, the status it enjoys on the continent, particularly in France, however advantageous may be the social position of its members. Of late years, there has been a growing disposition on the part of the Government to take it into its councils and favour; but only of late years, since the appearance of cholera, first as an invasive and then as an

endemic disease. The medical department of the Army shared the neglect the profession experience, but has not yet met the same consideration; it never has possessed the influence and authority due to it, and indispensable to its efficiency, and the acts of the late Government rather tended to depress than elevate it.

My Lord, in all that relates to the health of an Army whether in the field or in quarters, the prevention and cure of disease, the site and construction of hospitals, the position of camps in regard to salubrity, &c. &c., the Director-General, and medical officers should possess a voice of no mean weight and authority. They should be answerable for their advice and acts, and, together with the officer commanding, responsible for the health and physical condition of the troops, to a similar extent as the Captain of a Man of War for the safety of his ship, and the sanitary state of his men. Responsibility is proportionate to position and power; where these are undefined, or held lightly, the duties connected with the office of the individual will be indifferently discharged, since assuredly the advice tendered will either be altogether unheeded or carelessly followed. Influence in professional matters is usually measured by acknowledged or supposed attainments; but, under present arrangements, a man might be Sydenham or Hippocrates himself, or possess the administrative talents of a Pitt, without the power of doing good.

No expedition should ever leave these shores without the Director-General being *consulted* in every thing concerning the health of the men. Few considerations can be of higher importance to a commander than the preservation of the health of his army, without which the most brilliant conceptions of military genius may be rendered wholly unavailing. Many an enterprise has utterly failed in its objects through imperfect organization and the neglect of sanitary measures and arrangements which, if followed, would have essentially contributed to success and saved the lives of thousands. On all such occasions, therefore, he ought to be in the confidence of the Minister of War, and the moment an expedition has been determined on, or earlier if possible, he should be made acquainted with the proposed number and probable scene of its operations, so that he may, without delay, organize his staff, prepare hospitals, and recommend such forms and modifications of clothing and diet as are likely to promote the health of the army and ensure its efficiency on service. In the field, the principal medical officer should, in like manner, be in the confidence of the officer commanding, and, to a certain extent, be received into his councils. It must ever, we repeat, be one of the first objects of a commander, the preservation of the health of his troops, and the proper distribution and care of the sick and wounded. To enable his chief medical officer to

succeed in these grand objects, he ought to support him in his measures, aid him in his authority, and give immediate attention to his suggestions. Humanity and policy alike dictate the necessity for ample provision for the disabled of an army, and here it is that the resources of the medical staff, as at present constituted, are conspicuously defective. Without the independent organization we advocate, there can be little responsibility, while there exists every facility for shifting upon others the blame of neglected duties. A General is allowably more occupied and more concerned with the effective than non-effective portion of his army. The latter come more immediately under the eye of his Quarter-Master General and medical staff. That officer naturally partakes of the partiality of his superior, and the sick and disabled, *en route*, are but too frequently entirely left to the care of the staff surgeons of division or subordinates, who with inadequate means and limited authority, are forced to provide for them as best they can.

The formation of an ambulance corps will no doubt be one of the first measures in the reorganization of the department, if it has not already fully engaged your attention. The necessity and importance of such a corps seems recently to have been fully recognized, but the principle on which it was constituted, and the class of men from which it was formed, caused so complete a failure, that unquestionably your Lordship will adopt an entirely different plan, and

procure for it men in the full vigour of life. A well-appointed ambulance corps, acquainted with its duties, trained in the field and in the hospitals, accustomed to act as orderlies, *officered and commanded by the medical staff*, would be a blessing to the Army, and of inexpressible service to the department in the execution of its duties. The ambulance corps should be selected from disciplined soldiers who have been some years in the service, and have given proofs of sobriety and steadiness, indispensable qualities to their usefulness. As a reward for continued good conduct they should have a higher rate of pay than men in the ranks, increasing with length of service, and prospective in benefit after discharge from the Army. Return to the ranks, under these provisions, would generally be a sufficiently severe punishment to deter from crime.

It would encroach more on your Lordship's time than desirable, were we to touch even lightly on the various topics comprehended in the important question now under consideration and not yet alluded to. On one of these only shall we, for the present, offer any observations, but that one strikes at the very root of the subject, and in its extent and interest would afford ample matter for another communication. Need we say we allude to the education and qualifications of the officers of the department?

My Lord, whatever may have been the consequences of defective organization and system so

often alluded to, the officers, with scarcely an exception, have faithfully discharged their duty, with credit to themselves and with benefit to their country. They have in many instances exhibited traits of heroism, devotion, and zeal for the service, worthy of their high and honourable calling, creditable to humanity, and deserving the highest reward.

If there has been any exception, we opine it has been the result of inexperience in the field, new scenes of labour, overwhelming duties, and, once more, the fault of system. We do not presume to advocate their cause or come forward to defend them. No charge has been made, and defence is unnecessary, but it is due to the medical officers of the Army in the East to state this much, and the public ought to know that no officers have been harder or more continuously worked in the field and in the trenches, while in the hospital their duties have been incessant and excessive. Moreover, we assert, without fear of contradiction, that for professional skill and acquirements they have stood pre-eminent, and that no army ever took the field so ably officered in this branch of the service.

Thanks to the late Director-General, Sir James McGrigor, whose name must ever be associated with all that is good in the department over which he so long and ably presided, the medical officers of the army, ever since the conclusion of the war with our present ally, have been selected with great care, and the studies required of them in the collateral

sciences and strictly professional subjects, before admission into the service, have exceeded the demands of any of the licensing bodies,—the universities, the Colleges of Physicians and Surgeons, or the Apothecaries' Company. We believe the present Director-General has strictly followed out Sir James McGrigor's views, and has rather added to than taken from the curriculum. There are not wanting many who condemned as superfluous certain of the preliminary qualifications. Be that as it may, the error was unquestionably on the right side, and, in time of peace, when the vacancies were few, and the applicants numerous, the regulations secured highly educated young men for the service, though they necessarily excluded many who were equally competent, and fully qualified to exercise their profession in civil life. Possessing a diploma from one of the Royal Colleges of Surgeons, or from the Faculty of Physicians and Surgeons of Glasgow, after undergoing a further examination at the Medical Board, the candidate, who must be twenty-one years of age, and not above twenty-six, was received into the service as a probationer, and, in his turn, appointed Assistant-Surgeon on the staff of the army, or to a regiment. The exigencies of this war has made it imperative somewhat to relax the stringent rules of admission, and caused to be created from among the list of legally qualified surgeons possessing a diploma from one of the aforesaid bodies, a class of "acting Assistant-Surgeons" who

are employed whenever their services may be wanted, and who are subsequently commissioned, if found efficient, as vacancies occur.

We have considered it necessary to make these remarks prior to entering on this portion of the question. The plan hitherto adopted in filling up these vacancies is perhaps unobjectionable, and as good as any that can be devised, but as competition is now deemed the best mode of securing to the public the services of talented young men in different departments, and is the mode recently adopted for the same service by the Honourable East India Company, it seems both advisable and expedient to pursue a similar course in the admission of candidates into the medical department of the Royal Army. The circumstances of either service are somewhat dissimilar, and perhaps the time has not yet arrived, but the question is worthy of consideration, and with this view we suggest it.

Much has been written and said eloquently and powerfully on the necessity of establishing a Chair of Military Surgery in London and in Dublin, similar to the one so ably filled by Sir George Ballingall, in the University of Edinburgh. Chiefly through the exertions of Sir De Lacy Evans, Sir Howard Douglas, and Colonel Boldero, backed by the all-powerful recommendation of the late Secretary-at-War, Mr. Sidney Herbert, Parliament granted in the last and present session certain sums of money for the purpose; at once countenancing and encouraging the scheme. But

where are the Professors, and where are the Students? My Lord, we make bold to say, the latter will never be forthcoming in any number to constitute a respectable class, unless it is made imperative that all candidates for the medical departments of Her Majesty's Army and Navy, and the Honourable East India Company possess a certificate of attendance upon the course of lectures proposed to be delivered by these new Professors. The uncertainty of obtaining admission into the public service, whether by favour or competition, the paucity of appointments, and the comparative uselessness, in private practice, of an acquaintance with the subjects usually treated of in a class where military surgery is taught, will otherwise effectually keep down the number. Time and money are precious, and both will be bestowed only on that which is likely to give a good return.

We have had the advantage of attending the lectures of Sir George Ballingall, but like nine-tenths of the medical officers of the army, who have enjoyed this privilege, and reaped the benefit, it was *after* we had entered the service. Nor would we advocate compulsory attendance; "Military Medicine" and "Military Surgery" can only be acquired *in* the service. It was there, in the field and in the tent, in camp and in quarters, that Pringle and Brocklesby, and Monro and Jackson, became acquainted with military hygiene and military medicine, and there only; it was there that Wiseman and Ranby, Hennen and Guthrie

first learned what military surgery really is; it was this school, and this school only, that furnished the Parés and Percys, and Larreys of France. We say it advisedly that whatever relates to military hygiene, the causes and prevention of disease in fleets and armies, is sufficiently dwelt on in the ordinary courses of practical medicine in every school, and, if not, the candidate for appointment in the medical services of the State can make himself acquainted theoretically with this subject by a course of reading and study, and lectures can do no more. Fever, inflammation of the lungs, or an attack of dysentery, is the same disease, whether it appears in a soldier or in a civilian, and requires similar treatment, modified, it may be, by peculiarities of climate, locality, and condition of the individual, arising out of the service, but neither books nor lectures can teach these things or foresee them. Nothing but a well-grounded knowledge of his profession, an intimate acquaintance with the first principles of the science of medicine, can guide the physician under these circumstances, and enable him to do that which is best for his patient, either in way of prevention or treatment. A fracture, or dislocation, is the same accident, whether it occurs in a blue jacket, a red or a black coat, and amputation does not require to be differently performed according to the profession of the unhappy sufferer. Would we then break up the Chair of Military Surgery in the University of Edinburgh, and prevent the institu-

tion of similar Chairs in the capitals of England and Ireland as useless? Certainly not. Let those attend them who may;—the more the better. Something, nay much, may be learned. Our views are these:—We consider one, or, at most, two amply sufficient. Where these Chairs are, there ought to be the school, and that school should be where there are abundant materials for the elucidation of lectures of a *clinical* and *practical* kind, to which every medical officer in the service should be invited in turn, and encouraged to give his attendance. Expectants of military or naval appointments would, with certain restrictions, be permitted to avail themselves of these lectures *gratuitously*. Let us, my Lord, still further unfold our scheme of military medical instruction.

The first suggestion we would offer, is the immediate construction and organization of an hospital worthy of the cause, worthy of the nation, a fit and proper receptacle for the invalids, the sick and wounded of our noble Army; a portion of which should be set aside for sick officers who might choose to avail themselves of the comfort and advantages thus secured to them on their first return from service. This hospital ought to be complete in all its parts, a perfect model in equipment, arrangement, and management, possessing every requisite and every modern appliance, architectural, medical, and surgical. A crowd of reasons might be adduced for fixing its site in London. Among these are, the deficient accom-

modation for the sick of the household troops, the hospitals for which are, in this respect, a disgrace to the country; the facility afforded by rail and water for the movement to and fro of disabled men, whether from the seat of war, the colonies, or the counties; the opportunities afforded to the higher authorities, the Commander-in-Chief, the Director-General himself, and others, of personal inspection at any moment; the facility of discharging the totally unfit from the service, and the opportunity given to the Commissioners of Chelsea Hospital and their representative officers, of seeing and examining these men. In all these respects and others, there is every thing for and nothing against the site we propose, while beyond all doubt it would be the best for the medical school, by enabling its officers to visit other schools and hospitals, not surpassed in this or any country. A laudable emulation would thus be maintained with the happiest results; nor would we have any fear of the comparison. If the plan proposed were adopted this hospital would afford examples of regimental and staff management. In other words, there would be a regimental hospital for the brigade of Guards, and a general hospital for the invalids of the line, either under one roof or in separate buildings; but all superintended by one chief responsible to the supreme head of the department.

This would be the field of the proposed medical school for the Army,—the *Val de Grace* of this

country,—through which, on an average, in peace, between three and four thousand disabled men would necessarily annually pass, and, in war, double or even treble this number, furnishing ample materials for practical instruction. To it would be removed the valuable library and splendid museum of pathological anatomy, illustrating the diseases incident to soldiers in all climates and now hid or lost to the service at Chatham. Here lectures would be given by the principal medical officers in charge of divisions on the cases actually under treatment, attendance upon which should be imperative. Officers from all climates would assemble here, and by intercommunication part with and receive valuable information connected with their profession. A system of oral or conversational instruction would thus be secured, of infinitely more service than set lectures, and things that never are handled there or told in books, would be brought to light and more extensively diffused and perpetuated in the department. The general management of the hospital, the practice on admission of the sick, the dietary, the mode of registering and recording the cases—every thing—ventilation, warming, &c. &c. being daily before the pupils and junior officers of the staff, would make such an impression as to render lectures on these subjects either wholly unnecessary or very secondary. Here also would be taught operative surgery in all its details, by the professor of military surgery himself, or by some

one who, from peculiar dexterity and predilection for that department of his profession, had exhibited talents fitting him for this important post, in reward for which service and as a stimulus to exertion, he ought not only to have additional pay but the certainty of more rapid promotion to the higher rank. Under the superintendence of an experienced officer, the juniors should also be instructed in the mode of examining recruits,—a most important duty which, we fear, and have reason to know, is too often negligently discharged, to the great detriment of the service and injury to the public; also the invaliding of the men, prior to their final discharge from the service,—another duty too frequently, we also know full well, carelessly performed, with equal or still greater inconvenience to the public service, and often, very often, to the injury of the deserving soldier.

Through this portal and ordeal every officer, on his first admission into the medical department, should pass, and when practicable, when the exigencies of the service will admit of it, not less than twelve months should be spent at the school of instruction before he is launched into the service. An acquaintance with soldiers, their habits, peculiarities, and diseases, can only be obtained by constantly dwelling among them; and in every instance it would be well, nay, it ought to be a rule, to attach the medical recruit, on his first entrance into the Army, to a regiment instead of placing him on the staff, as is too commonly

done. Habits of order and military discipline cannot be too early acquired, and they can only be gained by daily subjection to superiors. On the staff a young man is almost his own master. He there, in ordinary times, not only runs the risk of forgetting his profession, but he ceases to have, if he ever possessed, the feelings and qualities of a soldier. A good military medical officer must be both: he must be a soldier as well as a surgeon. The best officers in the department are the regimental medical officers; the indifferent, those who have throughout their career been on the staff of the Army. Our regimental medical system is nearly as perfect as our staff system is defective.

There is nothing utopian or even new in the outline of the scheme put forward. Common sense and observation added to ordinary powers of reflection, point it out as both feasible and necessary. Ours, in ordinary times, is a limited Army, with limited means for the purpose in view. We must make the most of them, and the plan suggested secures this advantage.

To ensure still further the objects contemplated by this school of instruction, opportunities should be afforded staff and regimental medical officers of gaining admission to it, and with the view of attracting to the school all the more junior officers of the department, and considering the increased expense of living in London or its neighbourhood, a small addition should be made to the daily pay, while the fact of having served in it, *after*

admission into the Army, should be regarded as exhibiting zeal and giving claim to promotion. The senior officers should not be removed under three, or at most, four years, nor the junior officers, of the rank of surgeon, or assistant surgeon, under a period of two years. Few things are more injurious to the interests of a general hospital and its inmates, than constantly changing its officers. As at the senior department, Sandhurst, so at this establishment there might be periodical examinations, and certificates granted, according to merit, to those who choose to submit to these trials. The increase of pay recommended could scarcely be objected to, as it must be remembered these officers would be actually discharging important duties at the moment they were gaining increased knowledge of their profession, and acquiring greater efficiency in the service.

The ambulance corps, forming an integral part of the medical department, would have ample opportunities of exercising its members, both in and out of hospital. As orderlies, they would be constantly at work in attending the sick, while in conveying them to and from the railways, steamers, or barracks, they would be acquiring that practical knowledge of their duties so essential to their efficiency in the field. A nucleus of this valuable corps might thus always be at hand, ready to be enlarged and sent forth on any emergency.

With some such scheme as the above, and the

organization and changes proposed, the Government would reap every advantage which the French system of instruction possesses, with a certainty, which it has not, of procuring for the medical service, almost without exception, young men with the highest attainments, both literary and professional, and maintaining the department in a state of perfect efficiency for all purposes. It is chiefly in the admirably organised *corps d'ambulance* that our neighbour and ally possesses superiority over us in the field and on the line of march; and, in the hospitals, if it enjoys any advantage, this is owing to the extra number of attendants, male and female, upon the sick, the perfection of the purveyor's department, its entire subjection to the orders of the medical officers, and the exemption of these officers from all duties not strictly and exclusively professional. In these respects, and in these only, is the French system of medical organization worthy of imitation.

A comprehensive reconstruction of the medical department of the Army would embrace not only the points touched upon, but a consideration of the gradation of rank and principle of promotion,—a tempting subject which we can scarcely resist entering upon; full and half pay, widows' pensions, emoluments and rewards for faithful and distinguished service. In all these, beneficial changes might be introduced. The medical officers of the Army and their survivors ought, in every respect, to enjoy the advantages possessed by their military

companions. If they do not purchase their commissions neither do many other officers, entitled to share with greater liberality in these advantages; while the military officer has open to him, from his first entrance into the Army, numerous lucrative staff appointments, the medical officer toils on without any such prospect. If they are numerically less exposed in the field, who so hard worked when the battle is over? in time of sickness they alone are occupied; when there is a suspension of hostilities, is there any cessation from their labours? who so exposed to contagion and the diseases of camps?—witness the fearful mortality in their ranks in Bulgaria, in the Crimea, at Scutari. In the din of battle, without the excitement of command, there is the surgeon or assistant side by side with his companions; calm and intrepid he must be, for at any moment he may be called upon, in the midst of the carnage and confusion, to perform the most appalling or most intricate operation in his art. On all these occasions, in the midst of trials and sufferings, the medical officers of the Army, as a body, have displayed professional abilities of the highest order, and exhibited in bold relief some of the noblest qualities of our nature. Follow them to the hospitals,—there you find them among the dead and the dying at all hours, for they know no rest from their labours; remote from the eye of their military superiors, humanely exercising their calling, receiving, it may be, the grateful acknowledgments of their humble companions, but seldom the public

approval of their General. Theirs is an unostentatious duty, nevertheless, an ennobling one. But, my Lord, our object on the present occasion is not to plead their claims to higher rewards or emoluments. We have our fixed views on these, and are ready and anxious to submit them. The efficient organization of the department is the primary question, the others are contingent.

If it be the intention, as is rumoured, to place the management of the medical department in the hands of two or more persons, to reconstruct a Board, as in former times, and make it the governing authority, under the title, in imitation of the French, of "The Council of Health for the Army," pardon us, my Lord, if we beg you will pause ere you introduce into this Board the "civil element." Throughout, we have endeavoured to press on your Lordship the necessity of at once effecting a radical change in this department by granting it an unequivocal military constitution, and we have not hesitated to affirm that until it ceases to be a civil branch of the service, it will not, it cannot, enjoy the influence and authority essential to its perfect efficiency. If the great increase to the Army, the amalgamation with the Ordnance, the engrafting of the Militia force, and the war in which we are engaged, impose duties beyond the power of a single individual to discharge, in superintending the important affairs of this department in all its extensive ramifications, permit us to suggest, for the consideration of your

Lordship, whether the objects could not be fully and more effectually attained by selecting for this Board military medical officers of experience and ability,—men qualified by habits of discipline and business, to carry out with fidelity and firmness the suggestions of the Minister. Possessing the all-important advantage of an intimate acquaintance with detail, a thorough knowledge of the requirements of the department itself, and with the Army it serves,—who so competent to advise him in all that relates to this branch of the service? There are faults of routine, official technicalities, and difficulties to be overcome; but with the new order of things proposed, the removal of the department from the paralysing grasp and incubus of minor departments and irresponsible agents, to the direct control of the Minister of War, these would speedily vanish, and unity of action, with successful design, would replace the confusion and uncertainty that now prevails and mars the best, the wisest schemes.

It would be out of place to relate the history of former Army Medical Boards, composed on the principle said to be under consideration. Suffice it to say that a mixed board gave rise to scandal, recriminations, and jealousies, which interfered with its effectiveness, and was ultimately abandoned for one of a military character with the best results. In the reconstruction of a medical board, with these views, and with this knowledge, it is our conviction that, if constituted of military

medical officers only, it would, by the simplicity of its arrangement, and the similarity of its sympathies, insure greater unity of action, with precision of effect. To each of the medical officers, forming, when assembled in council, the Army Medical Board, should be assigned especial duties, *i. e.* one might have the medical charge of the recruiting and invaliding, receive reports of the arrival of the sick and wounded, and the departure of troops for the Colonies, or service, for whom he would require to provide; a second, the charge of the medical concerns of the Army at home, in England, Ireland, and Scotland, including the Militia; a third might look more especially to the Army abroad, to the Army at the seat of war, and watch over all sanitary affairs, its supplies of medicines, &c. &c., receive reports from the different hospitals, civil and military, and give immediate effect to the orders of the Minister relating thereto. In board assembled, each member would submit, for the consideration of his colleagues, all matters of importance, his own views thereon, prior to a final decision, which would receive the approving signature of the different members. It is unnecessary to dwell further on the mode of proceeding of a board thus constituted, and furnished with the instructions of the Minister. One of its particular duties would be the examination of candidates for the department; the selection, by *concours*, of lecturers for the School of Military Medical Instruction would also be of the number, the

Minister of War confirming all appointments. There is something in a name;—in our view the President should retain the title of Director-General of the Medical Department of the Army; the next in seniority might be called Physician-General; the third, either Surgeon-General or Principal Inspector-General. These are titles which formerly existed, and better could not be substituted for men holding the high position of advisers of the Minister of War, in the direction and superintendence of the medical department of the Army.

I have the honour to be,

MY LORD,

Your Lordship's most obedient
humble Servant,

PHILO-MEDICUS.

LONDON:

PRINTED BY T. BRETTELL, RUPERT STREET, BAYMARKET.

REMARKS ON THE ROYAL WARRANT

REGULATING THE

RANK, PAY, PROMOTION, AND RETIREMENT

OF

ARMY MEDICAL OFFICERS:

(OCTOBER, 1855.)

ADDRESSED TO

THE RIGHT HONORABLE GENERAL PEEL,

Secretary of State for War.

"Le vrai 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."

DUBLIN:

R. D. WEBB AND SON, GREAT BRUNSWICK STREET.

1855

REMARKS,

&c.

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.

STOBS 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. Dence! (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 BONAPARTE." 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.	20 Years.	25 Years.	30 Years.	35 Years.	40 Years.	45 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	25 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.

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.

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.

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.

Clause 29.—Band and mess subscription to be paid but once.

Clause 30.—The presence of a medical officer not necessary when deserters are branded.

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.

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. 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.

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."

From the Author -
(for the Library of the Officers of the Army
THE CASE *Medical Staff,*
Netley.



OF THE

MEDICAL OFFICERS

OF THE

GUERNSEY ROYAL MILITIA.

by
J. Ellick-Hustler, M.D., D.D.S., D.R.C.P.
formerly Deputy Inspector of the Guernsey
Royal Militia.

LONDON:
PRINTED FOR PRIVATE CIRCULATION,
AMONG THE MEMBERS OF BOTH HOUSES OF PARLIAMENT.
1861.

THE
MEDICAL OFFICERS
OF THE
GUERNSEY MILITIA.

MARCH 1, 1861.

For nearly twelve months a question has been pending between the Lieutenant-Governor of Guernsey, and the Medical officers of the Militia, relative to the appointment of Dr. Ozanne, an avowed homœopath, as a staff-surgeon in that force. The question is entirely of a public nature. It concerns the whole of the Medical profession, whether engaged in Army, Navy, Hospital practice or otherwise, and the Military Service generally.

Without seeking to discuss the merits or demerits of any peculiar doctrines or dogmas, the Medical officers object to co-operate with homœopaths on the broad principle, that persons holding diametrically adverse opinions, as to theory and practice, cannot concur

in any measure conducive to public or private benefit.

In a Military, as well as a Medical point of view, the appointment above alluded to is irregular and objectionable. Dr. Ozanne, without having done any public duty, was summarily elevated over the heads of all the Regimental Medical officers, and placed on a Staff previously composed, exclusively, of Surgeons promoted thereto in consequence of seniority, and great length of service. A recent Militia order states that he is now "attached to head-quarters,"—an ambiguous phrase susceptible of the most opposite interpretations; but his name is retained in the Army List in connection with the Guernsey Militia, as the sole representative of its Medical-Staff.

The Royal Militia of Guernsey forms an integral part of the British forces, with its registered place in the Army List. The attempt to engraft homœopathy, even upon this remote branch, forms a dangerous precedent, which may lead to its introduction into the regular Army, the Navy, and into our Public Hospitals. Unless homœopathy be legally admitted into these services, it must be hazardous to obtrude it into the

Guernsey Militia, in which, as elsewhere, a combination of discrepant systems cannot but produce discontent, confusion, and interruption of discipline.

Maintaining the principles before stated, and finding that the respectful representation of their honest convictions was disregarded by the Lieutenant-Governor, the Medical officers deemed it right to tender the resignation of their commissions, and they subsequently memorialized the Right Honourable the Home Secretary on the subject.

After the lapse of nine months, the Staff-Surgeons were favoured by the acceptance of their resignations; but this indulgence was refused to the Regimental Medical officers, who continue to perform their duties gratuitously, although they are liable at any moment to professional association with a homœopath, who, according to an unrescinded Militia order, has the right to preside in his turn at Medical Boards, and to attend in rotation on the field, where as Staff-Surgeon he is entitled to command not only all Regimental Medical officers of the Militia, but all those junior to himself in rank in the Regular Army, when, as occasionally happens, Her Majesty's troops are brigaded

with the Militia. This association would be particularly painful to their feelings, and is one from which in civil life they would carefully guard themselves.

The plea set forth for granting a commission to Dr. Ozanne is, that the Lieutenant-Governor had not otherwise the power to save him from doing duty in the ranks, according to the "peculiar constitution" of the Guernsey Militia. It is true that all natives of the Bailiwick, and others of Her Majesty's subjects resident therein, are bound to perform personal service in the Militia; but this rule admits of exceptions.

The above mentioned plea, whereby the regulations of the Medical department of the Army are evaded, will on further examination be found to be fallacious. Lieutenant-Governors have always exercised the power of exempting certain persons from all Militia duty. The present Lieutenant-Governor possesses the power inherent in his predecessors. He may grant total exemption, unquestioned, to his own private and personal attendant, and in this manner redress the grievances complained of, without any sacrifice of dignity or authority on his part.

The Lieutenant-Governor carefully disclaims the in-

tention of forcing the Medical officers into professional contact with Dr. Ozanne; but his successor cannot be bound by his intentions, and may view it as a strange anomaly, that no duties can be assigned to a person whose name appears on the Army List in connection with the Militia. Moreover, so long as Dr. Ozanne holds a commission he has a right to claim the performance of the duties defined in an unrescinded Militia order, dated October 15th 1844.

For the purpose of retaining an individual in a manifestly false position, injustice is done to a whole body of Medical officers. The organization of the Medical department of the Militia is disturbed. The staff is arbitrarily disposed of. The Regimental officers are refused permission to resign, or to serve in the ranks, which they would prefer, so long as Dr. Ozanne holds any medical appointment in connection with the Militia, and so long as his name is retained in the Army List.

The Right Honourable the Home Secretary declines any further interference in a matter which is declared to be settled "after a very full and careful examination!" A mode of settling the question which leaves grievances unredressed, in a manner savouring strongly of

a denial of justice. Such being the state of affairs a more searching investigation than that hitherto vouchsafed seems to be requisite.

The production of the whole of the official correspondence which has taken place, would doubtless reveal such evidence as would tend to a speedy settlement of the question at issue, without compromising the dignity or the authority of the Lieutenant-Governor of Guernsey, without injustice to Dr. Ozanne, and with entire satisfaction to those who now feel deeply aggrieved, and are fulfilling duties in Her Majesty's service under protest and compulsion.

G.M.D. • Petition Office - April 24 1862

It having been intimated to the Lieut-Governor that his term of service in this Command was shortly to expire, the necessity of retaining Surgeon John Ozanne upon the personal staff of the Commander in Chief (C.C.) was no longer urgent. His Excellency therefore accepts the resignation which that officer has tendered of the appointment ^{holding} by him, and has directed that his name be placed at the unattached list of the Royal Guernsey Artillery.

Printed by A. Schulze, 13, Poland Street.

by order 2 J. White, Secretary
Lieut-Governor



DEFENCE

OF

BRIG. GEN'L WM. A. HAMMOND,

SURGEON GENERAL U. S. ARMY.



DEFENCE

OF

BRIGADIER GENERAL WM. A. HAMMOND,
SURGEON GENERAL U. S. ARMY.

The accused has been arraigned and tried upon the following charges and specifications:

Charges and Specifications preferred against Brigadier General William A. Hammond, Surgeon General United States Army.

CHARGE I.—“Disorders and neglects to the prejudice of good order and military discipline.”

SPECIFICATION 1st.—“In this; that he, Brigadier General William A. Hammond, Surgeon General United States Army, wrongfully and unlawfully contracted for, and ordered Christopher C. Cox, as Acting Purveyor in Baltimore, to receive blankets of one William A. Stevens, of New York. This done at Washington city, on the seventeenth day of July, in the year of our Lord one thousand eight hundred and sixty-two.”

SPECIFICATION 2d.—“In this; that he, Brigadier General William A. Hammond, Surgeon General as aforesaid, did, on the first day of May, in the year of our Lord one thousand eight hundred and sixty-three, at Washington city, wrongfully and unlawfully, and with intent to favor private persons, resident in Philadelphia, prohibit Christopher C. Cox, as Medical Purveyor for the United States, in Baltimore, from purchasing drugs for the army in said city of Baltimore.”

SPECIFICATION 3d.—“In this; that he, the said Brigadier General William A. Hammond, Surgeon General United States Army, did unlawfully order and cause one George E. Cooper, then Medical Purveyor for the United States in the city of Philadelphia, to buy of one William A. Stevens blankets, for the use of the Government service, of inferior quality; he, the said Brigadier General William A. Hammond, then well knowing that the blankets so ordered by him to be purchased as aforesaid were inferior in quality, and that said Purveyor Cooper had refused to buy the same of said Stevens. This done at Philadelphia, in the

State of Pennsylvania, on the twenty-eighth day of May, in the year of our Lord one thousand eight hundred and sixty-two."

SPECIFICATION 4th—"In this; that he, the said Brigadier General *William A. Hammond*, Surgeon General United States Army, on the fourteenth day of June, in the year of our Lord one thousand eight hundred and sixty-two, at the city of Washington, in the District of Columbia, unlawfully, and with intent to aid one *William A. Stephens* to defraud the Government of the United States, did, in writing, instruct *George E. Cooper*, then Medical Purveyor at Philadelphia, in substance as follows:

"Sir: You will purchase of Mr. *W. A. Stephens* eight thousand pairs of blankets, of which the enclosed card is a sample. Mr. *Stephens'* address is Box 2500, New York. The blankets are five dollars per pair; and which blankets so ordered were unfit for hospital use."

SPECIFICATION 5th—"In this; that he, the said Brigadier General *William A. Hammond*, Surgeon General United States Army, on the sixteenth day of June, in the year of our Lord one thousand eight hundred and sixty-two, at the city of Washington, did corruptly, and with intent to aid one *William A. Stephens* to defraud the Government of the United States, give to the said *William A. Stephens* an order, in writing, in substance as follows: 'Turn over to *George E. Cooper*, Medical Purveyor at Philadelphia, eight thousand pairs of blankets;' by means whereof the said *Stephens* induced said *Cooper*, on Government account, and at an exorbitant price, to receive of said blankets, which he had before refused to buy, seventy-six hundred and seventy-seven pairs, and for which the said *Stephens* received payment at Washington in the sum of about thirty-five thousand three hundred and fourteen dollars and twenty cents."

SPECIFICATION 6th—"In this; that he, the said Brigadier General *William A. Hammond*, Surgeon General United States Army, on the thirty-first day of July, in the year of our Lord eighteen hundred and sixty-two, at the city of Philadelphia, in the State of Pennsylvania, well knowing that *John Wyeth & Brother* had before that furnished medical supplies to the Medical Purveyor at Philadelphia which were inferior in quality, deficient in quantity, and excessive in price, did corruptly, unlawfully, and with intent to aid the said *John Wyeth & Brother* to furnish additional large supplies to the Government of the United States, and thereby fraudulently to realize large gains thereon, then and there give to *George E. Cooper*, then Medical Purveyor at Philadelphia, an order, in writing, in substance as follows: 'You will at once fill up your store-houses, so as to have constantly on hand hospital supplies of all kinds for two hundred thousand men for six months. This supply I desire that you will not use without orders from me.' And then and there directed said Purveyor to purchase a large amount thereof, to the value of about one hundred and seventy-three thousand dollars, of said *John Wyeth & Brother*."

SPECIFICATION 7th—"In this; that he, the said Brigadier General *William A. Hammond*, Surgeon General United States Army, about the eighth day of October, in the year of our Lord eighteen hundred and sixty-two, at Washington city, in contempt of, and contrary to the provisions of, the act entitled 'An act to reorganize and increase the efficiency of the Medical Department of the Army,' approved April 16, 1862, did corruptly and unlawfully direct *Wyeth & Brother*, of Philadelphia, to send forty thousand cans of their 'Extract of Beef' to vari-

ous places, to wit: Cincinnati, St. Louis, Cairo, New York, and Baltimore, and send the account to the Surgeon General's Office for payment; and which 'Extract of Beef' so ordered was of inferior quality, unfit for hospital use, unsuitable and unwholesome for the sick and wounded in hospitals, and not demanded by the exigencies of the public service."

SPECIFICATION 8th—"In this; that he, the said Brigadier General *William A. Hammond*, Surgeon General United States Army, about the first day of March, in the year of our Lord eighteen hundred and sixty-three, at Washington city, in disregard of his duty, of the interests of the public service, and of the requirements of the act entitled 'An act to reorganize and increase the efficiency of the Medical Department of the Army,' approved April 16, 1862, did order and direct that the Medical Inspectors should report the result of their inspections direct to the Surgeon General."

CHARGE II—"Conduct unbecoming an officer and a gentleman."

SPECIFICATION 1st—"In this; that he, Brigadier General *William A. Hammond*, Surgeon General United States Army, on the thirteenth day of October, in the year of our Lord eighteen hundred and sixty-two, at Washington city, in a letter by him then and there addressed to Dr. *George E. Cooper*, declared in substance that the said *Cooper* had been relieved as Medical Purveyor in Philadelphia because, among other reasons, 'Halleck,' meaning Major General *Henry W. Halleck*, General-in-Chief, requested, as a particular favor, that *Murray* might be ordered to Philadelphia; which declaration so made by him, the said Brigadier General *William A. Hammond*, Surgeon General as aforesaid, was false."

An additional charge and specifications preferred against Brigadier General *William A. Hammond*, Surgeon General United States Army:

CHARGE III—"Conduct to the prejudice of good order and military discipline."

SPECIFICATION 1st—"In this; that he, the said Brigadier General *William A. Hammond*, Surgeon General United States Army, on the 8th day of November, A. D. 1862, at Washington city, did, unlawfully and corruptly, order and cause *Henry Johnson*, then Medical Storekeeper and Acting Purveyor at Washington city, to purchase three thousand blankets of one *J. P. Fisher*, at the price of \$5.00 per pair, and to be delivered to Surgeon *G. E. Cooper*, U. S. A., Medical Purveyor at Philadelphia."

SPECIFICATION 2d—"In that he, the said Brigadier General *William A. Hammond*, about the 3d day of December, A. D. 1862, at Washington city, unlawfully and corruptly purchased, and caused to be purchased, of *J. C. McGuire & Co.*, large quantities of blankets and bedsteads, and which were not needed for the service."

BY ORDER OF THE PRESIDENT OF THE UNITED STATES:

Judge Advocate General.

In submitting to the consideration of the Court a case which has occupied nearly three months of incessant labor, and has been stretched by the prosecution over a very extensive field of enquiry, the accused feels that a few prefatory words may not be inappropriate.

The patient and courteous attention the Court has given to the case, justifies him in the expectation that they will weigh carefully, and with candid minds, the views of the law and the testimony it becomes his duty to develop, and he hopes that beyond this, they will appreciate the peculiar circumstances surrounding and influencing his responsible and greatly complicated duties, which he thinks should be measured by no contracted rule deduced from the past experience of the service, but ought to be estimated in the light of a new and suddenly developed necessity, which, taxing to the utmost the resources of the country itself, devolved upon the Department over which the accused was called to preside, duties and responsibilities to which its previous machinery was very inadequate, and which demanded prompt and energetic action. The accused is very far from indulging in any self-laudation, but common justice he thinks requires that whatever there was peculiar in the surroundings of his official position should be fairly considered. A system of administration adequate to supply the wants of less than twenty thousand men during a time of unbroken peace, stands in striking contrast to the requirements of a Department called upon to minister to the myriad wants of a million of men. It was likewise essential that as this great country in its struggle against rebellion had attracted the regards and admiration of the world by the rapid and wonderful development of its resources in all other branches of the national service, the administration of its Medical Department should also be equal to its new experience, and that the soldiers of the State should not only go into the field fully supplied with medical stores, but that in camp and hospital, on the field and in the bureau, our system and its practical working should at least be equally efficient with that of any of the leading European nations, of whose experience in frequent and protracted wars we had become the heritors.

It was, therefore, with no little ambition thus to administer his Department, and with large views of his duties and responsibilities that the accused went into office.

In his construction of the powers conferred upon him by the law, the then existing regulations, themselves law, and the former practice of the Bureau itself, he does not consider himself mistaken; for his experience has but the more strongly satisfied him that for the energetic and thoroughly intelligent administration of the Surgeon General's office, there should be resident in that officer the power of prompt action, when circumstances, sudden in their origin and in the very nature of things known to him in advance of, and more completely than to his subordinates, require such action. He will presently fully discuss the law of the case, and trusts to make clear to the Court the correctness of the view by which he has been governed. Before doing this, however, he has a single reference to make to the imputations upon his official integrity and personal honor involved in the charges and specifications upon which he has been tried.

To lose an official position, even though it be as high and honorable as the one he holds, is of small relative importance; but to have a reputation hitherto unstained and unsuspected, held up to the notice of his fellow-citizens and the scrutiny of his military peers, upon allegations of fraud, corruption, and even of personal untruthfulness, is more difficult to bear. Upon this part of the case he points to the twenty-four hundred pages of record before you, on which it has been sought to impress the proof of his corrupt conduct, and he invites to it your closest scrutiny, in the absolute confidence of an integrity of purpose and conduct its volumes fully vindicate in despite of a prosecution that has spared no labor to convict, and of the marked peculiarities of which he will not at this time trust himself further to speak.

The moment that he found that his official conduct was called into question, he sought with earnest and persistent effort for this opportunity of vindication, and he has been sedulously careful to invite the fullest scrutiny of all that he

has done. He has desired neither evasion nor concealment, and he now submits his case to the consideration of the Court, whose members can have no feeling beyond the soldierly desire to reach such conclusions as may be justified by the substantial merits of the case.

At the very threshold of the enquiry then we are met by the question: What are the powers and duties of the Surgeon General?

The first charge is "disorders and neglects to the prejudice of good order and discipline."

And the first specification is that the accused "wrongfully and unlawfully contracted for and ordered Christopher C. Cox, as Acting Purveyor in Baltimore, to receive blankets of one William A. Stephens of New York. This done at Washington City, on the seventeenth day of July, in the year of our Lord, one thousand eight hundred and sixty-two."

It is sufficient for the present enquiry to take the order of the Surgeon General, p 34 of the record, as the basis of this specification, without enquiring as to what preceded it, but for the purpose of the argument assuming that this was the first step leading to the order given by Dr. Cox to Stephens, on the 38th page of the record. With this must also be associated two other facts; first the telegram from Dr. Cox to the Surgeon General, dated 2nd July, 1862, on page 00, and the telegram of Dr. Cox to Mr. Stephens, on the 4th of July, 1862, page 00, and that the blankets were good and at a fair price.

The facts will then appear in substance as follows: Dr. Cox had received an order to send a supply of blankets to Fortress Monroe. He had none on hand, and could not procure them in Baltimore, and sent an agent to New York to get them. Of these facts he informed the Surgeon General by telegram of the 2nd of July, 1862. On the 3d of July he telegraphed Stephens in New York to send them—on the 4th he telegraphed him not to send them, as he was supplied. He did not communicate these two last telegrams or the fact that he was supplied to the Surgeon General.

On the 10th of July the Surgeon General ordered him to purchase from Stephens.

The question is, had the Surgeon General power by law to direct this purchase.

The act under which the accused was appointed to office, to wit: the act of 16th of April, 1862, does not create the office of Surgeon General, nor does it define or limit his powers, except in some two or three particulars; nor does it prescribe the mode of action for the powers which he may lawfully exercise.

The 2d section provides "that the Surgeon General to be appointed under this act shall have the rank, pay and emoluments of a Brigadier General. There shall be one Assistant Surgeon General, and one Medical Inspector General of hospitals; * * and the Medical Inspector General shall have, under the direction of the Surgeon General, the supervision of all that relates to the sanitary condition of the army, * * * under such regulations as may hereafter be established."

Section 3d. There shall be eight Medical Inspectors, * * who shall be charged with the duty of inspecting, * * and who shall report to the Medical Inspector General under such regulations as may hereafter be established. * *

Section 4th. All these officers shall, immediately after the passage of this act, be appointed * * by selection from the medical corps of the army, or from surgeons in the volunteer service, without regard to their rank when so selected, and with sole regard to qualifications.

Section 5th. The Medical Purveyors shall be charged, under the direction of the Surgeon General, with the selection and purchase of all medical supplies. * * In all cases of emergency they may provide such additional accommodations for the sick and wounded of the army, and may transport such medical supplies as circumstances may render necessary, under such regulations as may hereafter be established; and shall make prompt and immediate issues upon all special requisitions made upon them under such circumstances by medical officers; and the special requisitions shall consist simply of a list of the articles required, the qualities required, dated and signed by the medical officers requiring them."

The substance of the whole act bearing upon the questions

involved in these issues has been inserted to avoid repetition when the question of the powers of the Surgeon General, involved in the 8th specification of the first charge, come to be considered.

It is thus clearly apparent that the Legislature, by this act, recognize the existing office of Surgeon General, and also the office of Purveyor. Neither of these offices is created by this law; both are embraced in its provisions.

The rule of interpretation, perfectly consonant with the plainest common sense, is settled. We are to look back for the law creating these offices, and defining the duties appurtenant to each.

The designation of the respective offices marks the duties appurtenant to them. The Surgeon General, unless there be some superior known to the law, implies the head of the Medical Department. The word purveyor means one who selects and purchases supplies, generally under the direction of another. A purveyor of the Medical Department carries with it the idea as inseparable from it, of an officer charged with the selection and purchase of medical supplies under the direction of the head of the Department, unless by law there is a restriction on the powers of that superior.

But we are not left to philological speculation on this subject. It has received judicial construction from the highest tribunal in the country whose decision is law until changed by constitutional legislation.

The office of Surgeon General was created by the act of 3d March, 1813, 3 Stat. at large, p. 819, 20; § 7, and "his powers and duties" were to "be prescribed by the President of the United States." The office of Apothecary General was created by the same section, with like limitation as to his powers, but that office was dropped when the military peace establishment was reduced by the act of 2d March, 1821, 3d Stat. 616, § 10.

It is well settled as any other rule of construction, that when power is given to the President by law over any one of the several branches of the Executive Department, the head of such Department acts as the President, and orders issued, or regulations promulgated by him, are orders and regulations of the President.

Wilcox vs. Jackson, 13 Pet., 498: U. S. vs. Eliason, 16 Pet., 291: Williams vs. U. S., 1 How., 614, are all cases directly in point, and equally so is that of Freeman vs. U. S., 3 How., 556.

We have then the law creating the office, and express authority given to the President to define the powers and duties of the Surgeon General.

The earliest regulations on this subject which are now extant are those of Sept. 1818, issued "By order (signed) D. Parker, Adj. & Ins. Genl.," [which were added to in March 1819,] and an original copy of both of which is exhibited to the Court with this paper.

By the first paragraph the Surgeon General is made "the director and immediate accounting officer of the Medical Department. He shall issue all orders, and instructions relating to the professional duties of the officers of the Medical Staff; and call for and receive such reports and returns from them as may be requisite for the performance of his several duties.

The Apothecary General was, with his assistant, empowered to "purchase (according to an estimate therein provided for) all medicines, &c., required for the public service of the army"—(p. 4.)

This was the germ of the medical purveyorship. Thus the law continued to 1832, when new regulations signed, "By order of Maj. Genl. Macomb, R. Jones, Adj. Genl.," dated 13th Aug., were promulgated under authority of the War Department. The first paragraph of these is almost *totidem verbis*, that of the regulations of 1818. There were then in the service Medical Directors who were charged with almost the identical services by the act of 16th April, 1862, imposed on the Medical Inspectors, and they had to report, by the 2d paragraph, to the Surgeon General. The 13th paragraph, p. 5, contains the same provision as to medical supplies to be purchased by the Apothecary, as in the previous regulations.

The next regulations were issued in 1840 by J. R. Poinsett, Secretary of War.

The first paragraph is as follows: "The Surgeon General

is stationed at the city of Washington, and is *under the direction of the Secretary of War* charged with the administrative details of the Medical Department, and has complete control of all the officers belonging to it." The words in italics are, except in the designation of the officer, the words used in the 5th section of the act of 16th April, 1862, in giving the power of purchase, &c., to purveyors.

Paragraph 14, p. 3. *The Medical Purveyors will under the direction of the Surgeon General * * * purchase all* (medical supplies.)

Here we have the same phraseology used in giving power to the Surgeon General under the direction of the Secretary of War, as is given to the purveyors in their office under the direction of the Surgeon General, and it would be exceedingly difficult, it is thought, logically impossible to make a distinction between the two.

In 1850, Sept. 25, new regulations were promulgated by C. M. Conrad, Secretary of War. The first sentence of the first paragraph of these regulations is copied from those of 1840. The second is as follows: "He will assign Surgeons and assistant Surgeons to regiments, posts, or stations, and will issue all orders and instructions relating to their professional duties, and all communications from them, which may require the action of the Secretary of War, or the General commanding the army will be made direct to him."

In the 3d paragraph "He will require from the medical purveyors quarterly accounts current of moneys received and expended by them, with estimates of the funds required for the ensuing quarter; and the returns of articles received and issued with duplicates of the invoices of all supplies put up for, and delivered or forwarded to the several Surgeons or Assistant Surgeons of the army and the private physicians employed.

The 4th section provides still further for the accounting by the purveyors to him, and through him to, and with the Treasury Department.

The 5th that the Medical Directors shall report to him, &c.

Article 7, p. 10.—The Medical Purveyors *will, under the direction of the Surgeon General * * ** purchase all medicines, hospital stores, &c., required for the Medical Department of the army, &c.

The 18th provides for the issuing of the supplies so provided by them.

The 19th and 20th for their accounting to the Surgeon General.

Thus stood the law, and the regulations under it, without any material modification of them at the passage of the act of the 16th April, 1862. There are regulations in 1856, '57, and '60, but they do not modify or change those already referred to.

We have seen how far that law in terms changed the law as it then stood in relation to the Surgeon General, and the Medical Purveyors. That it did not in *express terms* repeal it is beyond dispute. Did it effect such repeal by implication?

On this point there is scarcely room for the most severe and accurate criticism to raise a question of doubt. The case of *Wood vs. the United States*, 16 Pet., 362, in the Supreme Court, involved the question of the repeal of a law by implication, and if not conclusive is very instructive in this case. Judge Story delivering the opinion of the Court says, "The question then arises whether the 66th section of the act of 1799, ch. 128, is repealed, or whether it remains in full force. That it has not been expressly or by direct terms repealed is admitted; and the question resolves itself into the more narrow inquiry, whether it has been repealed by *necessary* implication. We say by *necessary* implication, for it is not sufficient to establish that subsequent laws covers some or even all of the cases provided for by it; for they may be merely affirmative, or cumulative, or auxiliary.—But there must be *positive repugnancy* between the provisions of the new laws, and those of the old; and even then the old law is repealed by implication only *pro tanto* to the extent of such repugnancy."

The rule thus distinctly enunciated by the Supreme Court is directly, and especially applicable to this case. We have

here a statute, not creating an office, but providing for an office already existing, and prescribing a selection for that office from particular classes of persons; not prescribing the powers and duties of the officer, but necessarily implying them as well settled. There is therefore not only no repugnancy between the two laws, but an emphatic though silent recognition of the old law, both as to the Surgeon General, and the Medical Purveyor. Indeed the phraseology of the 5th Section is such as to admit of no doubt that Congress recognized the existence of the former law and regulations then in existence. For in the second sentence of that section they in terms provide new duties for the Purveyor, to be performed under such regulations as shall thereafter be established, recognizing the power of some superior authority to make regulations, and (indirectly) the existence of regulations under which all other duties were to be performed. Not a word is said of regulations in respect to the selection and purchase of supplies and their distribution generally; as to all such duties as were theretofore imposed by regulations on the purveyors, and which were necessarily subjects of regulation, without which indeed there could be neither system nor accountability. But these new duties were to be performed under new regulations thereafter to be established, so as to make the whole homogeneous and consistent, and to bring under one head all the administrative details of the department.

Every rule of interpretation combines to make the recognition of existing regulations part of the new law. The very phraseology of the act, the power of direction given to the Surgeon General and the power of selection and purchase under such direction are borrowed from the regulations then existing, and give an unmistakable significance to the intention of the Legislature.

But this is not all. The Supreme Court, in the case of *The United States vs. Freeman*, 3 Howard, 364: have removed all doubt on this subject. They say "the correct rule of interpretation is, that if divers statutes relate to the same thing, they ought all to be taken into consideration in construing any one of them, and it is an established rule of law

that all acts in *pari materia* are to be taken together as if they were one law. *If a thing contained in a subsequent statute be within the reason of a former statute, it shall be taken to be within the meaning of that statute.*"

Nothing could be more apposite to the question under consideration. The reasons of the former statute creating the office and giving to the President the right to define and limit the powers and duties of the officer when the army was small and the country in the midst of peace and prosperity, have ten-fold more force and potency when applied to a condition of intestine war—when a million of men are in the field, and the country is torn with the fury of hostile armies; when the Medical Department is to be reorganized, and its powers and duties multiplied, and so vastly extended, and where the detail of its duties must depend on so many contingencies.

But the opinion proceeds at page 365. "If it can be gathered from a subsequent statute in *pari materia*, what meaning the Legislature attached to the words of a former statute they will amount to a legislative declaration of its meaning and will govern the construction of the first statute." Here too we find the same reason prevailing; for it is obvious that the Legislature in this last act intended to recognize the existence of regulations by which the Surgeon General was recognized as the head of the Department, having control over the purchase and distribution of the medical supplies.

Again at page 367 the Court says, "The Army regulations when sanctioned by the President, have the force of law, because it is done by him by authority of law," p. 366. "The President sanctioned those regulations, and by doing so, delegated his authority as he had a right to do to the Secretary of War."

It is impossible on these citations to escape from the conclusion that the Act of 16th April, 1862, left in full force the regulations then existing, and the power of the President to modify or repeal them.

Finally the same Court has said in *The United States vs. Eliason*, 16 Pet., 302: The Secretary of War is the regular constitutional organ of the President for the administration

of the Military establishment of the nation: and the rules and orders promulgated through him must be received as the acts of the Executive, and as such be binding on all within the sphere of his legal and constitutional authority.

Taking these rules as our guide, it cannot successfully be denied that the Surgeon General had the power to control the purveyors in their purchases; to *direct* what they should purchase, when they should purchase, from whom they should purchase; and prohibit them from purchasing at particular places or from particular persons. For the abuse of such authority he would be held amenable to the judgment of a Court Martial; for a proper and faithful exercise of it he is responsible to his country.

And such has been the received construction in the Department itself as is abundantly shown in this case, by the evidence in the record of the orders given by the Surgeon General Findley to purchase from the Wyeths and others.

But we go further. We maintain that he had authority in the exercise of a sound discretion to make purchases himself. For the power given him to direct the purveyors in their selection and purchase, implies the power in himself to make such purchases if he shall see fit. They are to be charged with the selection and purchase. But that is subordinate to the power of the Surgeon General to *direct* such selection and purchase, and included in that general authority to him as the less is included in the greater. And such, as is shown in this record by the contracts made by his predecessor, was the received construction of the office at the time of his accession to it. There must be something morally wrong, some bad motive, some corrupt intent, to subject him to trial for the exercise of the power.

The power given the purveyor is intended to be auxiliary to the authority granted to, and the duty imposed upon the Surgeon General, because it would be physically impossible for him in the multitude of the onerous duties imposed on him, to give his personal attention to the procuring of the supplies. It is not and was not intended to be an exclusive and independent power—nor is that required by the policy of the law, or the character of the duties with which they

are charged. It would be inconsistent with all the residue of the power granted to him so to construe it, and it is in all respects consistent with those powers to recognize him as the head having the power to do the thing and them as the agents acting under his directions.

Most of these positions apply with still greater force to the 8th specification of the first charge, as to his giving orders to the inspectors to report directly to him.

In the first place there was no Inspector General till August, 1862. From the time he did report for duty in August, 1862, he made no report to the Surgeon General except an annual report and reports on special duties, with which he was charged by the Surgeon General. Such is the distinct and positive proof on the record.

But this order is merely cumulative. It does not prohibit the Inspectors from reporting to the Inspector General. Its utmost scope is to obtain from them that information which every one must see was essential to the proper discharge of his duties in providing for the health of the soldiers, guarding against the dissemination of disease, administering to the relief of the sick and wounded, and which had previously by tacit custom been sent direct to him by the Inspectors. It is too apparent he had no other means of procuring the material knowledge so essential to the due administration of his office, and without which he would have been justly held to accountability for neglect or incapacity, and it fell within the necessary scope of his powers to require *from all his subordinates* every species of information which they could contribute to enable him to organize and carry out the schemes of medical treatment which daily experience enabled him to ripen and perfect. Moreover it is shown that at the time he so ordered the Medical Inspectors to report to him, the regulations which the law requires to give it effect had not been established.

As though the prosecution had anticipated this construction of the law, and to guard against a failure on that ground, they have followed up the first specification of the first charge by a second specification, charging that the accused not only wrongfully and unlawfully, but also with *intent to favor*

private persons resident in Philadelphia, did prohibit Christopher C. Cox, as Medical Purveyor for the United States in Baltimore, from purchasing drugs for the army in said city of Baltimore.

It is not specified who the private persons were in Philadelphia, thus intended to be benefitted, nor that Dr. Cox was prohibited from purchasing every where else except in Philadelphia, nor that he was directed to purchase from any particular individuals—it is he was prohibited from purchasing in Baltimore. Greater uncertainty, less precision, a broader net for the introduction of loose and irrelevant proofs under the cover of showing the intent have rarely been presented to a court, and the record shows it was availed of to an extent that is almost marvellous. Indeed in no other way could they have introduced the proof they have put upon the record of the arrangement made by the Sanitary Commission to supply the hospitals in and about Washington daily with fresh, wholesome marketing and vegetables, and by which they designed to show a collusion and injurious association to the injury of the patients between the accused and that noble charity. Fortunately for the accused, and the interests of humanity, that effort not only signally failed, and stands rebuked by the evidence of Dr. Abbott and Mr. Knapp, but it is clearly shown by the testimony of the latter that the accused did not favor the purchases in Philadelphia, preferred the market of Baltimore, and did not relinquish that preference until careful enquiry had shown that Philadelphia was more reliable and cheaper.

We come back then to the prohibition to Dr. Cox as the remaining ground of this specification. If we are right in the construction of the law, there is nothing in the evidence which has the weight of a feather in proving the intent charged.

It is beyond dispute that nearly a year before the time named in this charge, the accused had established five principal purchasing purveyorships, of which Baltimore was not one: that in despite of this order, which was publicly announced and of which Dr. Cox had notice, Dr. Cox continued to buy and to buy largely in Baltimore, while the accused was

laying up vast stores of hospital supplies in other cities where they could be more advantageously purchased, and whence they could be more conveniently distributed. That they could be purchased more advantageously in New York and Philadelphia is distinctly shown, both by the testimony of Surgeon J. R. Smith as to Philadelphia, and the concurrent testimony of the bills, and witnesses scattered through the record.

Now no rule is better settled both in the judicial forum and that of common sense and common justice in the application of evidence than that which prohibits the imputation of a wrong motive when a fair and honest one is equally apparent. We are not obliged to resort to the rule in this case, for it is proven that the order referred to in the specification was but intended to carry into effect the general order already mentioned, disregarded by Dr. Cox, to the extent, (as is shown from the tabulated statement of the amounts expended in the several cities certified from the office of the Surgeon General,) that after the promulgation of the order of May, 1862, establishing the purchasing depots, Dr. Cox actually purchased in Baltimore to an amount quite equal to the ratio of the purchases in Philadelphia and New York, taking either the population or the trade of the three cities as the basis of the calculation.

There is then not a shadow of suspicion, much less of direct proof in support of the first two specifications of the first charge, and it is confidently believed the 8th specification is equally groundless.

Before discussing in detail the testimony bearing on the different specifications, it is proper to exhibit the relation borne to the record by the chief witness of the prosecution, Surgeon George E. Cooper, late Medical Purveyor at Philadelphia. Upon his shoulders mainly rests the case of the Government. Smarting under rebukes administered in no hostile spirit, and attributing to the accused reflections upon his conduct with which he had nothing whatever to do, this Ajax of the prosecution came into Court, with a positiveness of statement, and an earnestness of testimony, that rapidly built up allegation after allegation, and his large memory of

events seemed as exhaustless as the constantly recurring necessities of the case.

It gives the accused no pleasure to exhibit this witness to the Court in his true colors, and he will indulge in no harsh words in connection with him, but let the record tell the story of his utter discredit. If in the face of the crushing testimony against him, the Court can by any possibility adjudicate this case on the basis of what he has said, the accused feels that he is simply wasting the time of the Court by a defence, for it will surely be difficult to find in the history of contested cases, an instance in which, in addition to the flagrant self-contradictions of the witness, such a mass of unimpeached testimony has borne a witness to the earth, as in this case.

At the beginning of his testimony, Dr. Cooper volunteers the statement that he received a present, through the accused, of whiskey from John Wyeth, with whom he was not acquainted, and that the accused at the same time asked him to recommend the Wyeths to Surgeon General Finlay. Frank Wyeth swears, on the contrary, that the whiskey was consigned to Cooper by them, through Adams' Express, and received by him, without any knowledge or agency of accused, and that the Wyeths had no need of recommendation to Dr. Finlay, to whom, on his own order, they had in the year previous, furnished over eighty thousand dollars worth of supplies.

Cooper says when he so recommended the Wyeths to Dr. Finlay, he did not know them, and afterward he swears he had formed the acquaintance of the Wyeths while in Baltimore, and before he had his interview with Dr. Finlay on the subject! He says that before he went to Hilton Head, he had known the Wyeths; then says he did not know Frank when he returned! He says that when he went to their store, on his return from Hilton Head, he had a conversation with John Wyeth, which Frank Wyeth flatly contradicts, and gives the conversation that passed on that occasion between *himself* and Dr. Cooper! He says that he bought everything from the Wyeths—"hospital stores, books, instruments, and everything else," all which he sub-

sequently reiterates; and yet later in the testimony he swears he got nothing but drugs and medicines of them!

He says he examined the liquors and teas at the West Philadelphia Hospital, and they were all bad; and Drs. Hayes, Baldwin and Rowe, who were the Surgeons in charge, contradict him, and testify that they were all used in the hospital service, for which they were fit, except a small lot of tea!

He says that *in the latter part* of the first week in June, 1862, Wm. A. Stevens brought to his office a sample of blankets of which he said he had 8,000 pairs, and when it became necessary to prove by Paton the value of these blankets, and Paton fixed as the latest day when he could have seen them at Cooper's office, *the second of June*; he produces a letter from Stevens to him of June 2d, stating that Hayes had the day before sent to him (Cooper) the sample blankets, together with a letter to himself (Stevens); while Stevens swears positively he never saw the sample of blankets so referred to! He swears that on the 15th June he wrote a letter to the accused, which he copied upon paper used in his office at Philadelphia, which copy he produces and puts on the record, and that the original of that letter was put away in a pigeon-hole of his desk, of which he generally carried the key, and to which his clerks had not access; while not one of his clerks ever saw any such paper in his office, all testifying to his unvarying use of a wholly different character of paper; they also proving that they had free access to his desk and drawers, and that they were never locked but when he had money in them on Saturdays! Besides all which Captain Elliot, one of them, and a confidential clerk, swears he had constant access to his desk, and frequently arranged the papers in the pigeon-holes!

He is positive in his recollection that he saw the accused in Philadelphia as early as July 29th, 1862, while Dr. J. R. Smith, as well as the letter on record of the 29th of July, and the telegram of the 30th, establish the fact that the accused had not at the time left Washington!

He says Magruder's requisition in August, was left by the accused at Wyeth's store to be put up and to be received, issued and paid for by him (Cooper,) that accused wrote on

it what was to be put up by Wyeth, and what by himself; and that said requisition was brought to him by Frank Wyeth, and that only after repeated requests: while Frank Wyeth positively swears that the requisition was left with him by accused because he had not time to go to Cooper's office, with instructions to take it to Cooper; and that he did so take it to him within a few hours after he received it, and that the order to furnish was given by Cooper.

He swears that he examined Tilden's Extract of Beef at a time when it is shewn by the proof it was not even manufactured. He swears that he gave no orders to Wyeth for Sulphate of Cinchonia, and we put on the record three!

He swears he traded his horse and saddle to John Wyeth for a horse and buggy, and that he did not return either horse or buggy—he then swears he did return the wagon, because he did not want to be under obligations to Wyeth; and then on re-examination he swears he returned it, because it was part of the bargain!

He swears he was buying of Paton, in June, 1862, ten pound white blankets, at 45 cts. a pound, and the proof is clear that there is no such thing known in the market as a ten pound white blanket, except for family use!

He *admits* that without the knowledge or consent of Dr. Murray, his successor in the office of purveyor, he caused to be copied by one of the purveyor's clerks, a *private letter* to Dr. Murray from Dr. A. K. Smith, which he says he found in his office, and which copy he was also bold enough to produce and put in evidence, because it seemed to bear on the case of the accused.

He swears that in a conversation with Medical Inspector Vollum, he did not use certain language of bitter hostility to the accused. And Inspector Vollum swears he did! He swears that he did not use language about the accused, also shewing his hostility in conversation with Dr. A. K. Smith; and yet Dr. Smith proves positively that he did! He swears that in connection with the letter to him from the Surgeon General of 13th October, he did not use in relation to the accused the words to which he was directly interrogated on cross examination; and Frank Wyeth proves that he shewed him that letter, and speaking of the accused, said,

"here's a letter from Bill Hammond, the g—d d—d son of a b—h, this goes to the Secretary of War to-night!" and the letter in question a *private letter* to him, at that!

But to repeat all the instances of similar contradictions and misstatements the record discloses would fatigue the Court, and the accused will only add two or three conclusive instances. Dr. Cooper swore with great positiveness that he never wrote a letter to the accused, bearing date June 16th, 1862, and subsequent to his interview with Stevens about the blankets, and that he received no communication from him in that connection, except the telegram of the 17th of June: he swears that in his interview with accused of 3d May, 1862, he was directed to make all his purchases from the Wyeths, and acted in obedience to such instructions, and that on the 31st of July he was instructed to purchase from them upwards of \$200,000 of the requisition for two hundred thousand men, which he only obeyed in part; and yet we produce and put on the record *two letters from the accused to him*—one of date 17th June, and the other 29th July, 1862, and received by him on the 18th June and 30th July respectively, which utterly destroy all confidence in any of the statements so made by him.

As these letters not only bear directly upon the value and credibility of Dr. Cooper's testimony, but throw a flood of light over three of the principal specifications, we will briefly discuss the evidence by which their authenticity and the fact of their reception by Cooper are established. That they were pertinent and admissible as evidence the Court has in accordance with settled law, already decided.

Now, if we establish that these letters were written by the accused, and that they were received by Dr. Cooper at the time of the endorsements upon them, we add to the contradictions already indicated in the case of this witness and destroy any possible vestige of doubt as to his utter unreliability, because the letter of the 17th June, demolishes his sworn statement that he had written no letter to the Surgeon General on the 16th of June, or any letter in connection with the blanket transaction except those put on the record. That he must have written to the accused on the 16th of June about Stevens and the blankets, is clearly shewn by the

whole tenor of the reply of the Surgeon General of the 17th. It says, "I telegraphed you to-day *immediately* on receipt of your letter to do as you thought best about Stevens' blankets. His offer to me was at \$5, and I thought the sample worth the money. I mentioned the price merely that you should not pay more than that sum for them.—Are you sure that those he offers at \$4.60, are the same that he asked me \$5 for."

Now the only letter upon the record and sworn to by Cooper as having been written by him to the Surgeon General on the subject of these blankets, is the infamous one of the 15th of June, in which his bitterness of feeling to the accused finds vent in suggestions of the grossest insult to his superior officer, and which letter was never sent to or received by the accused, and which Cooper has sworn was copied by him on the blue lined paper "in use in his office," but which paper not one of his clerks, as they have proved, ever saw there, or heard of being there, and which copy he put away in one of the pigeon holes of his locked desk, which desk the same clerks prove was not kept locked but open to their free access, and to the pigeon holes of which, one of them, Captain Elliot had access and had frequently assorted the papers in it for Cooper; yet without ever seeing this copy, or anything whatever written upon the same character of paper.

This letter of June 15, said not one word about the price of the blankets, offered to him by Stevens.

That being the only letter then that according to Cooper's testimony he had written to the Surgeon General on this subject, how was it possible for the accused to know on the 17th that Stevens had offered the blankets to him, Cooper, at \$4.60, and how could the accused have written to Cooper on the 17th, "are you sure that those, he Stevens, offers at \$4.60 are the same he asked me \$5 for?" and how could he have said further in the same letter, "whenever I send you orders to make particular purchases, it is of course with the full understanding on my part, that if you see any objections you will refer the matter back to me for instructions, AS IN THIS CASE."

The very text of the letter shews conclusively that after

Stevens had the interview with him about the blankets, and for the first time, Cooper learned anything about their price being \$4.60, which was on the morning of the 16th of June, when as he swears himself and Stevens proves, \$4.60 was named to him as the price, Dr. Cooper did write to the Surgeon General, naming the offer of Stevens and referring the matter of the purchase to his superior for instructions.

Immediately upon the receipt of this letter by the Surgeon General, follow in natural sequence, the telegram of the 17th June telling Cooper to do as he thought best about the blankets, and later in the same day this letter, more fully reiterating the substances of the despatch, and giving the views of the accused upon the subject. This is the natural, logical and unavoidable conclusion. But beyond all this, the testimony amounts to absolute proof, for we establish the letter of June 17th to be in the handwriting of the Surgeon General by five witnesses, all conversant with it, and we prove the endorsement of its receipt by Dr. Cooper to be in his handwriting by the same number of competent witnesses, who having been at the time the clerks in his office, and in daily and familiar contact with his handwriting, are the best witnesses that could have been produced on that point; and not resting there, we prove it to have been about the time stated in the endorsement in the possession of Dr. Cooper, by Captain Elliot who swears to that fact.

Against this overwhelming testimony, the prosecution in faint rebuttal, puts on the stand three or four highly respectable gentlemen, who have known Dr. Cooper at intervals for several years past, have had occasional correspondence with him, and who professing to be unable wholly to decipher the endorsement, do not, with the exception of Dr. Laub, express an opinion that it is not his writing, while one of them, Dr. Murray, rather inclines to the belief that it is, and even the expert who was called does not venture to say it is not; and then, "most lame and impotent conclusion," the Judge Advocate produces Dr. Cooper himself to disprove the whole matter, and he denies that he put the endorsement on the letter, but when sharply interrogated by the prosecution as to whether "he ever saw the letter while he was Purveyor in Philadelphia in June, 1862," he

goes on to quote to the Court various passages in the letter as "*being familiar to him*," with the extraordinary statement that it is impossible for him to say whether he saw them in that letter or elsewhere, "*but they are familiar to me!*" They were familiar to him because they were in that letter, and because when he received it on the 18th of June and endorsed the fact of such receipt on its back, he read them in it, and it is sheer folly in the face of competent proof in a grave issue like this, to deduce from what Dr. Cooper says, anything but a reluctant confession of the fact that he had received the letter in question, which on repeated enquiry by the Judge Advocate he does not venture to deny. Some of these rebutting witnesses found it difficult to read the words of endorsement, because the pencilling had been so much rubbed out, and in this connection we only think it necessary to say that the clerks in Dr. Cooper's office at and before the date of the endorsement, Marochetti, Nesbitt, Hammond, Garigues, and Elliott, are all able to read it sufficiently to pronounce positively that Cooper wrote it.

The letter of July 29, 1862, is also conclusive in its refutation of the testimony of Dr. Cooper.

He has sworn the Surgeon General was in Philadelphia on the 29th of July. The letter shews that he was not. He has sworn that the first and only notice he had of the requisition of July 31st, was received through John Wyeth. The letter embodies a previous notice. He swears that on the 31st July he received instructions from the Surgeon General, to purchase from Wyeth & Bro. by far the largest part of that supply for two hundred thousand men. The letter shews that the accused desired that all articles should be bought from dealers, and states that the system of buying all from one person, which prevailed under the old regime, was not the correct principle, thus positively contradicting the alleged instructions Cooper swears he had given him to buy everything from the Wyeths.

That this letter was written by the accused is also fully established by the witnesses, who prove the letter of 17th June, and that it was endorsed as received on the 30th of July, by Dr. Cooper, is established by proof of his hand-

writing on its back; by Nesbitt, Hammond, Garigues, Marochetti, Elliot and Bower.

The fact of its receipt by Cooper is further established by Nesbitt, to whom Cooper read it at the time of its receipt; and by Elliot, who saw it in his possession; while Cooper himself, on being pressed by the Judge Advocate, to say whether or not he ever saw it while Purveyor at Philadelphia, does not venture, though denying the genuineness of the endorsement, to swear that he had not so seen it, but as in the case of the former letter of June 17th, gives his recollections of a passage from it, which he says "*is familiar to him*." The rebutting testimony on this point is equally inconclusive as in the previous case, from persons but slightly familiar with his hand-writing, while an examination of the testimony of the expert will shew the small value of his judgment based on comparison.

This witness, it may be remarked, gave his opinion from a recent comparison of the writing of Dr. Cooper, with no previous knowledge of its characteristics; never having seen him write, and never having corresponded with him. This species of proof is held in very slight esteem by many settled rulings, and its judicial value may be seen by reference among others to the case of "*Gurney vs. Langlands*," 5 Barnwell vs. Adolphus 930: where the Court upon argument held that the opinion of Inspectors of forgers for the Post-office, *whether the writing is in a "natural or imitated character,"* is of little weight, and refused a new trial, asked on the ground of the rejection of such evidence.

The statement of Dr. Cooper as to his usually placing his endorsements of receipt at the bottom of the folded paper, may well enough apply to his public and purely official letters, but as this was not an official one, does not affect the positive testimony referred to.

With this commentary on the character of the evidence of the witness Cooper, and the degree of credit to which he is entitled, we proceed to examine the third specification of the first charge and the evidence adduced in support of it.

The gravamen of that specification is that the accused ordered and caused Cooper to buy the blankets from Stephens, (known in the record as the purchase from Hess, Kessel &

Co.) he, the accused well knowing they were *inferior in quality*, and that Cooper had refused to buy them.

The only witness in support of this allegation is Cooper himself. Let us examine that testimony, not by the lights thrown upon it from various points to exhibit its value, but assuming that he is a disinterested credible witness.

Cooper says the samples of these blankets had been left by Stephens at Wyeth's, some days before the 28th of May, 1862; he had seen them and had declined to purchase them; that on the evening of 28th May, 1862, he saw the accused at Wyeth's; Wyeth asked him why he did not buy Stephens blankets; the accused turned to him and said, why don't you buy them Dr.? (p. 196.) *I said they are an assorted lot, and I don't want to buy different qualities of blankets to put in the hospitals.*" This is his direct, clear unembarrassed statement; not a word said about *inferior* qualities. But the Judge Advocate follows it up by a direct leading question, prompting the ready answer, *did you say anything of the quality?* A. "I said I was buying a *different* quality at a comparatively cheaper price." Not satisfied with the answer of his witness, the Judge Advocate presses him still further. Q. Better or worse? A. "Better." Now did he say this to the accused? Did he say he was buying a *better* quality, or a "*different*" quality? He says to the Judge Advocate, "better." But he does not say he said so to the accused. And this is made the more clear by what immediately follows on the same page, (196.) Was anything said about his having shown them to you before? A. "I stated that I had refused to buy them because they *were an assorted lot.*"

But to remove all doubt on this subject, we have but to turn to the cross examination, p. 389, he says, "I did say on that evening to the Surgeon General, that I did not like the blankets, *they were not the kind I was purchasing, and that they were comparatively dear,*" and at the bottom of p. 390, 391, in reply to the question whether anything "was said between the Surgeon General and yourself about the particular prices of the different qualities of the blankets?" He says "there was nothing said about that particularly, nothing but the general remark that they were comparatively dear;" and again, p. 392, my objection "was to their not

being of the kind I was using, and to their being comparatively dearer than what I could purchase." Now the gist of the allegation is that the Surgeon General well knew "*they were inferior in quality.*" The proof is he was told Cooper had refused to buy because he was buying a *different* quality, at a comparatively cheaper price, and because they were an *assorted lot*, they were *not the kind* he was purchasing, and were *comparatively dear*," and this repeated again and again. The proof comes far short of the specification. They may have been blankets of an excellent quality; the price may have been a perfectly fair price, every word of the witness may be literally true, and the specification not proved. Cooper says he was buying "*better*" blankets, but he does not say he so told the accused, he only told him he was buying a different kind at a comparatively less price. Nor does Cooper anywhere say the blankets were in fact "*inferior*" in quality, but the extent is he could get those he liked better at a comparatively less price.

This however is all on the assumption that he has correctly reported his interview with the accused, and the direction he received from him. No one is here to contradict him. But there are strong circumstances in evidence tending to discredit the narrative he has given.

The plain import of his testimony is that Stephens had left his sample blankets at Wyeth's and had rather importuned him to buy them; that Stephens was a friend of the accused, and had supported or advocated in his paper "*Vanity Fair*," the pretensions of the accused to his present office; that the accused being in the office at Wyeth's in the evening, Cooper passing through the store to see him, saw Stephens standing there, and passing him by entered the office and remarked that he saw the *Vanity Fair* man down stairs, I said he was the sub-Editor of *Vanity Fair*, and immediately John Wyeth, who was present, asked, "why don't you buy his blankets, Cooper?" and the accused said "why don't you buy them, Doctor?" After some remarks further, the accused said, "it is policy to keep the press on our side," and after some further talk, said "buy them;" the next day Cooper saw Stephens at his office, and told him "I had been directed to purchase the blankets from him." The evident

intention of this ingeniously contrived story, is to create a belief that when Cooper came into the room, John Wyeth had been posting the accused about Stephens blankets, and the accused was ready and willing to oblige his supporter at the expense of the public interest.

The testimony of Stephens, unhappily for this pretty device, testimony which has no contradiction in any part of it, except by Cooper; coming from a man whose social position is well developed, and whose evidence will stand the severest scrutiny—the testimony of Stephens is destructive of some of its best points.

Mr. Stephens says he had only seen Cooper once before, and was introduced to him by John Wyeth; that he exhibited the samples of blankets to him, and Cooper did not refuse to buy them, but objected to them as an assorted lot; that he never objected to the quality or the price. On the evening in question, Cooper asked him to come to his office in the morning; that he had gone to Wyeth's that evening for medicine, and only saw Cooper as he was passing through the shop. The next morning he called at Cooper's office, and on his entering, Cooper closed the door, asked him to take a cigar and seat, and proposed to put his business through quick; that he did not say he had been directed to purchase the blankets, or anything of the kind, and the business was closed at once. Stephens says he had never seen the accused but once up to that time, nor did he see him again until long after that time; his interview was a brief one, and he had never written a line in the paper *Vanity Fair*, or any other, in support of the accused, and he did not know the accused was at Wyeth's when he went there, nor did he then see him.

Here, then, are direct, irreconcilable, contradictions between these two witnesses as to material facts, coloring the whole transaction, both of which cannot stand, and the record is full of conclusive evidence to show which is worthy of credit.

The gravamen of the 4th Specification is, that on June 14, 1862, the accused unlawfully and with intent to aid Stephens to defraud the Government of the United States, instructed Dr. Cooper, Purveyor at Philadelphia, to purchase from said

Stephens 8,000 pairs of blankets at \$5 a pair, which blankets were unfit for hospital use; and the 5th Specification charges that the accused did on the 16th of June, 1862, corruptly and with intent to aid Stephens to defraud the Government, order in writing said Stephens to turn over to said Cooper, 8,000 pairs of blankets, by which means he induced Cooper on Government account, and at an exorbitant price, to receive 7,677 pairs of said blankets, which he had before refused to buy, and for which Stephens received \$35,314.20.

The allegation of an intent to defraud, in the 4th Specification, is based entirely upon the charge that the blankets thus ordered to be purchased, were unfit for hospital use; and it is therefore only necessary to shew that they were fit for hospital use, and the specification is fully disproved. It is easy to do this, for the respective Surgeons to whom they were exhibited in the presence of the Court, testified to their fitness for such use, and Dr. Cooper alone denies it. We will not, however, stop with this answer to the specification, but proceed to consider it in connection with the 5th, the essence of which is, the alleged fraudulent intent and the positive order to Cooper to receive the blankets, without any discretion on his part.

Let us then discuss the specifications together, for they are not separable in the argument, the order to Cooper in the 4th being part of the transaction, of which the order to Stephens set out in substance in the 5th is but a sequence and the necessary result of the order to Cooper.

To build up these specifications, the prosecution exhausted much time, devoted great labor, and manifested a skill, persistency, and ingenuity worthy of a better cause. It has all been thrown away.

The proof triumphantly vindicates the Surgeon General from the imputations thus cast upon his honor, in protection of which against these aspersions, let it be remembered, he threw open the door to the fullest enquiry, letting in, without objection, much irrelevant testimony, and relying with unshaken confidence upon the integrity of his motives and conduct, which he knew any truthful testimony must vindicate.

The substance of the facts given in evidence by the prose-

cution in connexion with these two charges, may be condensed as follows; it being the purpose of the accused to set them out with entire fairness, and so far as he can, within the time limited for his defence, *in extenso*.

The case then supposed to be made is: that about the 1st or 2d June, 1862, Dr. Cooper, the Medical Purveyor at Philadelphia, received from Mr. Stephens samples of white Union Mackinaw blankets, as they are called, 8 pound to the pair, the price of which was stated to be \$5 per pair; that on or about the 2d June, 1862, he exhibited this sample to Mr. Paton, an importer of blankets in New York, and Mr. Paton says he could have duplicated them for from \$3.25 to \$3.50 per pair, and he thinks they corresponded with the samples which have been exhibited in Court, and which are part of the lot of 8,000 pairs delivered by Stephens under the order of the accused, set out in the 5th Specification; that these sample blankets remained in Cooper's office in Philadelphia until the 13th day of June, when they were taken away by Stephens, and then and up to that time Cooper had refused to buy the blankets; that in the meanwhile Stephens had written a letter to the accused offering to sell him 8,000 pairs of such blankets at \$5 per pair. That Stephens, having taken his samples from Cooper's on the 13th June, transmitted them to the accused by express, and they were received by him on Saturday the 14th June; that Stephens, on the same day he despatched the samples, wrote a letter to the accused, to wit., the 13th June, in which he informed him he had sent the samples by express, and the blankets which he had in his former letter put at \$5 per pair, could now be sold at \$4.60, if he took the whole lot of eight thousand pairs; that on Saturday, the 14th June, the accused, after the receipt of the samples, wrote the two letters or orders set out in the 4th and 5th Specifications to Cooper and to Stephens respectively; the one to Stephens being addressed to him at his residence in Girard street, Philadelphia, although in the letter to Cooper, he had given Cooper, Stephens' address to his box in the post-office, New York; that Cooper received the letter of the 14th on Sunday, the 15th June, and immediately wrote to the accused a letter, of

which a copy is put in the record; on the morning of the 16th June, Stephens called upon Cooper at his office, showed him the letter of the accused, and told him the price of his blankets was \$4.60 per pair; Cooper agreed to receive them under the order of the accused, given to him, of the 14th June; they were received by him, on or after the 21st June; the bills were certified by him to the Surgeon General's office, and paid without his knowledge; that he never received from the accused any reply to his letter of the 15th, unless the telegram of the 17th June, telling him to do as he pleased about the blankets, was a reply, and that came after the transaction was closed; and that all the letters, to wit: Stephens' first letter to the accused; his second letter of the 13th June; the letters of the accused to Cooper and Stephens of the 14th June, and Cooper's said letter of the 15th June, are not to be found among the files or records of the Surgeon General's office.

This unquestionably creates a strong suspicion as to the whole transaction. The case made by the accused is not dependent wholly on the fading or treacherous memory of witnesses, but resting on contemporaneous writings, forming links in the chain of the transaction, and explaining much that is otherwise mysterious, sustained and welded together into a complete chain by the oral testimony of living actors in that business, leaves no room to doubt that so far as the accused is concerned he is free from a shade upon the perfect integrity of his connexion with the matter.

The answer is:—

It is proved by the letter written by Stephens to Cooper, and produced in evidence by the prosecution, that the sample blankets received by Cooper on the 1st or 2d June, 1862, were sent by Hayes, and not by Stephens. They were not samples of the lot of 8,000 pairs subsequently sold by Stephens on the 16th June. It follows that Mr. Paton did not see a sample of this last lot. Stephens swears he himself never saw the samples so sent by Hayes.

It is proved by Vail, Spaulding, Andrews, Hayes and Townsend, that the samples of the blankets so sold on the 16th June, were not delivered to either of the brokers until

four or five days before the sale was completed. It is proved by Stephens that he wrote to the accused his first letter before he saw the sample, and he received the sample on the 12th June, that he transmitted that sample by express on the same day from New York to Philadelphia, and the next morning, the 13th June, took it from the express office himself, and carried and exhibited it to Cooper, and then failing in making a sale to him, despatched it by express the same day to the accused at Washington: that on the evening of the same day he wrote the letter of the 13th June, and put it into the lamp post-office after the hour of delivery, so that it could not have reached Washington before Sunday, the 15th June.

It is needless to enquire how it is, wherefore, when, by whom those original letters were taken from the office of the Surgeon General. We do not know. That the office was tampered with by some one is shown by Dr. Smith's evidence and by the fact that letters were taken from it. Two of these letters are before the Court, one produced by the Judge Advocate from the papers of Surgeon Laub, the other produced by the accused, and coming to his possession as mysteriously as that did to Surgeon Laub. The authenticity of the papers is beyond dispute. We will presently see this is not all of the proofs. It is charged, and the attempt has been made to show that these blankets were unfit for use in hospitals; had a foul and offensive odor, and were purchased at an exorbitant price.

The proof on these points is equally decisive. As to their unfitness for hospital use in their present condition, a sufficient and complete answer has been already given. But Dr. Cooper and Mr. Guillon, to whom he says he exhibited them, say the odor was very offensive when they were received. To this we reply, Dr. Cooper is the only witness to show they were the same blankets as those of which Mr. Guillon has testified: the clerks in Dr. Cooper's office, those who received them when they were first delivered, and those who delivered them when they were disbursed; who marked each bale so disbursed, who were daily conversant with them while they remained in the purveyor's office; to wit: Mr.

Garrigues, Elliot, and Nichols; Mr. Spaulding, who sold them, and Mr. Townsend, the broker, who purchased them, and Stephens, who searched for the four missing bales in the office of the purveyor, all concur in an emphatic denial of such offensive odor. It cannot be true that they had such odor.

The price has been assailed. The answer is a mass of overwhelming proof to show that such blankets were exceedingly scarce in the market; that there was not more than one other lot like them, and that was at Watson's; the lot afterwards purchased by Townsend; that the price at cash sales were rapidly rising in the market; and we have the concurrent testimony of Carville, Vail, Spaulding, Toy, and the several brokers who were familiar with the transaction, that the sale to the Government at \$4.60 per pair at that time, upon the terms in which it, the Government, was in the market was a fair sale. The weight is shown to have been what is purported to be—eight pounds to the pair.

Moreover, it is in evidence that Medical Director King had received instructions to prepare largely extended hospital accommodations in Philadelphia, for the sick and wounded from the inhospitable and bloody fields of the Peninsula, that Cooper's supply of blankets was short, and the demand communicated to him by Dr. King was pressing. There was no time for the accused to wait. His duty and his humanity called upon him for prompt and energetic action. He received an offer of 8,000 hospital blankets in a rising market at \$5 per pair; he knew the urgent need of the service—he has sworn he never received, and he now solemnly avers he never received that letter of the 13th June; he acted at once, yet always as he said to Cooper in his letter presently to be noticed, subject to the considerate action of the purveyor, he ordered the blankets, and has not for a moment regretted it to this day, but justifies and vindicates that order.

A labored effort has been made by the prosecution in connexion with these two charges to show that Stephens realized a large profit from the sale of this lot of 8,000 pairs of blankets. The only purpose such a fact could serve, would be to show the price was exorbitant. This Court has no right to sift the transaction for any other purpose, and that

only so far as it may tend to show the Government was defrauded. Nor can it be of any service to the prosecution, if the evidence stops here. For whatever profits Stephens may have realized; however exorbitant the price may have been; however fraudulent the scheme by which such exorbitant price was realized, unless they go further, and show the accused so associated in it that they can say these orders were given for the purpose—with the intent to enable Stephens to perpetrate this fraud—they cannot impeach the accused, or find him guilty of these specifications. And he challenges an enquiry to that point, into any fact which shows complicity by him with any of the parties concerned in that sale. He has endeavored, with the aid of counsel, to discover any fact not fully and completely explained which so connects him with Mr. Stephens as to show any guilty knowledge on his part of irregularity on the part of Stephens, or anything but a fair business transaction. Indeed, there is nothing to show that he knew until long afterwards, that the sale had been completed.

To make this matter more clear, it is proved by Mr. Stephens, and by the letter of the accused to Cooper of the 17th June, that he had no personal acquaintance with Stephens beyond a brief interview with him in the winter of 1861-2; that Mr. Stephens was backed by Dr. Hartshorne, of Philadelphia, a man of known high repute, who was, in the language of the accused in that letter, responsible for him, and notwithstanding that, he in terms authorized Cooper not to take the blankets if he did not like them. So far his personal connection with the matter.

But in point of fact, the testimony of the New York merchants and brokers, and of Adolph and Toy, of Philadelphia, take away from the sale every taint of exorbitant price or fraudulent design. The transaction itself shows that Stephens bought at \$4 cash, when the importers would not have sold to Government on credit; that he had to pay two and a half per cent. for his money, an additional one per cent. for the delay, and also the costs of transportation; to lose the value of the wrappers, and take two-thirds of his payment in certificates of indebtedness at a discount. The rates at that time ranged from 96 to 98, so that he realized

on this purchase rather less than ten per cent., and had to take the risk of waiting months for his pay. The result of the operation shows no exorbitant price; while there is nothing from which it can rationally be inferred, that the accused was actuated by any wrong motive in giving the order which he did.

The remaining point of this 5th Specification is, that in consequence of the order to Stevens from the Surgeon General, to turn over the blankets to Cooper, he Cooper was compelled to receive them, though they were at an exorbitant price, and he had previously refused to buy them, thus depriving him of that discretionary power which as Medical Purveyor it is charged he was entitled to exercise. Now was Cooper so robbed of discretion in the premises, or was he in a position to receive or reject the blankets in question, as he thought fit? Unquestionably the latter is proved to have been the case. We will demonstrate it. The proof is that on the morning of June 16th, Stevens presented to him the order, or memorandum from the Surgeon General directing the blankets to be turned over. In this both Cooper and Stevens concur. The transaction began on the 14th June, with the communication from the Surgeon General of that date. It was a continuing transaction on the 16th, when the conversation between Cooper and Stevens occurred.

Stephens swears he had no such order as Cooper has described; the letter of the accused of June 17th also shows it, and it is not true that the interview closed the transaction. Dr. Cooper knew that it did not, for he has sworn that *if the blankets had not corresponded with the samples, he would not have received them*, and he knew just as well as do the members of this Court, that up to the point of actual inspection and receipt, he not only had the right the Government invariably reserves to itself to reject an inferior article or one that does not come up to sample, but it was his duty to do so, and it is in proof by Cooper himself, that the delivery was not until the 21st of June, thus giving him five days from the interview with Stevens and the delivery of the goods for action as to their receipt or rejection. Five days pregnant with information and instruction to Dr. Cooper, for as we have already clearly shewn, he

wrote to the Surgeon General on the 16th, after Stevens had told him the price was \$4.60, and referred the matter to his superior, as the reply of the accused of the 17th clearly shows; and then on the morning of the next day, the 17th, he got a telegram from the Surgeon General telling him "*to do as he thought best about the blankets*," which clothed him with absolute discretion to reject them, even if he had been previously directed to purchase or receive them, and this was followed by the explicit letter from the accused of the 17th, also, which he received on the 18th, in which the Surgeon General asks him if he is sure the blankets offered at \$4.60 are the same as those offered the writer at \$5—*tells him that whenever orders are sent him to make particular purchases it is of course with the full understanding that if he sees any objections to the purchase he is to refer the matter back to the Surgeon General for further instructions as he had done in this case*; that the Surgeon General did not know much about Stevens, having never seen him but once in his life—and closes with this absolutely conclusive passage, "IF YOU DON'T WANT HIS BLANKETS, DON'T BUY THEM AT ANY PRICE!"

In the face of such proof as this it is worse than idle for Dr. Cooper to talk about the Surgeon General having taken the matter out of his hands, and the fact that he had complete discretionary power in the premises is entirely too plain to require further discussion.

The next specification in order is the 6th, the points of which are, that on the 31st July, 1862, the accused knowing that the Wyeths had before that time furnished the Medical Purveyor at Philadelphia supplies inferior in quality, deficient in quantity, and of excessive price; did corruptly, unlawfully, and with intent to aid said Wyeth & Bro. to furnish further supplies, and fraudulently realize large gains therefrom, give Dr. Cooper, the Purveyor, an order to fill up his store houses so as to have constantly on hand, hospital supplies for 200,000 men for six months, and then and there directed said Cooper to purchase a large amount thereof to the value of \$173,000, from said Wyeth & Bro.

As to the guilty knowledge of the accused involved in

this specification, Doctor Cooper is the sole witness, except so far as Keffer may be considered auxiliary to the extent of his testimony as to the single bottle of alcohol opened in his presence, when in the true spirit of a hawker he was trying to vend his own wares, and as to the luminous chemical suggestions he throws out upon the nature of fusel oil, and the tests by which its presence is distinguished, gathered from his workmen in the back shop.

Having sufficiently examined the value of any testimony given by Dr. Cooper, we content ourselves with calling the attention of the Court on this point to the letter to him from the Surgeon General of date July 29th, which he is shewn to have had in his possession at the time specified in the allegation, and the contents of which are in direct accordance with the suggestions Cooper says he made at that time to the Surgeon General, and equally in conflict with the oral instructions he says he then received from him. On the other hand Cooper admits that although previous to the personal interview with the Surgeon General of July 31, he had knowledge of these alleged deficiencies as to the quantity and character of those supplies, and their excessive price, he had never made to the Surgeon General any communication on the subject, oral or written, and although the Regulations require the Hospital Surgeons to make reports to the Purveyors of any such deficiency, he himself had not received a single official complaint from them, except from the Chester Hospital in regard to some of the liquors. It is not to be credited that at that interview he communicated to the Surgeon General the fact and extent of such deficiencies as he has stated, nor does Keffer sustain his statement, his testimony being confined to the bottle of alcohol opened in his presence, the short measure of which is clearly explained by the testimony of Mr. Harrison Smith, Dr. A. K. Smith, Mr. Frank Wyeth, and Hughes, who bottled the alcohol.

We are however not obliged to rest here; for the prompt action of the Surgeon General in sending first, Inspector General Perly to investigate the affairs of the Medical Purveyor's office at Philadelphia, and subsequently Surgeon Coolidge, to examine into the character of the medical sup-

plies in the Hospitals and Purveyor's office at that point, the moment complaints were made to him, is a pregnant circumstance to show that such information was not communicated to him by Cooper at the time charged in the Specification.

We say next that in point of fact, the defects in quality or deficiency in quantity of any of the supplies furnished by Wyeth & Bros., so alleged, are shewn by the proof to have been nothing beyond the isolated accidents inseparable from the execution of such large orders, which involved in their putting up great labor and minute details, under the pressure of circumstances demanding the utmost despatch in their preparation and delivery.

As to the character and quality of the drugs, medicines, and medical supplies furnished by this house, the concurrent testimony of every Surgeon who has been examined, viz: Dr. J. H. Thompson, who used them in the Burnside Expedition, when the purchase of them was directed by Surgeon General Finlay—Surgeons Magruder, J. J. Hayes, A. K. Smith, L. A. Edwards, R. O. Abbott, L. Baldwin, J. B. Rowe, E. P. Vollum, John M. Cuyler, Wm. Thompson, R. H. Coolidge, J. Hopkinson, J. Letterman, and Drs. Murray and Cox, Medical Purveyors, Mr. Farr, of the house of Powers & Weightman, who furnished them by far the largest part of their medicines, and who also put them up according to the supply table, Mr. Locke, who made the alcohol they supplied, and the high reputation of which is established by the standard authority of Wood & Bache's Dispensatory—and Mr. Harrison Smith, who purchased their liquors, teas and bottles, establishes the high character of the supplies they furnished.

Add to this, the admitted fact, that prior to the 31st July, no official complaint was made to the Surgeon General, of the quality or character of their medicines or the manner in which they were put up, it cannot be doubted that the Messrs. Wyeths dealt in entire good faith with the Government; while the isolated cases in which defective articles were found in the large requisitions they furnished, are shewn to have been met by them the moment their attention

was called to the matter, by a prompt replacement with unexceptionable articles.

It may be as well at this point to dismiss with very brief comment, the matter of the whiskey ordered by Surgeon Vollum, which Dr. Cooper had put into tin cans through a misapprehension of the order of Dr. Vollum, although with the whole transaction the Surgeon General had nothing to do; although many days of valuable time were wasted by the forced and wearying presentation of the subject to the Court.

To this branch of idle enquiry the accused interposed an objection, but at once withdrew it on the assurance of the Judge Advocate that he was to be connected with the enquiry by subsequent proof, which pledge was never verified; the accused being in fact wholly unconnected with the matter, as seemed sufficiently clear at the time, his utter ignorance on the subject continuing down to November, six months after the transaction, when his attention being called to the condition of some of the whiskey that had found its way into some of the hospitals at Washington, he ordered it to be analysed and withdrawn from use, except for external application. The Court cannot have forgotten with what gusto the Judge Advocate presented to his witnesses the unpleasant looking mixture he had extracted from one of these cans, ferreted out from the recesses of a hospital, carefully sealed up, and guarded in its transit thence to the cupboard of the Reeder Commission—where it was stowed away with the odds and ends of that Board of Investigation, and the hat-boxes of the witness Brastow, until it came to be submitted to the critical analysis of Professor Breed, who in his episodic attention to other pursuits for several years, seemed to have forgotten his Chemistry.

Let the Court, if it really deems it necessary, contrast with all the fanciful hypotheses and violent strainings, after undiscernable poisons in this whiskey, the complete exhaustion of the whole story of its condition when it was shown to the Court, developed in the masterly analysis of Doctor Woodward and Professor Schaeffer, each word of whose testimony demonstrated their right to be considered Chemists,

and that they had fully and patiently evolved from the turbid liquid the evidence of its original soundness, good quality and perfect freedom from adulteration, and the proof of that chemical action which beginning with the Tannic acid imparted to the whiskey by the wood of the barrels in which it was originally put, resulted in the destruction, to a great extent, of the Fusel Oil in it as in all whiskies, and left it as a necessary result of the oxidation that ensued, in the peculiar condition in which the Court enjoyed the privilege of seeing it.

So far the defence has been limited to the evidence of the order having been given by the accused to purchase the alleged large amount from the Wyeths, his knowledge of the defects complained of, and the fact whether such complaints were founded in fact, if any such were made.

But there is another point founded on this allegation which he feels bound to notice before leaving it, and that is the amount of that requisition.

In asking the attention of the Court to that matter he takes the liberty to refer to a public document, part of the history of the country, to show that such large orders for supplies were not made in the dark, nor from any corrupt motive, but as part of his immediate duty, looking to the end of having supplies secured before the price of every article should have been increased by the necessary course of events, and that he might have them ready for every emergency.

In his report to the Secretary of war, date 10th November, 1862, published among the documents transmitted to Congress, at page 9, he says: "large depots of medical supplies have been established at New York, Philadelphia, Baltimore, Fortress Monroe, Washington, Cincinnati, Cairo, St. Louis, and Nashville, and have proved of incalculable advantage to the sick and wounded. Moreover, large sums have been saved by the accumulation of stores before the recent advance in prices took place."

It is in evidence in this cause, in repeated instances, undesignedly stated by Dr. Cooper, and confirmed by other witnesses, and it is obvious to reason that such large depots

were absolutely necessary. It requires but a glance at the supply table for three months for a hundred men—still more to cast your eye on the very requisition in controversy, and see the vast amount called for by it, and the manner in which those supplies were required to be put up, in small phials, in safe packages, to satisfy any one, that it would require a long time and great care and labor to prepare even for a thousand men. In this city alone and its surroundings there were in the months of July and August, 1862, nearly 20,000 men in hospital: the struggle between Lee and Pope was going on, and it would have been such gross neglect of duty as would have justly subjected the accused to the censure of his superiors and the public if he had failed to make ample provision for impending events. But this is only a limited view of the matter. The West and South and South-West, all were alive with the evidences of coming conflicts, and they also were to be provided for. Every article in the supply table was rising daily in the market, and on all accounts it was his duty to exercise a wise forecast in making ample provision, so that no one should suffer by his neglect and the treasury would be relieved by his prudence.

Here again we have a motive tending fully to explain the amount of that requisition, a motive which his judgment, his humanity and his patriotism could not overlook.

If from his past experience and information as to the character, quality and quantity of the drugs, medicines and hospital supplies furnished by the Wyeths; the promptitude, skill, energy and despatch with which they had theretofore furnished them; looking to the threatening aspect of the armies in the field, and knowing the condition of the hospitals; anxious to be provided in time for every contingent event, and that the supplies should be on hand to meet every hurried demand, he had given directions to have the larger portion of that order filled by them, there would have been no just or reasonable ground of complaint in a military point of view, nor room for suspicions as to his integrity, much less would it afford a scintilla of proof of a corrupt motive. When the pressure of circumstances so momentous as those surrounding him furnishes a reason for his conduct,

it would be not only unjust but cruel to impute to him a bad or dishonest motive. If we can see in this order any other than a desire to benefit the Wyeths; if we can see a high sense of duty and responsibility underlying the whole transaction; if we can see the wounded and the dying on the battle-field, and the sick and wasted in the hospitals stretching forth their hands and crying for help, and the officer charged with the duty has made ample provision for them in anticipation of their needs, we should not stop to criticise too severely and ask whether in furnishing those supplies he did not mean to help a friend. The burthen of proof is upon him who alleges such a bad motive, and he must put it beyond a peradventure. There must be no room to doubt. The act must be so characterized as to leave no question as to the motive being wrong. If it were not so, God help every officer who does not carry with him a glass in his bosom by which his motives are to be seen, for by his acts he is not to be judged.

It is denied distinctly, emphatically, positively, in the detail and in the aggregate, by the accused, that any base or sordid motive, any desire to favor a friend at the expense of his duty entered into or formed any part of this order for the supplies; it is denied with equal directness and distinctness, that he gave any direction to have any particular part of it supplied by the Wyeths; it is denied that he received from Dr. Cooper the information which he says he then gave as to the failure of the Wyeths in their former transactions either in the quality, weight, or quantity of their supplies; and at the same time he maintains that if he had received such information from Cooper, not vouched for by any report from any officer having charge of those drugs, medicines and supplies, and relying upon his own personal knowledge and the information of others as to the manner in which they had theretofore filled their contracts, he would have been fully justified in giving the order, and the proofs in this cause already given would have sustained him in so doing.

The 7th specification of this first charge gives rise to the question as to the true construction of the Act of the 16th

April, 1862, as well as that of the motives of the accused in himself ordering extract of beef from the Wyeths. It is that *contrary to the provisions of that act he did corruptly and unlawfully direct Wyeth & Brother to send 40,000 cans of their extract of beef to the different places named in the order, and send the account to the Surgeon General for payment; and which extract of beef so ordered was of inferior quality, unfit for hospital use, unsuitable, and unwholesome for the sick and wounded in the hospitals, and not demanded by the exigencies of the public service.*

The specification is skillfully drawn. It exhibits the ingenuity of the special pleader. Yet if it were subjected to the crucible of the courts administering the common law, it is fatally defective, and on demurrer would be pronounced bad. It includes a number of distinct offences. So much so that it defies the ingenuity of the accused to determine what specific allegation he is to meet. Is it that every purchase made by him since the enactment of the law is wrongful and unlawful? Is it that to make it unlawful and wrongful it must be corruptly made? Is it, in the particular case, that the article purchased was inferior in quality? or that it was unfit for hospital use? or that it was unsuitable and unwholesome for the sick and wounded in hospitals? If it shall appear from the law that he had the power to purchase; that the article was sound, wholesome, admirably adapted to the battle-field, to sudden emergencies, to a thousand cases, but *not suited for hospital use*, can the specification be maintained? or must all the averments of the specification be proved? or is proof of any one or more of them sufficient to sustain a conviction?

In some circumstances these would all be material questions for the consideration of the Court, and the accused might confidently, as he does, insist that every fact thus severally and specifically alleged, not by way of aggravation, but as constituting parts and parcels—necessary ingredients in the offence intended to be assigned must be proved to the satisfaction of the Court; that they in combination constitute the offence charged, and cannot be found in part in order to sustain the specification.

Not waiving any one of these points of objection, but relying on them, the accused, as he has done throughout this case, meets the accusation in each and every of its particulars, satisfied that the more rigidly his administration of his office, and all his acts connected therewith are examined and criticised, the more triumphant will be his acquittal of any charge or allegation affecting his honor as a man, or his duty as an officer.

The fact that he gave the order set out in the specification is not disputed. It was done, as all his other acts were done, in the conscientious discharge of the duties imposed on him by law. His construction of that law has been given in part; but that construction does not fully cover the case now put.

The assumption on the part of the prosecution is, that he is thereby prohibited from making any purchase; that *all* selections and purchases are to be made by the Purveyors; and every purchase made by the Surgeon General is wrongful and unlawful.

It is a grave question. It deserves to be considered with all the care which its importance in this particular case requires; but still more in its bearings on analogous cases in other branches of the service.

The statute does not say, in terms, *all* purchases shall be made by the Medical Purveyors. The words are: "The Medical Purveyors *shall be charged*, under the direction of the Surgeon General, with the selection and purchase," &c. They are *to be charged*. The law does not charge them. The law does not say they are "*hereby charged*," but *shall be charged*. By whom are they to be charged? They are to be charged under the direction of the Surgeon General. The words of the statute do not in terms prohibit a purchase by him who, as the head of the office, is to direct another. Nor do they, by necessary implication, exclude the Surgeon General himself from purchasing. They do exclude the Purveyor from purchasing of his own volition. He must have the direction of the Surgeon General. And so in regard to the Commissary and Quartermaster's Department, and the various other bureaus of

the several principal branches of the executive authority. In each and all of these the power is given to direct purchases to be made; to appoint agents for that purpose; to devise checks and balances to secure a proper accountability. Here the only difference is, that the law points out the agents to be employed, so that neither Inspectors, nor Directors, nor Surgeons in the line or in hospitals, shall be charged with the duty of selecting and purchasing, unless they are also Purveyors.

An illustration may be drawn from the laws empowering the Quartermaster General, and the Commissary General and the head of the Ordnance Bureau to make contracts. They all make contracts subordinate to the superior authority of the Secretary of War; they all delegate the authority to their subordinates to make contracts or obtain the necessary supplies. Undoubtedly contracts so made are valid contracts, and would bind the Government, although there may be no statute authorizing them. Nor could the officer making them be charged with a wrongful and unlawful act, and subjected to a Military Court, unless it could be further shown that they were corruptly made. And so an officer in the field commanding an army, or having a detached command, has and must have, by virtue of his office, power to make contracts for supplies, with which the Quartermaster's Department is charged by law. The illustrations are numerous, and recur readily to the mind of every one practiced in military affairs. But they are none of them strictly analogous. None of them are cases where, by the express words of the law, a particular subordinate officer is to be charged, under the direction of his superior, with power to purchase, and the discretion is left to the superior. Such is the case here.

And the whole scheme and policy of the administration of the Medical Department, as developed in the act creating the office of Surgeon General, and the laws and regulations subsequent to it, and the practice of the office grown into a usage, as shown in the proof, are consistent with this view. He is the administrative officer. The rest are subordinates, given to him as aids to effect the purposes of his office. He

cannot multiply himself, so as to carry out all the details of the service, but he is held accountable to the country for a faithful supervision of those subordinates, and a wise, prudent, and faithful discharge of his own powers and duties. Among these duties none is more important than the preparation, in due time, of fitting supplies to meet the constantly recurring demands of his office. The Purveyor is given to him for that purpose, but he is made entirely subordinate, without power to make a purchase except under his direction, and no Purveyor, as we have seen, can make a purchase unless he is "*charged*" with that duty, under the direction of his superior. It follows that as the duty of providing the supplies exists, and is imposed on the Surgeon General by virtue of his office, and the regulations of the President, and the usages of his office, he must have the power both to purchase himself and to *charge* a Purveyor with that duty under his direction. The power then exists, and he may lawfully exercise it himself or *charge* a Purveyor with it.

If the power exists, and whether it does or not, we proceed to examine the manner in which, and the circumstances under which it was exercised in this case. And if ever the exercise of a questionable authority was justified or excused, the evidence discloses a condition of things which affords justification and excuse to the accused for the acts set out in this specification. If the Court shall doubt as to the power of the accused, exercised as it has been by his predecessors, without objection or complaint, it is far better to leave the remedy to Congress than by their judgment to subject him to censure, if he has acted in good faith, believing he had the power.

The remaining questions under this specification are: Did he act corruptly? Was the extract of beef, so ordered by him, *inferior in quality*? Was it *unfit for hospital use*? Was it *unsuitable and unwholesome* for the sick and wounded in the hospitals? Was it or not demanded by the exigencies of the public service?

The history of the introduction of this article into the service of the army is exceedingly well given in the testi-

mony of Mr. Coleman. The origin of its manufacture by Wyeth is also very clearly shown in the proof. There was at the time this order was given, no other preparation of the like kind known to the Department, but that of Mrs. Murringer. Such is the concurrent testimony of all the witnesses except Dr. Cooper.

It had been tried on the Peninsula, and its virtues in part ascertained, and antecedent to the order in question the bloody field of Bull Run had demonstrated the value of the preparation, and the Court cannot have forgotten the testimony of Inspectors Coolidge and Vollum, whose simple and touching narratives of its use on that occasion, brought so vividly to view the picture of the thousands of wounded and suffering soldiers, who, after the sad catastrophe of that battle, were in the absence of almost all other sustenance nourished and kept alive by the timely supply of this very article, administered to them for successive days by these witnesses, who were thus enabled to save, as they have sworn, the lives of thousands of our soldiers not simply by the intrinsic nutriment of the extract, but because of the peculiar facility and rapidity of its preparation for use.

Such testimony is sufficient of itself to justify its purchase by the accused; but the proof in its favor goes much beyond this; for although the prosecution consumed many days, and questioned a score of witnesses upon this point, the only instances in which unfavorable testimony was elicited, were the cases of Doctor Brinton, who tried a can of it on the road to Gettysburg and thought it did not agree with him, but who nevertheless testified that he issued large quantities after that battle, to the amount of thousands of cans, and never heard any complaint, save from one Surgeon, who thought some of the cans he received were defective; and Surgeon Perrin, who wrote from Cincinnati that twenty hundred and forty cans of the lot sent to him were decomposed, assigning therefore as his reason, a test, which both Drs. Woodward and A. K. Smith, clearly proved to be entirely valueless. Some Surgeons were also examined, who preferred beef tea freshly made for use, in permanent

hospitals, but who had no personal experience of this particular article, and whose speculative opinions do not weigh against positive proof. On the other hand Dr. Weir Mitchell, of Philadelphia, one of the most accomplished physicians in the country—Surgeons Brewer, Hoff, A. K. Smith, Cuyler, Thompson, Hopkinson and Letterman, besides Surgeons Coolidge and Vollum, all bear witness in unequivocal terms, from their own experience, and some of them from an extensive use of it, to its good quality, its great facility of preparation, its highly nutritious elements, and the fact that it is a most valuable preparation for Field Hospitals, and the exigencies of the battle field, while several of them even prefer it to the fresh tea for permanent establishments.—Surgeon Brewer was conclusive in his proof of its efficacy, and Surgeon Hoff testified that in his experience on the Mississippi where he issued large quantities, he could not have got along without it. Purveyors Creamer and Rittenhouse, who issued thousands of cans from St. Louis and Cincinnati never received a complaint from any quarter either as to its value or condition. Additional evidence in its favor is also furnished in connection with the identical lot of which Surgeon Perrin too hastily complained, in the testimony of Inspector Coolidge, who tested in his own family, and with a wounded officer in this city, a number of cans forwarded by Dr. Perrin by direction of the Surgeon General for examination.

Such proof as has been thus briefly summed up, must settle the question of the allegations of its inferior quality, unwholesomeness, and unfitness for use with the sick and wounded.

The remaining question is, whether it was demanded by the exigencies of the public service. The prosecution, with all the power of the Government at its disposal, for the establishment of its theory, has been unable to discover more than a few thousand cans remaining on hand in the storehouses at Philadelphia, Washington, Cincinnati and St. Louis, and that residuum made up in fact not only of Wyeths and Bowers', but of Tourtellot's, Tilden's, Ellis', and Mrs. Murringer's—a supply which may be exhausted by the con-

tingencies of momentarily impending conflicts, whose sad catalogues of sick and wounded will we think, sufficiently vindicate the wise prevision of the Surgeon General, in providing for contingencies only too certain to follow in the train of a bloody and protracted war.

And here allusion may be made to the fact that in order to obtain for his department medical supplies of certain purity and less price the accused, more than fifteen months ago, established manufacturing laboratories in New York and Philadelphia. Does this look like favoring private persons?

The second charge is of conduct unbecoming an officer and a gentleman, and the only specification is that the accused on the 13th October, 1862, wrote a letter to Dr. Cooper, stating that he, Cooper, had been relieved as Medical Purveyor at Philadelphia, because among other reasons Major General Halleck requested as a particular favor, that Surgeon Murray might be ordered to Philadelphia, which declaration of the accused was false.

There is scarcely any part of this prosecution which more clearly shows the venom of the principal witness brought to sustain it than this. He avails himself of a private letter, written in the kindest spirit, and in the confidence of the relations which the whole record shows had up to that time existed between himself and the accused, to inflict a deadly wound upon his honor, of a character from which every gentleman shrinks, and which repels every one from him, whether in his official or his social relations. There is in this a degree of malignity, and a want of high toned principle exhibited, which alone should make us look upon all his testimony regarding the accused with the gravest suspicion.

A charge thus made with a specification so distinct, should be supported by the clearest, and most direct evidence. There must be no want of recollection, no doubt, no hesitation, no room for misapprehension in the proof brought to support it. The memory of the witness who is assumed to sustain it must be as distinct and clear as if the fact had been recorded at the time, and if possible it should be corroborated.

ted by some circumstance. The distinct affirmation of a fact made by an officer should have the same weight with his peers, (although not admissible as evidence) on his trial, as if he had sworn to it, for it may be assumed without fear of successful contradiction that in ninety and nine cases out of a hundred the officer who would make such a statement in writing would swear to it.

We have in this case the averment of a fact in writing, made by the accused at the time of the occurrence—made without any adequate motive to say what was false, yet made under all the solemn obligations which can bind a man of honor, holding a high rank in the confidence of his Government, and when the means of contradiction and the danger of discovery were both convenient and certain. For he knew the temper of the man to whom he was writing, and his promptitude and energy when he was aroused.

Now after the lapse of more than fifteen months passed in the midst of a pressure of public affairs, tasking his mind and memory to their utmost capacity of endurance, General Halleck is called to prove that he made no such request as the accused deliberately said he had made of him in October 1862. General Halleck, as was to have been expected, does not contradict him. He says at page 676, he wrote a letter about the 1st October, 1862, to the accused in relation to Surgeon Murray, which letter is put on the record at p. 677. At p. 678, "*to the best of his recollection,*" he says, he did not make any other communication to the accused upon that subject, not even orally. This is the whole of it. This is no such denial as is absolutely required to *disprove* the assertion of the accused. The prosecution has undertaken to prove that assertion to be untrue, and they must prove, *not that the witness does not recollect, but that he does recollect, and recollecting positively denies the fact.*

But this is not all. On the same page Gen. Halleck says he received a communication from Dr. Murray; "*to the best of his recollection,*" [the very words used in chief,] he said in a private letter, "I should like to go east on hospital duty." I do not think he designated any place; and I wrote the letter to the accused immediately after receiving Dr. Murray's letter, probably the same day."

That letter of Surgeon Murray to General Halleck will be found on pp. 716, 717 of the record, and in it he says, p. 717, "I want to be ordered to Hospital duty in PHILADELPHIA, New York, or some point north of these places. PHILADELPHIA would suit me best." "*If you will send a memorandum to the Surgeon General's office, requesting him to order me to a Hospital in PHILADELPHIA it will be done at once.*"

The accused does not say Gen. Halleck asked him to make Murray purveyor, or to give him hospital duty, but to assign him to duty in Philadelphia, and he was not at that time assigned to duty as Purveyor. *How did he know that Murray desired to go to Philadelphia, and how did he know that he had so written to Gen. Halleck? It is quite clear those facts were known to him, and they must have come through Gen. Halleck, for the letter was a private letter, and although Gen. Halleck does not in his letter to the accused ask that Murray shall be sent to Philadelphia, yet no rational mind can resist the conclusion from the evidence on this subject that Gen. Halleck did make the request in some personal interview, and in the vast amount and weight of other matters by which he was overwhelmed, has forgotten it as he forgot that Murray, his friend, applying to him for aid, and whose cause he espoused, asked him to do precisely what the accused says he did do, if not send a memorandum, at least request the accused to order Murray to Philadelphia.*

It is no reproach to General Halleck to suppose he has forgotten a comparatively trivial private matter, while it would be unmitigated disgrace to the accused to find him guilty of fabricating a falsehood so idle and purposeless as that with which he is herein charged.

The accused knows that he made no intentional misstatement of the wishes of Major General Halleck, and he is positively sure, and avers that he had a conversation with him, in the course of which reference was made to the transfer of Doctor Murray to Philadelphia, and he cannot believe that a Court of the high character of the one required to decide this question, will do him the injustice of attaching criminality to a matter so easily and naturally explained by the suggestive circumstances surrounding it.

As to the third charge and the two specifications under it, the accused hesitates to make any reply.

He is charged with conduct to the prejudice of good order and military discipline. 1st, that on the 8th November, 1862, he did unlawfully and corruptly order and cause Henry Johnson, Medical Storekeeper and acting Purveyor at Washington City, to purchase three thousand blankets from one J. P. Fisher, at the price of \$5.90 per pair, to be delivered to surgeon Cooper at Philadelphia.

There was a clerical mistake in the order to purchase these blankets from J. P. Fisher, it should have been T. J. Fisher. The order was not given by the accused personally, but by one of his assistants, and that fact stands out palpably as known to the prosecution. Yet much was sought to be made of this, as though it were a badge of concealment. The proof on the part of the government is conclusive, first, that the blankets were required by Cooper. His letter is in the record. Second, that he could not get them in Philadelphia. Third, that T. J. Fisher offered them to the accused when they were thus needed, and the accused directed Mr. Johnson to buy them at a price which was below the market price, and Johnson did buy them and they were sent to Cooper. The witnesses are T. J. Fisher, Mr. Waterbury and acting Purveyor Johnson.

It is difficult to conceive the motive which prompted this specification, when not only is there a total absence of proof on the part of the prosecution to show any corrupt motive in the accused, but the evidence produced by them, independent of the explanation given by Mr. Fisher and Mr. Waterbury, shows the public need demanded the blankets to be sent to Cooper, and there is not a particle of proof to show that the charge was too high; and the very "*direction*" given by the accused to the Acting Purveyor was within the letter and spirit of the Act of 16th April, 1862.

And the second Specification of this charge, that he did on or about the 3d December, 1862, *unlawfully and corruptly* purchase or caused to be purchased of J. C. McGuire & Co., large quantities of blankets, and bedsteads, *which were not* needed for the public service, is like its immediate predecessor,

sor, a wonder and surprise, for it is not only not proved, but is disproved by the prosecution itself.

Under these two specifications and this third charge, the prosecution has taken a roving-commission; has put Brastow and Breed on the trail; the witnesses have moused about in the storehouses and hospitals, explored the Insane Asylum, and with marked evidences of unsound condition in themselves, have found unsound whiskey not fit for any kind of use, and unsound chemistry to demonstrate its unfitness; unsound tea, and a most uncertain source of its supply; and that the unhappy inmates of the hospital who fell into the hands of this corrupt and reckless head of the Medical Department, were deprived of the right of spending their hospital money, not the money of the Government, as their hospital stewards and surgeons saw fit, and compelled to take wholesome fresh, daily, hospital supplies at cheaper rates, furnished in a more convenient mode. Beyond this they have found that Fisher and McGuire supplied better articles at a cheaper rate, with more expedition and certainty than any one else, [so swears Dr. Laub, and he is no friend of the accused]; that Kidwell and Cissell supplied drugs and medicines, and even extract of beef, at Philadelphia prices; and Cozzens, Tarragona and other wines of fine quality at a fair price; they have also found that in some instances the accused directed articles to be purchased by the Purveyor in charge, in others approved contracts made by him, and in others ordered him to procure supplies, which the Purveyor translated into orders to get them from particular persons.

And this is no distorted or exaggerated statement of the outline of these two specifications—specifications as earnestly pressed as those involving the dealings with Stephens and Wyeth, but they lacked the support of Dr. Cooper or his distinguished friend Mr. Keffer, the distiller of alcohol, who rubs his spirit on his hands to see whether the fusel oil in it will glue them together, and who examines liquors at a hospital by the request of certain physicians, one of whom did not know him, the other was not there, and had never seen him, and neither of whom had asked him to do any such thing.

If Cooper and Keffer could have been added to Breed and Brastow—Brastow brought up in a country store, to attain knowledge and skill in the inspection of blankets, teas and liquors, and to head a commission to investigate the condition and affairs of the medical department of the largest army in the civilized world—if they had only been associated in the explorations here, there is no telling what might have been the result. As it is they had only Dr. Laub to tell the truth so far as his memory would assist him, and Brastow and Breed to give the coloring.

Under these specifications the prosecution has introduced the proof in regard to the quality of the bedsteads supplied to the Department; their number and value; and with the contracts present made by Dr. Finley, the immediate predecessor of the accused, with Fisher in the month of April, 1862, and in progress of execution when the accused came into office, has strenuously labored to exclude those contracts from the notice of this Court, while it has as strenuously endeavored to charge all the bedsteads furnished under them to the administration of the accused, especially and particularly those furnished to Dr. Satterlee. It has endeavored to show that Fisher charged widely different prices for the same article, and the higher price was approved, and when driven from this ground by the force of the irresistible testimony of Fisher and Dr. Murray, the prosecution falls back on the last contract made by Dr. Murray with Mr. Fisher as proof of the exorbitant character of the others, and, such is the tenacity of purpose with which a conviction is sought to be obtained, when Mr. Fisher shows conclusively that he lost money on that contract, and only took it to avoid a greater loss on material prepared and on hand to fulfil a previous contract which he well believed he had made, the prosecution again falls back on the oral orders which it is supposed were from time to time given by the accused, and does not yield when it is proven the accused never gave Fisher an order in his life. It would be a waste of time to pursue this matter further. There is an absolute failure of proof.

And so, as to the blankets referred to in the same speci-

cation—needed by the Government—bought by Fisher for cash—sold to the Government on credit—a good article at a fair price—purchased by the Purveyor by direction of the accused, what can be said upon the proofs here to show a corrupt motive in so plain a case of a simple discharge of duty.

And so as to all the supplies furnished by McGuire and Fisher, in fitting up the numerous and extensive hospital churches with promptitude, energy and despatch for the reception of the sick and wounded, the wasted, and worn soldiers from battle-field, and hospital, who were being crowded into this city.

If there is an act in the life of the accused which merits commendation, it is this very action, now made the ground of accusation, which enabled him to provide, as fast as they arrived, for the thousands of soldiers then poured into this city needing medical aid and treatment, and who without his earnest, ceaseless, watchful care and providence at that time must have been subjected to great suffering.

Dr. Laub himself confirms all this. But it may stand alone on the testimony of Mr. Fisher, who although at that time and long afterwards personally unknown to the accused, deservedly enjoyed, and still enjoys among his fellow citizens a reputation for integrity, fidelity and truthfulness that has no superior.

It remains, after the brief discussion of the several charges and specifications to which the attention of the Court has been invited, to task their patience for a few minutes longer in calling to their notice various matters which have formed, as it were, side issues in the trial of this cause. This is the more necessary because it has been found impossible, in the time allowed for this defence, to make an analysis of the testimony, such as it was the design of the accused to have presented, and which would materially have relieved the Court in their examination and consideration of it. It is so disjointed; the evidence relating to the same matters is so scattered throughout the volume and mass of the proofs; there is so much immaterial and irrelevant matter intermingled with it, that such an analysis is greatly needed, and the accused has to throw himself on the patient indul-

gence of the Court, so long extended to him already, while he briefly recalls some of those parts which may seem to have some bearing on the points really in issue, although to his mind they have not the remotest relevancy to them.

The principal grounds of accusation are: First, that he has exceeded his lawful power and authority in purchasing supplies himself; in directing supplies to be purchased from particular persons, and in prohibiting their purchase at a certain place. Second, that he has corruptly employed his office to promote the interests of particular persons, and a particular place, although he knew those persons had been defrauding the Government, and the exigencies of the public service did not require the purchase. Third, that he has unlawfully exercised his office in requiring Medical Inspectors to report directly to himself. Fourth, that he has told a wilful falsehood.

To each of these subjects matter the accused has, with the utmost brevity, but he hopes with clearness and precision, given his answers, resting on the evidence in the record, and a just and fair construction of the law, for his full defence. But, as he understands the matter, numerous facts, not set out or in any way shadowed forth by the specifications, or any of them have been introduced to give coloring to those really charged, or to qualify the motive by which the acts charged have been characterized; and however remote and irrelevant those facts may appear to him, it is proper he should take some notice of them.

Great stress has been laid on the fact that Mr. John Wyeth is not here, and he has even been spoken of as a fugitive from justice. Mr. Wyeth is not on his trial now. He is defenceless and absent. It is difficult to perceive how this bears on the truth or falsity of any one of the accusations against the accused.

The testimony of Col. Scott, late Assistant Secretary of War shows that before Mr. Wyeth made his final preparations to leave Philadelphia, he, Col. Scott, informed the Secretary of War that Mr. Wyeth was going as the agent of a company in which Col. Scott himself was largely interested, to explore a portion of the territory of Arizona, but having heard rumors of the developments made by the

Reeder Commission, he would not go if he was in any manner implicated by the report of that Commission. He was answered that the Secretary had not read the report, but he would let him know in a few days. The parties waited several days beyond the time indicated by the Secretary, and then hearing nothing from him, completed their arrangements. On the 20th Dec., 1863, Col. Scott was informed by the Secretary that a court martial would be ordered. On the same day Col. Scott replied that Mr. Wyeth must go; and asked if any changes were necessary before Wednesday, (the 23d,) to advise him. Nothing further was done, and Mr. Wyeth sailed on the 23d. The Government had the fullest opportunity to know when Mr. Wyeth reached California, and that he was there openly till some time in March. There was no concealment in his going; or as to his whereabouts afterwards; he is not and never was a fugitive from justice. So much is due to Mr. Wyeth. In his absence the accused has lost a most material, and important witness. He was ignorant of his intention to go at that time, and equally so of his having gone till after this Court was ordered. He challenges a scrutiny into the record in this cause for a scintilla of proof, that he was in any manner interested with John Wyeth, or any member of his house in any of their transactions with the Medical Department, or for any fact tending to show such interest.

And do in like manner the prosecution has drawn into this case an alleged failure of supplies immediately after the battle of Gettysburg. Under what specification all that evidence was admitted and how it bears on any one of them the accused is at a loss to discover. However that may be he confidently points to the evidence in the record of Purveyor Brinton, Inspector Cuyler, and Director Letterman, and to the whole testimony on that subject for his complete vindication from every ground of suspicion of neglect or want of foresight on that occasion.

And so in like manner, the evidence of Dr. Satterlee, as to the Port Wine purchased from Mr. Cozzens, and some of which Dr. Satterlee thought was bad. To what specification does that apply? That too is full and most satisfactorily explained by Mr. Cozzens, and put right by Purveyor Creamer.

And so as to the wines and teas purchased in the District of Columbia, of which no notice is given in any one of the specifications; wines and teas proved to be of excellent quality and bought at advantageous prices.

And so as to the drugs and medicines purchased from Kidwell & Cissell, with which no fault could be found.

And so as to the purchase of the remnants of Wyeths stock in the warehouse, a purchase which Dr. Murray has shown was made by himself, selected by himself, priced by himself, paid for by himself.

To enumerate all the other outside matters, having no direct bearing upon any one of the issues, and which are irrelevant and immaterial, would exhaust the patience of the Court, and he forbears to press them further on its attention.

The accused has now covered as fully as time and opportunity would permit, the chief points of accusation against him.

With skill and labor the law officer of the Government has sought to bring to the notice of the Court, the main facts and the minute details of the official connection of the accused with all the matters of alleged wrong doing. Unlimited in his power to collect witnesses and amass documentary evidence, the country has been traversed in search of the one, and the files of the Departments eviscerated for the other, and in the swollen record now open to the inspection of the Court, it is fair to assume is embodied everything that could be supposed to tell injuriously upon the official conduct and fair fame of the accused. He has been a deeply interested party to this trial, not because its possible issue involves the loss of official position. That is indeed something, but his good name is of infinitely greater value. His personal honor has been put in issue, and for it he makes earnest contest. Two years ago he went into the office of Surgeon General at the invitation of the President and with the confidence of the Government. Duties of the most important and various character instantly devolved upon him. His responsibilities were grave and heavy. The land resounded with the tread of immense armies, and their needs demanded from him prompt and earnest action. The rapidly developed necessities of these great armaments also re-

quired important changes in the organization of his Department, and much labor was needed to increase its efficient working. The changed condition of national affairs called for larger expenditures and larger views, and this, as the evidence shows, when ready money was not at his command. The reputation of the country demanded that the brave defenders of its highest interests, should be accompanied everywhere and under all circumstances with whatever an advanced medical science, and a thorough prevision of their wants could suggest. To do this—to do it completely, so that all probable contingencies of sudden demand should be confronted with an ample supply, and to discharge all his duties with no contracted ideas of an unwise and hurtful economy, but with a comprehensiveness bearing some relation to the magnitude of the great events in the midst of which he was acting, the accused confesses to have been his ambition. Doubtless his performance may have fallen short of his desire. Doubtless he may have committed mistakes of policy. Doubtless in the midst of engrossing duties he may have failed at times fully to satisfy the demands of the service. Of one thing however he is absolutely sure, that with right purposes and honest motives he has endeavored to discharge his duties, and upon careful revision of the record of this case, he sees in it no sustained aspersion of his honor. It shews that in all the multiplicity of the transactions it has disclosed, and in the millions of expenditures to which it has referred, no single witness could be produced, though all of them who had dealt with his Department were challenged to the proof, who casts upon him the shadow of personal corruption. Whatever of erroneous judgment, of unintentional error there may be, not only is no corruption shown, but it is positively disproved by the most emphatic evidence. The Court has heard the case with patience and courtesy. To it is now committed the judgment of his conduct, and the accused asks only a candid consideration and a just decision.

WM. A. HAMMOND,
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*Translation of the Appendix (Anhang)
to Moltke's History of the Russo-
Turkish Campaign, 1828-9.*

(Done into English by Captain STEERLING.)

IN the preceding pages we have endeavoured to lay before our readers a picture of the sieges and battles of the Russo-Turkish campaign. Let it now be permitted us to take a glance behind the scenes of that theatre.

Besides their enemy who opposed them openly, the Russians had another invisible foe to contend with, who clung to their heels, crossed the Balkan in their company, and while their arms had conquered a glorious peace, still persecuted them with relentless enmity: we mean disease.

The times are past in Europe, when it was possible to take the field with 30,000 or 40,000 men, carrying along with them bakers' shops, flesh victuals, and even dwellings, if tents may so be called, to conquer a province and conclude a peace. In the East, wars have always rather assumed the character of a contest between races; but in countries like Turkey, the levy in mass, the system of requisitions, and so many other levers of modern warfare, are inapplicable. The want of roads, deficient cultivation of the land, the unsettled habits of the people, and the small number of important towns, to a certain degree compel an adherence to the ancient methods. Enormous magazines must follow the army: and we have seen the soldier, during rapid and extended movements, carry with him provisions enough for ten days. Even then such arrangements would have been insufficient, had the Russians not operated

along the coast of a sea upon which they were the absolute masters.

These are heavy fetters for a general charged with conducting a war of attack and movement against the advantage, difficult to be estimated, of a passive resistance. But considerations for the health of the army, and the care of the sick, will form no less a hindrance. The mere nourishment of the troops was sufficiently provided for by possession of the sea; but to erect great hospitals demanded a base upon the land.

Three months before peace was concluded, Silistria and Schumla were still untaken, and they lay immediately on the flank of the Russian line of operations. But this material difficulty of a want of space disappears when looking at the excessive spread of the diseases, and the intense malignity of their infection:—the first rendered the surgeons, nurses, medicines, beds, linen, in short, all the previously prepared measures insufficient; the second caused precisely those who were to heal and tend the sick, to become themselves the first victims of the malady.

A clear view of the measures adopted for feeding the Russian armies in very difficult circumstances, would be in the highest degree instructive, but, alas! on this point we have no sufficing information. Very valuable are the communications of German surgeons in the Russian service,* who give us a frightful peep into the tragical position of an army victorious in the field, but overthrown and conquered in the hospital.

From the times of antiquity, we know that armies which met in Dacia and Pannonia were sufferers from fearful pests; and in all the later wars of the Austrians and Russians, more men perished by disease than by the sword. Yet can it not be maintained that these countries are in general unhealthy—provided it be possible to imitate the habits of the natives. There, as everywhere in Turkey, especially in the summer, hard work is not to be thought of. The Oriental leads a moderate and simple life, he rises early, takes his first refreshment at nine o'clock, sits during the mid-day heats under a vine trellis, or in the shadow of a plane tree, drinks sherbet and other cooling

* Scidlitz, Rink, and Petersen, in the 'Miscellaneous Treatises on the Province of the Healing Art,' 5th Collection, Hamburg.

drinks, and knows no higher excitements than his coffee and his pipe. Towards sunset he takes a frugal vegetable meal, and goes to bed so early, that after eight o'clock scarcely any one is to be seen outside the houses. At the beginning of the summer heats, commonly in May, even among the natives, in places, epidemical fever appears; but then the whole population performs a kind of voluntary quarantine in their garden houses, or among the hills. By the middle of June, the spring fever almost always is extinguished for want of people to communicate it, for at that period the villages are nearly empty; and there are towns, as, for instance, Malatia in Asia Minor, where in summer not a soul is to be found, while 20,000 or 30,000 people live in a summer town about five miles off, where their habitation is established on the hill-side, among rushing brooks, and under shady trees. The whole Kurd and Turkoman race resides in summer under tents of goats' hair; and in proportion as the heat increases, they remove higher into the mountains. Just as their houses and food, so is the native dress contrived to suit the climate. No one goes with uncovered head; on the contrary, a many folded head-cloth protects that member from the perilous sun-stroke. Garments of fur, which under our northern sky are not common, are there worn by every one. While we just begin to breathe again after sunset with a temperature of 16° or 17° (16° Reaumur = 68° Fahrenheit), this temperature appears to be actually cold to those who have felt during the day a heat from 25° to 32° (25° Reaumur = 88° Fahrenheit) in the shade, and very warm clothing is then indispensable. Besides which, north of the Balkan, a dew falls directly after the short twilight, which wets, like a thick rain, the clothes and the bed of those who sleep in the open air.

There is as great a difference in temperature between winter and summer, as between mid-day and evening. Winter on the Danube is at least as severe and as long as it is on the Elbe. So early as November, often at the beginning of the month, the wide plains are covered with deep snow, which remains, even south of the Balkan, and in the valleys around Constantinople, where the sun does not directly reach, till late in spring. On the hills, and on the high levels, during March,

one rides under a burning sun and oppressive heats, across endless snow-fields, which almost blind the eyes.

In the year 1838, the Porte had collected around the Taurus an army of 36,000 men. Although they were encamped on the high plain of Charpat, 3000 feet above the sea, and were all natives, mostly Kurds, still, from the change of life and their European clothing, even in June they were torn by a most frightful mortality. Fever, dysentery, and typhus so ravaged them, that some regiments within a year lost the half of their strength.

How much more fatal must the operations of the climate have been upon foreigners. In the Russian camp, it was impossible to lead the comfortable lazy life of the Oriental. During the heat of the day the soldier had to perform the hardest work, and slept on the ground, damp with the cold night dew. His clothing, which he scarcely ever put off, was tight and uncomfortable; and his cap was heavy and inconvenient. The food of the north, and of the northern winter, was provided for him here: it was beef, barley, and brandy. The last, for convenience of transport, was brought in the form of spirits of wine, and it was intended to be diluted with water, which operation sometimes was neglected. Fresh vegetables were of course not to be procured, and the men's bread was black biscuit, which is invaluable from its portability and indestructibility, — but the surgeons, it is asserted, have observed, that where the digestion was already impaired, the biscuit, moistened or pounded in water, passed with the excrement nearly unaltered.

The water in Wallachia and Bulgaria was mostly bad, loaded with clay and chalk; and at Shumla was so scarce, that although sufficient was procured to quench thirst, there was none for bathing or washing clothes, so that personal dirt was added to these many other evils. If it has been found that a too closely packed population becomes unhealthy, how much more must this density become dangerous when the crowd is composed of weakened and sickly men, among graves and corpses, increasing in number as the halting-place continued in occupation.

The Russians had scarcely entered the Principalities before

the sanitary condition of the army excited attention, and a quantity of sickness showed itself. All the surgeons agreed that the disease was very malignant; but they differed among themselves, and doubted whether it should be called gastric-nervous or putrid fever—whether typhus or plague. Truly, the name was of small consequence, inasmuch as the plague has a cognate relation with those fevers, and perhaps is only a higher power of them, urged by Telluric and climatic conditions. The criterions of the plague, buboes, carbuncles, and pustules, were not wanting, but the dread name was not spoken; and segregating measures were shrunk from, as scarcely compatible with a war of movement.*

And yet some such measures seemed unavoidable, since, in spite of some modern efforts to prove the contrary,* a long and manifold experience demonstrates that the touch of plague-smitten persons, and still more that of their clothes,† will communicate the poison.

Before the war, there existed in Russia, as defence against the plague, two lines of quarantine on the Dnieper and the Pruth. At the opening of the campaign, the first was given up to facilitate the communications. But before the advance of the Russians, some plague-cases had already occurred in Wallachia, and the hospodar had established a plague-hospital in Dudeschte. In the spring, the number of cases increased, and by the middle of May four monasteries were filled with plague-patients. Whereupon the quarantine on the Pruth was relaxed, and a sixteen days' quarantine was again ordered in the Dnieper, while plague-committees were organized at Bukarest and Jassy. Even the main army before Schumla was at last protected by quarantine, not merely against Turkish deserters, but also against Wallachia. Unfortunately, the plague broke out in Hirsowa, the chief point of communication for the intercourse of the army with its home, and

* Dr. Bulard, in 1837 and 1838, shut himself up in the plague-hospital, touched the sick and the dead, slept beside them in their beds, inoculated himself with matter from the buboes, and yet remained healthy. In like manner, an Armenian priest has lived in the plague-house at Pera for many years.

† The four nurses of a Russian doctor, who washed his clothes, all died, while he remained untouched by sickness.

thus it became necessary to establish a quarantine in Bassardschik. At Varna the men were inspected every week, and the good effect of all this precaution was shown by the fact, that the main corps in Bulgaria was entirely spared by the plague in 1828. As the natives had predicted, when the heat of the summer began, with that change came a change in the disease; but it did not disappear, for a strict segregation was impossible. Sometimes the natives infected the Russians, and *vice versa*. In vain were the sick soldiers laid in separate huts made of green boughs; their clothes, linen, and even the ammunition of whole battalions, cleaned; in vain many suspected houses were burned. In spite of all, the sickness continued to increase towards autumn; and in the middle of November forty villages were infected. In December, the severe cold first stopped the plague among the besieging troops at Giurgievo and Kallarost, but it still continued to exist in the hospitals of Bukarest; which was the more unfortunate, as those hospitals were only calculated to hold 500 patients, while thousands were brought there from all sides; among whom a considerable number were recognised as plague-cases. Even on the 11th of February, sixty-one villages were cleaned by order of General Roth.

Hitherto we have only spoken of the plague; but nervous, intermittent, and putrid fevers, dysenteries, scorbutic and inflammatory illnesses, which prevailed everywhere, cost the army ten times the number of those which sunk under the plague, till this time happily confined within a narrow space.

Meanwhile, the time for beginning a new campaign was approaching. The cycle of disease for the previous one had been completed, and the number of sick and of dead had reached, in February, 1829, its minimum betwixt the two campaigns; the maximum was in September and October. During the latter month alone, 20,000 sick had entered the hospitals, besides those who lay in the field lazarets. The absolutely greatest loss of men occurred in January, 1829—for in this month, while war was dormant, about 6000 men were returned dead; but the proportional mortality of the first campaign reached its highest point in February of the same year, for in that month more than 25 per cent. of the

sick perished. The intensities of the disease will be seen in the following table in per-centages.

	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
Regimental Hospital	1.8	2.7	2.0	2.7	5.6	7.2	10.9	10.5			1828
General Hospital	7.4	7.2	10.2	16.6	18.9	22.5	23.4	25.5	25.5	28.9	1829

As to the extent of disease, during the ten months from May, 1828, to February, 1829, the regimental hospitals had received not less than 75,226 slighter cases, and 132,882 severe ones in the general hospitals; so that altogether 210,108 cases were treated.

Taking the strength of the whole Russian army, including non-combatants, to be fully 100,000 men, we see that during the above period, on an average, every man had been twice in hospital. According to these positive returns, and the above table of per-centages, it will thus be seen, that the Russians, during the first campaign and in the following winter quarters, lost at least 82,000 men in the hospitals. In these numbers the dead are not reckoned who fell in action, and who naturally never came into the hospitals at all. And, therefore, without exaggeration, it may be said that the first campaign cost the Russians the half of their effective strength of combatants.

In the middle of May, 1829, the first traces of plague showed themselves on the right bank of the Danube at Tschernowoda, Babadagh, Küsteusche, Basardschik, Kawarna, and finally at Varna—that important spot where the reserves, the magazines, the storehouses of the whole army, and a dépôt of 4000 invalids, were established. It was supposed that the infection here was caused by serving out the ammunition of the dead from the 16th Infantry division, which had been kept for a long time in a closed magazine. The storehouse watchmen were the first who died with indubitable symptoms of the plague. Besides which, the close pressing together of the troops, the effluvia of so many dead bodies, and bad victuals, encouraged scurvy and malignant fever. In the middle of June, the number daily received into hospital at Varna amounted to from 50 to 80, while, at the same time, the

death of 8 surgeons left the sick almost without assistance. Some battalions were moved out of the town into a camp. The men were ordered to bathe in the sea; the tents were fumigated with vinegar; the ammunition aired; the necessities of the dead were burned, and a department for plague patients was cut off from the army by a surrounding ditch.

The aspect of this plague-hospital, so to call it, was horrible. The sick were rolling among the dead and the dying—panting in the sun. During June, the pest extended itself, so that every week more than a thousand men came into hospital. Up to the 26th August, 5509 patients had been received, of whom 3959 died, and only 614 escaped with their lives. In one day, the 25th June, there died 300 men: the corpses were piled up like wood, and carted off in like manner. Out of 41 surgeons, 28 were attacked, of whom 20 died; out of 7 apothecaries, 4 died—besides 30 field-surgeons, commissaries, and sick-nurses. As fresh surgeons only reached the army at intervals, there were occasions when only one medical man remained to attend so many sick. The extraordinary loss of surgeons was the more felt inasmuch as they, in general, could only be replaced by young men without experience, and, in truth, mostly by foreigners who did not know the language. Besides the losses in hospital, the dead and the dying were found in the fields and meadows near the roads to the town, behind every hedge and thicket; while, in the sutlers' tents, a gay carousing life was going on. At other places, at this time, the prospect was not much better. Brailow was entirely emptied. Even the post-horses outside were stopped, so that travellers should not reach the place. In June, 1200 men were here treated for the plague, of whom 774 died. Surgeons and officials were nearly all carried off. At Slobodsche, the whole management of the plague-hospital lay in the hands of one non-commissioned officer. The plague had also broken out in Bessarabia. The main Russian army, as is well known, lay at that time before Shumla. Everything depended on shielding this army from the infection, and its rear was surrounded by a chain of posts: great trains of carriages, which had been loaded under every sanitary precaution, were alone permitted to pass. The sutlers, who ought to have supplied head-quarters, were

here stopped as if by a wall, while in camp the people were starving: yet the infection found its way through, but only showed itself in single cases; and, generally speaking, the health of the main army was good. The troops suffered principally from dysentery.

So soon as the passage of the Balkan was begun, all the sick from the head-quarter hospital were carried off to Baltschik. The troops which had to pass through suspected places—like Dewno, Gebedsche, and others—were ordered to march through one of the quarantine stations, and so were prevented from communicating. All carriages from Varna were cleaned before starting, and again examined on their arrival. A strict quarantine was established on the Khamschik, and likewise at the harbours in the bay of Burgass.

In spite of these precautions, an uncommon number of men fell ill at the first day's march. At Dewno, the number of sick in hospital had risen to 400, who suffered from diarrhoea, bilious fever, and scurvy. Many men, in order to lighten themselves, threw away their ten days' provision of barley and biscuit. With ever-diminishing ranks, the army reached the slope of the hills; and even at Derwisch-jowaun, a hospital was built of green boughs, which soon held 600 patients. At the south foot of the mountain, the troops were first able to refresh themselves in the shade of oaks and beeches, from which they had long been separated. There they found gardens, fresh vegetables, and half-ripe grapes. The soldier was rejoiced and encouraged by the successful passage, and revived by hope and by activity. Only some fifty men were hurt by gunshot wounds at the taking of Aidos, and in that town the sick did not amount to 100. At Aidos, the roads were cleared of corpses, and the houses from dirt: here was no symptom of plague, but the intermittent fever began to spread itself. After a few days, officers and men complained of a weariness and relaxation of spirits they had never felt before, so that many of them could scarcely walk. Besides the intermittents, hot fevers, with delirium, appeared; and such an inactivity of the capillary vessels, that every slight blow, or even touch, left a blue spot on the skin; the sting of the mosquitoes, which attacked by preference the sick, produced, in a few minutes, a purple

spot half an inch broad. The patients died insensible on the fifth or sixth day, and their bodies, like those of hunted beasts, began instantly to rot. These intermittent fevers, with returning paroxysms—which made the sick reckless of their lives—were worse than the plague. Although there were very few wounded men, nevertheless lock-jaw was common; however, more than half the deaths occurred from dysentery. Every day the already weakened army lost hundreds from its ranks, either mad with thirty-six hours of fierce fever, or wasting away with thirst. The hospitals over the Balkan were filled with such rapidity, that the succeeding troops found neither room to receive, nor clothes or linen to cover, their sick; for most of these latter necessities had been left perforce in Bulgaria, where, in July, to the 18,000 sick then in hospital, 19,000 new cases had been added; so that, including the sick south of the Balkan, during July, the enormous number of 40,000 men, or more than half the whole active force, lay in hospital. Although the plague had not followed the main army, yet it hung like a black thundercloud over the northern horizon of Bulgaria.

The lazaretto in the Kamschick was filled with suspected cases, and the character of the synochial fever became so malignant, that it threatened to pass into true plague. In Burgass, during September, there were 2096 sick, of whom six had buboes. In October, out of 2117 sick, 53 pest patients were acknowledged; and in November, they had increased to one-third of the whole number of invalids. The quarantine was kept up with the utmost strictness, and it seems probable that, without contagion, the plague had developed itself nosologically from the previous fevers. Meanwhile, the army marched on against Adrianople. During the forced march from Sliwno, half of the baggage animals died of fatigue. The number of sick in the ambulance reached 800. They remained behind at Bujuk-Derbent; but in the two days from thence to Adrianople, the ambulance had been filled by 26 officers and 226 privates. Many died on the march. Symptoms of plague showed themselves in the Kamschatka reserve regiment, which had followed the army from Szisebolis; these were, however, suppressed by an instantaneous segregation.

At Adrianople, west of the town, a square, newly-built Turkish barrack was taken for a hospital. The building had two stories, with 100 windows on the two shorter sides, and 150 on the longer ones. It included a mosque, with its slender minarets; roomy marble baths, a great kitchen, and a kiosk, from whence a glorious view was presented of the great town in the valley below. Before the building, a green grass-plot was extended, with a grove of plane-trees, a garden, and burying-ground. It was most fortunate to find in such a country so suitable a locale for the accommodation of the sick. But with the probability of an immediate, and, perhaps, a forced return, all the arrangements were of the most temporary nature.

We have seen how this halt of the Russians was protracted, and how during three months the army remained in constant expectation of moving in three days. Thus was there no preparation made for an extraordinary increase of the sick list, nor yet less for winter. The hospital was soon filled. Eight days after the arrival at Adrianople, the sick numbered 1616; on the 1st of September, 3666; and in the middle of the same month, 4641—in fact, one-quarter of the whole disposable force. Now, while arms were laid down, the plague broke out in the hospital, in its most frightful form, and carried off during peace those who had resisted both sword and sickness till the end of the campaign. Nothing but a roof could be afforded to this enormous number of sick. Preparations in advance it had been impossible to make at Adrianople, and the commonest provisions were wanting. There was not even hay or straw to keep the sick off the hard boards of the barrack beds. Cut-up Turkish tents supplied the want; knapsacks became pillows, and cloaks were the bed-clothes. But now there came a terribly cold winter. The windows were only glazed in some parts; the doors would not shut. The fine plane-trees soon vanished; the healthy troops were themselves without wood, and even the dead bones from the burying-ground were used for fuel. At first there were surgeons enough, but their work was too much for human strength; field-surgeons there were none, and nurses very hard to find. The doctors had themselves to prepare and administer their prescriptions; and now,

when the plague broke out in its full strength, almost every surgeon, here as everywhere, was prostrated by the disease. The necessities were particularly inconvenient, being made Turkish fashion, not for sitting upon, but for squatting over, and were quite useless for sick men who could scarcely stand; and yet they had to be used daily by 5000 men, half of whom were suffering from dysentery. Fifty men could not keep the places clean; besides which, the sewers under ground were stopped, and caused a most dreadful smell through the whole building. During the first months in Adrianople, the sick were carried off in hundreds by intermittent fevers, which mostly were of the double sort; the paroxysms lasted for eighteen hours, and then frequently after one hour's intermitting, the second attack came on; so that the patients lay in the fever for thirty-six hours, and had only twelve hours free. They generally died after from eighteen to twenty-one days, and ended, if the illness did not last any longer, with scurvy or dropsy. The only remedy was *quinine*, and of that there was a short supply. According to the assertion of the Russian surgeons, there were scarcely 500 men in the whole army who could boast that they had entirely escaped a fever; and in many cases the disease did not break out till after their return home, and then with so much the more violence. The dysentery caused the greatest despair; here the insufficiency of medicine was the smallest want; but attendance on the sick, where every patient required a nurse, was impossible, and a total want of clean linen made the most frightful filth unavoidable. Detained by bad roads and the sickness of the baggage drivers, amongst whom the plague broke out, linen and furs for 2000 men only reached Adrianople from Ahjolo in December. In the last half of September, however, all the illnesses and relapses, remitting and intermitting, turned without exception into exhausting diarrhoea and deadly dysentery. Nearly 1300 men died of flux at Adrianople in the course of October. From Kirkliissa, 1500 sick with the same disease came into hospital, which they could scarcely reach from weakness. Like gnats in autumn, when the thermometer fell to 3° or 4° of heat, the flux patients, almost worn out, were frozen to death. To protect their feet from the cold, they

kept on their boots till they could bear the pain no longer; and on the 16th of October, when the feet were uncovered, mortification was discovered in the toes, from a want of internal and external warmth.

In the treaty of peace, it was provided that the Russian army should move into winter quarters at Burgass. The transport of such a number of sick, and over such roads, was, however, quite out of the question: so 4700 sick, with three or four hundred nurses, escorted by the 36th Jäger Regiment, together 6000 men, remained behind in Adrianople. Before the army marched—that is, on the 29th of October—the first case of plague had already occurred in the hospital; and soon the disorder spread so rapidly, that at last, out of 300 sick wards, not a single one remained intact. The picture which the Russian surgeons have sketched of a plague patient is as follows:—

Generally the disease breaks out towards sunset.

Increasing shiverings are soon replaced by violent cold fits; and towards midnight the disease turns to strong heat, with delirium, as in a common inflammatory fever. The patient at the same time is very talkative, and asserts that he has nothing to say to his sickness. On approaching the patient he jumps up, but suddenly falls back and sinks, as if struck by lightning. The countenance is swollen, the expression changed, the eyes staring, and as if covered with a white skin. The patient sees and hears badly—speaks with difficulty, but much and quickly. His memory is so weak that he often does not know his own name, or the number of his regiment. His external appearance is that of a drunken man. Later, he sinks into a motionless stupor, or tears at his clothes. He complains of cold, creeps about on the ground without regarding the hurts which he thereby gives himself, and often dies at the moment when he has scratched his neighbour in the endeavour to get his clothes from him. The appearance of buboes does not save him from death, which takes place after forty-eight or twenty-four, or sometimes after only four hours' illness. Only a violent sweat has shown itself to be a favourable crisis.

In so swift a disease, all internal remedies were useless. At Varna, abundant sprinkling with cold water had often cured, and always given relief; but at Adrianople the weather was

too severe, and the sensibility of the sick to cold was too great; so that only an external friction with olive oil was practised.

The plague reached its greatest height in the end of December, when from fifty to seventy men died daily; and the malady only disappeared in March of the following year, from a lack of men to kill.

Two transports alone, one with 300 convalescents in December, and one with 170 sick in May, reached Burgass. They were escorted by three or four hundred healthy soldiers; all the remainder perished. Of the 6000 left behind at Adrianople, 5200 men died.

But even in the winter quarters over the Balkan the plague had spread itself; no regiment, no lazaretto, not even head quarters at Burgass was spared. The whole army (if this ruin could be so called) was made to undergo a purification, and only was allowed to enter their father-land after twenty-one days' quarantine. A ship of the line and a frigate were appointed to carry away the sick. Their number, after all the deaths at Burgass, amounted still to 3864; among these were 600 plague-stricken. These were taken to Kinburn and Olvidopol. Head quarters reached Tultschin only on the 25th of June, 1830.

The increased mortality in the Russian army during the campaign of 1829, compared to that which already seemed enormous in the previous one, may be seen by comparing the following table with that given above.

There died per cent.—

1829	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
...	...	9.3	10.7	10.0	11.1	14.3	15.8	27.3	19.6	
20.4	25.6	29.2	56.6	41.1	33.7	34.6	42.0	45.6	30.1	

Taking the mean of these numbers, there died in 1828, in regimental hospitals, 5 per cent.; in general hospitals, 19.2 per cent.; in 1829, in regimental hospitals, 14.6 per cent.; in general hospitals, 37.0 per cent. From which it appears, that in the regimental hospitals the mortality, compared with

that of the previous year, had increased threefold, and in the general hospitals, twofold. What would that proportion have amounted to had a third campaign been necessary?

The number of sick cases and of deaths in 1829 is not completely given, but the following data may be relied on:

In the fixed hospitals alone there were—

	Received.	Of whom died.
1829 March . . .	12,170 . . .	= 2434
April . . .	17,625 . . .	= 4406
May . . .	14,419 . . .	= 4806
June . . .	18,000 . . . above	= 9500
July . . .	19,000 . . .	= 7600

In 5 months . . . 81,214 sick. . . . 28,746 dead.

During the following months the mortality increased from $\frac{1}{4}$ to $\frac{3}{4}$, and even almost to $\frac{1}{2}$. The number of sick in the weak army at Adrianople was continually on the increase; and the number of deaths in the five months to the end of the year must have been at least as great as in the preceding five months. And we know further, that of those who remained at Adrianople, 5200 more died. If we add to all these, the loss in the regimental hospitals and the number killed in action, we shall probably remain far behind the truth if we estimate the Russian loss, in their last campaign, at *sixty thousand men!*

In this total there is certainly a part to be held as belonging to non-combatants, and some to the weak reinforcements which followed the main corps by Szisebolis to Adrianople. Still, we may fairly take for granted, that scarcely more than from 10,000 to 15,000 can have recrossed the Pruth into their own land, and that the Russian army was almost annihilated in its second campaign.

Such abnormal conditions of health, or rather of sickness, could not be foreseen, they surpassed every calculation; and it is difficult to figure to oneself an army operating offensively with more than half its number in hospital. The reproaches which have been launched, on this account, against the superior ministerial officers, appear to us to be unjust. How was it possible, in such a country, to carry with an army the means of nourishing and attending 40,000 sick? How carry out the segregating measures necessary to keep off the plague, while

an offensive war was in progress? Circumstances such as we have now sketched should, however, not remain unnoticed when judging the performances of an army and of its leader. The Russian soldier appears as steady in endurance of labour, exertion, privation, and suffering, as he is intrepid in danger. So far as the general himself was concerned, it was the lot of Prince Sabatkinski to contend, in his two campaigns, against an armed enemy, and also against a secret and destructive element—in Turkey, against the plague; in Poland, against the cholera, before which he himself at last fell. Independent of the material weakening of this army, what a strength of character is shown by the leader, who, while beholding constantly such unspeakable and wide-spread misery, still keeps his eyes steadily on his great aim, which cannot be attained by delay, but only by constant, powerful, and rapid action.

With regard to the campaign in Turkey, we think that history will say, to the honour of General Diebitsch, that, with his weak means, he undertook nothing which was not absolutely necessary for his object. He besieged a fortress and fought a battle, one which carried him into the heart of the enemy's monarchy. He arrived there with the shadow of an army, which its fame made irresistible.

Russia may thank the confident, bold, and yet prudent conduct of General Diebitsch, for the fortunate termination of a campaign which might have had a very different result, had the Sultan and the European diplomatists been in some degree acquainted with the real state of affairs at Adrianople.

THE END.

Savill & Edwards, Printers, Chancery Street, Covent Garden.

ON



INTESTINAL CONCRETIONS.

BY

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COMMUNICATED TO THE MEDICO-CHIRURGICAL SOCIETY, 5TH FEBRUARY 1868.

EDINBURGH: PRINTED BY OLIVER AND BOYD.

MDCCLXVIII.



INTESTINAL CONCRETIONS.

THE formation of concretions within some portion of the alimentary canal is of no infrequent occurrence in the lower animals.

The history of comparative pathology is replete with instances of the bezoar stones, formed in the camel, goat, and antelope. And the confident belief which at one time attributed to the padi-zehar or bezoar stone the virtues of an alexipharmiac, or poison antidote, has imported into most of the ancient and mediæval works upon pharmacy extended notices of remarkable specimens of these formations, which have sometimes, even in Western Europe, fetched a price so high as 6000 livres, and the hire of a ducat a day when lent out for a single occasion.

The substance so familiarly employed in the perfumer's art, under the name of ambergris, is originally formed in the large intestine of the spermaceti whale, a single mass of which has been known to attain to the gigantic size of 5 feet 8 inches in diameter, weighing 182 pounds, and fetching as a first price 11,000 dollars.¹

The large masses of felted hair which form the egagropiles of herbivora,² and the masses or balls of debris composed of the claws, feathers, hairs, and bones of their victims ejected by birds of prey,³ are sufficiently familiar to all the members of the Society.

In the human subject such formations have been frequently enough met with,⁴ and were, in Scotland more especially, at a former period far from being uncommon. Since, however, the preparation of the oat for domestic use has been conducted by something more

¹ Philos. Trans., 1734. Id., lxxxi.

² La Fosse, Cours d'Hippiatrique, p. 158. Annales de Chimie, tom. xx. Philos. Trans., xxiv. 1703, Thoresby. Id., xlv. 1746, Bailey. Id., xlviii. 1754, Watson. Id., xxxiv., No. 398.

³ M. Jules Cloquet, Mémoire sur les Concretions Intestinales, lu à l'Académie des Sciences, dans la Séance du 29 Janvier 1855.—Notes et Observations, No. 77.

⁴ M. Lawer, by Dr König, Philos. Trans., 1686, weighed 5 lbs. Martineau, Philos. Trans., 1722-23, 8 inches circumference, 6½ in. length, weighed 2 oz. 16 dwts. 12 grs. Mr Mackarness, Philos. Trans., 1739-41, 10½ in. circumference, weighed 8½ oz. Samml. Med.-Wahrn. Band ix., p. 231, weight ¼ lb. M. Daubal, Discours Académ. de Esthera Norra, Lund. 1715, 8vo. Sir H. Sloan refers to Birch Hist. 1685, 200 concretions. Elin. Med. Comm., vol. viii., p. 329, weight, 8 oz. and 3 drs. Luzoni met with 10 concretions; Bilguer 20 in the stomach; Turne in one case met with 14, in another case 18 in the large intestine.

effectual than the imperfect thrashing, winnowing, grinding, and sifting in familiar use in every farm throughout the country in the early part of the century, cases of enteroliths in the human subject have become rarer and rarer.

The vegetable and fibrous character of the nucleus of these human enteroliths was long ago indicated by Fourcroy and Vauquelin,¹ while Drs Duncan,² Thomas Thomson, and John Davy, from their analysis of some specimens belonging to the unrivalled collection of Dr Munro, state distinctly that they contain a substance analogous to or identical with vegetable fibre. The source of this vegetable fibre was, however, a matter of doubt until the sagacious suggestion of Mr Clift, conservator of the Royal College of Surgeons of England, "whether it might not proceed from oats," led to the examination of the microscopic structure of this cereal by Dr Wollaston, with the result of verifying Mr Clift's conjecture.³

Dr Douglas MacLagan has more recently and fully elucidated this subject. His paper⁴ contains a valuable description and analysis of two enteroliths of this kind, the one sent him by Mr Turner of Keith, the other belonging to Mr Syme, and obtained from the Highlands. In regard to these cases, Dr MacLagan remarks, "From these observations, there can be no doubt that the correct statement as to the constitution of these concretions is that they are composed essentially of the hairs of the caryopsis of the oat, mixed with fragments of the husk of the grain."

For the formation of the intestinal calculi, two circumstances seem to be necessary:—

1. The existence of a foreign body in the intestines for a sufficient length of time to permit the accretion of a deposit on its surface.

2. The presence in the economy of a sufficient amount of calcareous salts to furnish a calcareous concretion.

The foreign body, which acts as an irritant, and upon which the calcareous deposit is collected, can constantly be recognised in the centre of these enteroliths when a section is made of the concretion. The properties essential to its fulfilling that nuclear function are, that it should be insoluble in the gastric or intestinal juices. Thus, animal hairs and insoluble vegetable fibres and hairs have been discovered in a large proportion of the cases composing the nucleus, but a gall-stone, or fruit-kernel may serve the purpose and afford the necessary surface for further accumulations. Pins, needles, small nails,⁵ pieces of bone, as well as stones of fruit, have been observed forming the nuclei of alvine concretions.

¹ *Annales du Museum*, vol. iv.

² *Edin. Med. and Surg. Journal*, vol. xxiv., p. 87. Munro, *Morbid Anatomy of the Gullet, Stomach, and Intestines*, 2d edition, p. 27, p. 35.

³ *Marcel, Calculous Disorders*.

⁴ *Edinburgh Monthly Medical Journal*, September 1841, p. 648.

⁵ *Philos. Trans.*, xlviii. 1754, Watson. *Id.*, xlv. 1746.

In illustration of the capacity of gall-stones for forming the nucleus of an intestinal concretion, I may mention the following instance which occurred to me about a year ago:—

I was requested to see Mrs —, who had suffered from a very severe attack of hepatic colic, due to the passage, it was believed, of a gall-stone, but who had not, when I saw her, passed any such formation in the excretions. There had been, however, after the subsidence of the colic, a good deal of intestinal uneasiness characterized by shifting pain, flatulence, and constipation. These symptoms had abated under the influence of a dose of castor-oil and laudanum, which had afforded a loose bilious evacuation. The patient complained of pain at the fundament so severe as to cause her to scream when the bowels threatened to act, together with the sensation of a solid mass which came down to the orifice, as she expressed it, and then went up again. On placing the patient under the influence of chloroform, and examining the bowel, I at once recognised a fissure of the anus extending up the depth of the sphincter. This ulcerated chap I divided in the ordinary manner, and on carrying the finger higher in the bowel came in contact with a dense mass of the consistence of putty, about the size of a large orange, but of an ovoid form. This was situated too high up to reach its distal side with the finger. I accordingly made use of the shank of a silver tablespoon, by means of which I broke it down, and extracted it piecemeal from the rectum. The mass consisted in great part of feces of a putty or pipe-clay colour, but as thickly studded with gall-stones as a plum-pudding with raisins and currants. Had this mass remained unremoved for a lengthened period of years, there can, I think, be little doubt it too would have been encrusted with calcareous matter, and thus have given rise to the formation of a true enterolith.

I suspect however, that the rectum is not that portion of the intestinal tube best suited for affording a calcareous incrustation upon matters long retained in its cavity, as is illustrated by the following case.

I was requested by Dr Husband in 1860 to see with him a young man suffering from retention of urine, in whom some difficulty existed in introducing the catheter. The patient had long been the subject of paraplegia, and the atrophied limbs were so curled across each other, and folded over the pubis and abdomen, as to render it a matter of difficulty to gain access to the urethral orifice. The catheter when inserted passed easily enough as far as the membranous portion of the urethra, but here its further progress was completely arrested. On introducing my finger up the rectum to determine the cause of this anomalous state of matters, its progress was opposed by a mass contained within the bowel, occupying the entire limits of the true pelvis, and of a consistence so hard that I could not introduce my finger into its substance. Scraping the surface with the nail, I brought away a sufficient quantity of the mass to convince me that its bulk was com-

posed of hardened faeces. As this was manifestly the obstacle which prevented the escape of urine and the introduction of the catheter, I determined, with the approval of Dr Husband, to break it down and extract it from the bowel. I effected this, after much labour, by means of the handle of an iron spoon, and now found the catheter could be introduced into the bladder without difficulty. On examining the broken-down mass which formed the ball, I found it was in great part composed of hardened faeces, combined with which there was intermixed a quantity of fibrous substance like tow. There was however no manifest calcareous coating to any portion of the mass. But in the operation of breaking down, the shank of the metal spoon seemed constantly to grate against calcareous particles mixed with the general mass. This patient had long suffered from constipation of the bowels, but for some years past had experienced alternating attacks of constipation and diarrhoea of a dysenteric type, or with symptoms of proctitis. I could obtain no history to account for the fibrous substance in the feculent mass. The patient had never swallowed such material intentionally, nor had it ever been inserted into the anus as a plug to check a troublesome diarrhoea, a plan I have known resorted to among soldiers.

To explain the existence of the felt-like residuum of the calculus which has been so constantly observed in cases of regular bezoars, or enteroliths, need occasion no difficulty in those instances where hairs, capable of being formed into felt, compose the mass of the concretion. The difficulty has chiefly existed to explain the accumulation of such delicate fibres and hairs as those met with in the vegetable kingdom, which are not specially endowed with fine processes projecting from the surface, on which the facility in producing felt with the hair of rabbits and hares is now known to depend. This difficulty will, however, be removed when we consider the following facts:—(1.) That in the drain-pipes of domestic houses obstructions are constantly produced by masses or balls of human hair, which have apparently accumulated from the combings of hair-brushes. (2.) Marine agagropiles are apparently formed by the rolling motion of the waves, weaving together into ball-like masses the fibres of marine plants subjected to their action. (3.) Similarly, in our own country, the needle-like leaves of the larch dropping into fresh-water, are susceptible of being moulded into these singular balls, composed of woody fibre, resembling the *fer-wood*, or brownish cottony substance employed in some parts of Germany for the manufacture of textile fabrics. (4.) Clay balls are frequently met with in the interior of the common garden roller, and may even contain a nucleus which rattles within the dry outer layers when the mass is shaken.¹

The different appearances presented by the enteroliths, are

¹ McLachlan, London Medical Gazette, vol. xxix., p. 846, 1842.

² This last fact was mentioned and illustrated by examples by Dr George W. Balfour at the meeting of the Edinburgh Medico-Chirurgical Society, 5th February 1868.

apparently to be referred to two causes. 1. The original formation of the concretion; and, 2. The length of time it has been allowed to remain in the intestine. If the foreign substance has not been long retained, it will present the aspect of felt, more or less mixed with faeculent matters. If, again, the foreign accumulation remains lodged for a long period, the ball becomes coated with calcareous salts, mixed with the elements of the bile, presenting a curious varnished or enamelled look, or, in some instances, encrusted with a calcareous shell, formed of a number of layers of saline matters arranged in concentric circles.

The form of the enterolith is apparently modified by (1.) The form of the nucleus, when such exists; (2.) The effects of the peristaltic movements of the gut in which the calculus is contained; and (3.) The existence of one or more of these concretions—in the latter instance the form being modified by mutual friction.

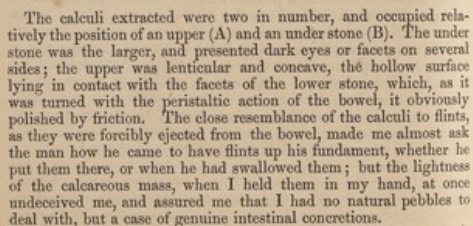
All these features will be illustrated by the history and appearance of the intestinal concretions I have now the honour of bringing before the notice of the Society.

In the early part of the month of August 1867, I was requested by Dr Bowie to examine a patient, J. T., by whom he was accompanied. He complained of a sense of weight and fullness in the region of the rectum, frequent desire for stool, and a complete inability to pass anything except flatus and fluid excrement, saying that a lump came down with every effort, and blocked up the passage. The patient was a spare, thin, pallid man of upwards of fifty, who had long been in bad health, suffering for more than twenty years from indigestion, characterized by abdominal pains, sickness, and vomiting, with frequent constipation. Gentle aperients, which he required to take frequently, alone afforded relief.

On examining the anus, nothing wrong could be perceived; but on introducing the finger up the bowel, two large calculi could at once be recognised, conveying much the sensation experienced on introducing the finger into the bladder in the operation of lithotomy.

Feeling that, with one finger, it was impossible to steady the calculi so as to effect their extrusion, I introduced the fore and middle fingers together, and at once effected the ejection, first of one, and then of the other stone. Whenever this was effected, the patient experienced complete relief from all the painful symptoms which had annoyed him for so long a period.

The only further fact in the history of the case which I was able to elicit was, that some years ago a hard lump had been recognised in the right hypochondriac region. He had consulted, as he said, everybody in regard to this swelling, which could be distinctly felt through the abdominal parietes. But while he received various opinions and different advices, the swelling moved gradually towards the left hypochondriac region, and then disappeared. Since then he had not recognised the existence of any swelling. Coincidentally with the disappearance of the tumour, the uneasy sensations in the rectum commenced, for which he sought advice in



For the following accurate description, together with the analysis and microscopic appearances of these calculi, I am indebted to my friend, Dr Fraser:—

"Report of Examination of Two Intestinal Concretions from a Patient of Dr P. H. Watson.

⁴⁴ Each concretion was obtained in two portions. One concretion consists entirely of a dense stone-like body: the two portions of this are labelled '1a' and '2a.' The other consists of a dense crust and shell surrounding a large soft and friable nucleus: its two portions are labelled and referred to in this report as '1b' and '2b.' They have both an unmistakable faecal odour.

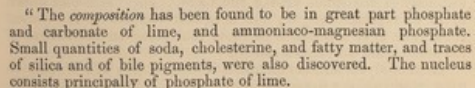
A. "Weight, '1 a' = 123 grs.
'2 a' = 415 grs.

" Total weight, 538 gms.

"It has an irregular, slightly nodulated form, and has a length and breadth of about one inch and three-eighths, and a thickness of one inch and an eighth.

"The surface is principally of a stone colour, and covered with minute, glistening crystals; but there are several irregular patches of a grayish-brown colour, smooth, and without crystals.

"The section shows this concretion to consist of concentric layers of alternating pale-brown and grayish-white. The *crust* is an extremely thin pale-brown layer; the *shell* forms the great portion of the concretion; and the *nucleus* is a minute, dense, pale-brown body, with a long diameter of about an eighth of an inch, and apparently similar in composition to the pale-brown concentric layers of the shell. From the arrangement of some of the rings, it is probable that a second nucleus existed, but it has been destroyed in making the section.



"This concretion is not, therefore, of biliary origin, and its composition agrees with that of previously described intestinal calculi.

B. "Weight, '1 b' = 289
 '2 b' = 338

"Total weight, 627 grs.

As some loss must have occurred in dividing this concretion, its original weight was more than 627 grs.

"Its form is an irregular cube. The two largest opposite surfaces have each three unequal prominences, the summits and a considerable portion of whose surfaces are of a shining black colour.

"The greatest length and breadth of this concretion is about one inch and three-eighths, and the greatest thickness rather more than one inch and two-eighths. The *crust* and *shell* together vary

from two-eighths to one-eighth of an inch in thickness, and consist of concentric rings, one of a pale brown alternating with one of a dirty gray colour.

"The greatest portion of this concretion consists of a brownish-gray, soft and friable nucleus of an apparently cubical form, and in the exposed section, having a diameter of from one to one-and-an-eighth inch.

"The crust and shell were found to be composed chiefly of phosphate and carbonate of lime, and of ammoniaco-magnesian phosphate; traces were also obtained of cholesterine, of bile pigments, of silica, of fatty matter, and of an extractiform body having a strong faecal odour.

"The nucleus was found to consist of at least 85 per cent. of organic matter; the remainder was, in great part, composed of phosphatic salts and of carbonate of lime, and it contained a minute quantity of silica and of fat. When a small portion of the nucleus was examined with a high magnifying power, an immense number of short hairs were seen mixed up with fragments of cellular tissue, with well-marked spiral vessels, and with amorphous granular bodies.

"The hairs were about one-fifteenth of an inch in length and 1-1000th of an inch in thickness; but some were found to vary considerably from these measurements. They have a finely-pointed apex, and a somewhat rounded base, the latter being often similar to the bulb of an ordinary animal hair, and therefore at first suggesting an origin of this kind. A minute canal runs from the apex to the base, and, when water is added during the examination, it is seen to gradually extend along this tube.

"The addition of sulphuric acid and tincture of iodine produced a blue colour in the fragments of cellular tissue, and more or less distinctly in the spiral vessels and hairs. They were thus shown to be of vegetable origin; and a careful comparison has proved these hairs to be identical with those that occur on the surface of the seed of the oat (*Avena sativa*)."

These analyses and the microscopic examination will be seen to correspond in every particular to that given by Dr MacLagan¹ in the two cases he subjected to analysis.

	Mr Turner's.	Mr Syme's.
"Water	10	10
Albumen	2	2
Faecal Matter	6	2
Soluble Vegetable Matter	8	8
Lactate of Soda	2	2
Salts (Murates and Sulphates)	2	2
Fatty Matter (Stearic Acid)	8	4
Phosphate of Lime, with traces of Sulphate	20	20
Fibrous Matter	36	44
Silica	6	4
Loss	0	2
	100	100"

¹ Edinburgh Monthly Medical Journal, September, 1841.

Dr MacLagan, in speaking of the microscopic appearances of these two specimens he had an opportunity of examining, says—"On submitting portions of these concretions to examination by the microscope, the hairy matter of the oat was at once recognised as forming by far the largest proportion of the constituents of the concretions. When a portion of the mass, scraped down, was viewed under a magnifying power of 50 diameters, it presented the appearance of numerous hairs mixed with broken fragments of other matters, some of which were opaque, others being more or less translucent-like portions of vegetable membrane. The hairs varied in size, but were on an average about 1-16th of an inch long, and 1-1000th of an inch broad at the centre. When viewed with a magnifying power of 300 diameters, their tubular structure became at once apparent. The cavity contained what looked like dried cellular tissue. They were closed at the points, but readily admitted water by imbibition, which could be seen moving along the tube. Dr Wollaston thinks them to be pointed at both ends. This is not strictly the case. The apex is pointed, and they become thicker towards the centre, but the other extremity I found to be invariably broken off and open, and though they tapered towards the end, they were never found to be pointed."

The diagnosis of this case, so far as it came under my observation, was unattended by any difficulty. At an earlier period also, when the lump was recognised in the right hypochondriac region, and shifted thence to the left, any one acquainted with Professor Monro's observations should have found no difficulty in determining the nature of the affection. The early history of enteric concretions, consisting simply of a long period of digestive disturbance and uneasiness, may readily elude the diagnostic skill of the most painstaking and careful practitioner. If the nature of such a case were satisfactorily determined, beyond avoiding the cause of the formation in ill-ground and worse sifted oatmeal, the use of oleaginous substances which seem to interfere with the felting process, and the use of simple laxatives, there seems no room for interference. Nor while traversing the small intestines, if recognisable at that period, is there anything which can well be attempted, unless indeed gastro-tomy were employed in a hopeless case of obstruction produced by such a cause. After the concretion has reached the large intestine, however, there seems no reason why the distending enemata recommended by M. Jules Cloquet¹ should not be resorted to as a means of facilitating their onward progress towards the rectum. This process he well describes under the name of "*Dilatation graduelle de l'intestin*," consists in separating the walls of the intestine gradually by an increasingly large quantity of liquid. For this purpose he recommends that a conical tube should be introduced into the rectum, so as to prevent the escape of fluid from the anus, while the forcible injection of fluid is employed for the purpose of distend-

¹ Memoir sur les Concretions Intestinales.

ing the bowel. The quantity of liquid which may be safely injected in such circumstances amounts, he says, to two litres.¹ By means of this the walls of the intestine are separated from the concretion, the whole passage is rendered more capacious, with less irregularity of surface and fewer curves. When accordingly the fluid is allowed suddenly to escape, the concretions are floated onwards, and sometimes even expelled from the anal orifice. These injections should day by day be increased in quantity until the desired result is attained.

When impacted in the descending colon, and accompanied by such unequivocal symptoms of obstruction of this part of the intestine which do not yield to milder measures, there appears to me no good reason to reject the recommendation of Monro² to perform colotomy according to the method proposed by Callisen,³ and since perfected by Amussat.⁴

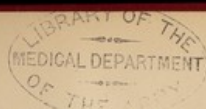
When lodged in the rectum, the employment of lithotomy forceps will undoubtedly afford a very great facility in effecting their removal; but, as we have seen, when these are not at hand, the fingers, either alone or aided by the shank of a spoon, will suffice for this purpose if the calculus is not too far removed from the anal orifice.

¹ The litre is equal to 0.2200967 British imperial gallon: the quantity mentioned in the text is therefore nearly equal to half a gallon.

² Monro, *Morbid Anatomy of the Gullet, Stomach, and Intestines*, pp. 47, 48, 49.

³ *Systema Chir. Modern*, tom. xi., p. 842, Hafniae, 1817.

⁴ Amussat's *Memoir* (p. 241), sur la possibilité d'établir un Anus artificiel dans la région lombaire sans pénétrer dans la Péritoine, Paris, 1832. Miller's *System of Surgery*, p. 1058-59. Holmes' *System of Surgery*, vol. iv., p. 176, *et seq.* Gross, *Surgery*, vol. ii., p. 685.



CASE OF TUMOUR

ORIGINATING IN

THE PTERYGOID FOSSA,

AND DEVELOPING TOWARDS

THE BUCCAL CAVITY,

SUCCESSFULLY REMOVED.

BY

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EDINBURGH: PRINTED BY OLIVER AND BOYD.

MDCCCLXIX.

REPRINTED FROM THE LANCET, MAY 23, 1869.

CASE OF TUMOUR IN THE PTERYGOID FOSSA SUCCESSFULLY REMOVED.

MARGARET B—, aged sixty, was recommended to my care by Sir James Y. Simpson, and admitted into the Chalmers Hospital on the 5th October 1868.

History.—The patient states that seven years ago she observed a swelling along the lower border of the jaw in front of the angle, and a fulness in the region of the parotid upon the right side. These swellings, which seemed to be independent of each other, were most marked when the mouth was closed, and diminished when opened. When first observed, the patient experienced no uneasiness. Under the impression that they were simple glandular swellings, for the time being she gave no particular heed to them. About six months afterwards she noticed a swelling which bulged into the buccal cavity, on the level of the molar teeth, and extended as far back as the soft palate. Since that period up to the present time the whole of these swellings, cervical and buccal, have steadily increased; the enlargement gaining most towards the mouth, least in the submaxillary region.

Present condition (Oct. 5th).—There is a well-marked tumour in the carotid and submaxillary region, obliterating in the former the sulcus between the jaw and the sterno-mastoid muscle, and occupying the whole digastric triangle beneath the maxilla. These swellings are deeply seated, are separated from each other in the situation of the angle of the jaw, and offer a resistance quite like that of the parotid and submaxillary glands. On opening the mouth, nothing but the rounded surface of a large tumour is seen, immediately behind the teeth, hiding the fauces posteriorly and concealing the tongue from view. This tumour obviously springs from the right side; it presents an elastic resistance, almost fluctuating in its character, at its most prominent point. The mucous membrane, by which it is covered, glides smoothly over the surface. On pressure outwards, the tumours in the parotid and submaxillary regions become increasingly prominent. Deglutition and mastication are impeded—mastication so much so that some time since she was obliged to have all her

teeth on the affected side extracted to afford relief. More recently, respiration has become involved; and at night she is frequently obliged to sit up on account of the threatened attacks of suffocation. The difficulty in deglutition commenced more than two years ago, and at that time she consulted two surgeons of great eminence, each of whom refused to interfere, and cautioned her against permitting anyone to operate upon her.

Diagnosis.—I expressed my conviction that the tumour was simple in its nature, that it commenced in the pterygoid space, and had gradually developed itself in the direction of least resistance—*i.e.*, inwards towards the mouth and throat. That the swellings on the external parts, in relation with the base and ascending ramus of the jaw, were simply the parotid and submaxillary glands displaced and rendered unnaturally prominent. The grounds upon which I arrived at this opinion were: 1st, the slow growth of the tumour; 2d, the non-implication of neighbouring structures; 3d, the entire absence of all cachexia. To make my assurance upon this matter absolute, I thrust a large trocar and canula into the most prominent part of the buccal aspect of the tumour, and, having withdrawn the trocar, employed the canula to cut out a portion of the soft substance of the fleshy mass. I found this to be composed entirely of a fibrous stroma, enclosing minute nucleated cells and nuclei, in the form of rounded masses. The tumour was thus shown to be a simple granular tumour, analogous to those met with in connexion with the mammary gland, or within the parotid fascia, or in the substance of the prostate.

7th Oct.—An angry, diffused, mulberry-coloured redness has suffused the surface of the tumour in the neighbourhood of the puncture. The parts are swollen and tender; deglutition and respiration are more interfered with; the whole right side of the neck and face is painful; the pulse is accelerated, and the general temperature raised. Desired to foment the mouth with hot water.

17th Oct.—All tenderness has subsided, and all the redness is gone, except that part produced by blood extravasated beneath the mucous membrane covering the surface of the tumour. Having placed her deeply under the influence of chloroform, I proceeded to operate in the following way:—Dividing the lower lip from the labial edge to the mental prominence, and sweeping the knife from that point, I terminated the incision midway between the angle of the jaw and its articulating process on the right side. The labial and facial arteries were at once secured, and the soft parts dissected up on the right side as far as the situation of the bicuspid teeth. The lower jaw was now divided with the saw in the bicuspid region, and the knife, carried along its inner side, divided the insertion of the mylo-hyoid and internal pterygoid muscles. The base and angle of the jaw were now readily turned outwards at right angles to the zygoma, so as to expose the pterygoid region and the whole extent of the external and anterior surface of the tumour as far as the angle

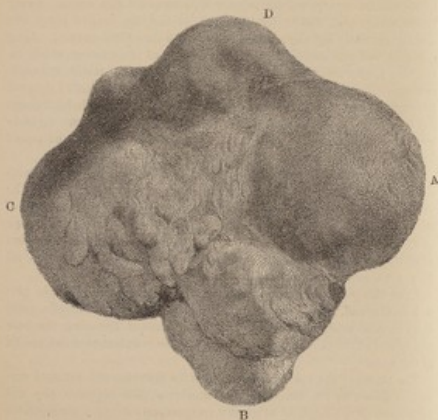
of the jaw. I then divided the mucous membrane covering the tumour, from the palato-glossus to the exposed part, cutting through some fibres of the internal pterygoid which remained undivided upon the surface. In less time than the description of the operation has already occupied, I completely detached the tumour from all its surroundings. In doing so, I exposed, as in a dissection, the tonsil, the palato-pharyngeus and constrictor of the pharynx, the internal carotid artery, the eighth nerve, the internal jugular vein, the ninth nerve, the terminal branches of the external carotid artery, and the inferior division of the fifth nerve. Every vessel which bled was at once secured, so that the loss of blood was trifling, certainly not amounting in all to more than three ounces. After sponging out the cavity left by the removal of the tumour, which resembled a careful dissection of the parts external to the middle and superior constrictors of the pharynx as high as the base of the skull, I restored the right ramus of the jaw to its position, and, piercing two holes through the base of the bone on each side of the saw section, tied them together by means of silver wire. The soft parts were then adjusted, and united by means of wire sutures.

The after-treatment consisted simply in washing out the mouth with dilute Condy's fluid, and feeding the patient upon fluid nourishment. The whole external incision, except one point corresponding to the angle of the jaw, healed by the first intention. From this aperture a free escape of fluid employed to rinse the mouth occurred during the first week, but after this it healed rapidly. The patient was retained in hospital till Nov. 17th, and was then dismissed quite well.

I saw this patient a few days ago (April 12th). She was then in perfect health, and, except the line dividing the lower lip in the middle, there is no obvious evidence of the operation, the incision line along the base and ramus of the jaw lying concealed under the prominence of the margin of the bone.

The aspect of the tumour, as seen from its posterior and external surface, is shown in the accompanying woodcut. The apparent size and plumpness of the mass, as originally removed, is lost, to a considerable extent, by soaking in spirit. The rounded portion, A, corresponded to the deep parotid region, B to the submaxillary, C to the pharyngeal, and D to the palatal. The opposite surface presented a uniform and smoothly rounded surface, with one large and prominent elevation in the anterior part of the central bulge. The surface of the tumour was smooth and glistening; the general fibrous capsule loose and filamentous. The mass of the tumour was composed of lobes (A, B, C, D), and these again of lobules or leaflets, in some portions closely resembling the external aspect of the cerebellum. These lobules were soft and easily lacerable under the fingers, and were composed entirely of filamentous tissue, together with glandular structure cells, and nuclei arranged in circular and ovoid masses, in alveoli composed of delicate fibrous interlacements.

So far as I have been able to learn, no case of simple tumour occupying this situation, and growing inwards towards the throat, has ever before been placed on record. Similar tumours developed in connexion with the parotid, under the parotid fascia, displacing or causing atrophy of the parotid gland, and bulging externally from behind the ramus of the jaw, are sufficiently common, and have frequently been removed.



They, in fact, constituted those parotid tumours, as they were called, in the removal of which our forefathers conceived they cut out the entire parotid gland.

Medullary tumours occupying this site, invading also the buccal cavity, rapidly involving all neighbouring tissues in one confused cancerous mass, and proving fatal usually by ulceration and repeated hæmorrhage, are not uncommon objects of pity, but afford no opportunity for surgical interference.

The case further seems to have eluded the acumen of the gentlemen previously consulted, who obviously regarded the disease as of a malignant kind, certainly as quite unsuited for operative treatment.

The method of procedure was also, I believe, quite novel for the purpose of removing a tumour. A somewhat analogous mode of operation was, some years ago, recommended by the late Mr Guthrie,* as a preliminary to ligature of the internal carotid upon the level of the tonsil, and above that point; though, so far as I am aware, it was never carried out in actual practice in the way he describes.

* *Commentaries on the Surgery of the War in Portugal, Spain, France, and the Netherlands.* By G. J. Guthrie, F.R.S. Fifth edition, 1853, p. 248.





LITHOTRITY,

AND

THE NEW LEVER LITHOTRITE.

BY

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EDINBURGH: OLIVER AND BOYD, TWEEDDALE COURT.

MDCCCLXIX.

THE NEW LITHOTRITE.

I WAS requested in the month of March, by Dr Milne, to see with him Mr L., æt. 80, who had long suffered from symptoms of calculus and enlarged prostate. I had about a year previously seen this patient, and then operated by lithotrixy upon a calculus fully the size of a large pigeon's egg. The complete relief to the symptoms of urinary retention, from which he had recently begun to suffer, afforded by two crushing operations, led to his refusing to have anything further done at that time, as he was much occupied with family matters. This relief was, however, short-lived, as the old symptoms recurred, and led him at once to accede to Dr Milne's recommendation, that the operation of lithotrixy should be completed.

On examining the bladder with a converted lithotrite of Messrs Weiss's pattern, I at once seized a calculus behind the prostate, which measured eight lines upon the scale, and, on adjusting the lever forceps to the shaft of the instrument, proceeded to crush. After opening and closing the handles of the forceps some eight or ten times in rapid succession, I found that nothing farther remained in the bladder to obstruct the free play of the jaws of the lithotrite. I accordingly closed the forceps, and removed the instrument from the bladder. And now, on introducing a catheter with a Clover's washing-bottle attached, I removed a quantity of uric acid detritus, amounting to more than two drachms. The whole procedure, from the introduction of the lithotrite to its removal, occupied less than three minutes. The next day I met this patient in the street perfectly well, and in great glee at the facility with which the crushing had been completed. I have since had an opportunity of examining his bladder, and find no trace of calculus matter in the viscous, though symptoms of irritation due to the enlarged prostate still continue to exist.

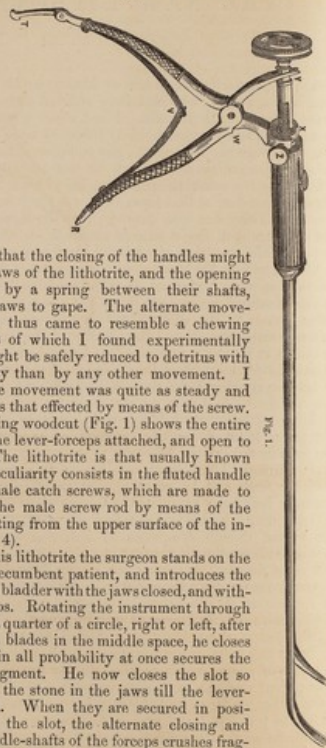
I have detailed this case—one among several—in illustration of the employment of a new modification of the crushing power, capable of application to any lithotrite in common use, whereby it can be worked with greatly-increased rapidity, and the result attained with equal delicacy of manipulation and even greater power. I was led to invent this lever-power instrument in the end of last year, in consequence of a case which occurred in my practice in the autumn. The patient was an exceedingly irritable man, with a uric-acid calculus rather too large for lithotrixy, but who insisted that lithotrixy should be performed, and who could obviously ill bear any frequent repetitions of the procedure, or any long-continued application of the instrument in the ordinary way. The difficulty was in his

instance overcome by the employment of chloroform, whereby the stone was crushed at one sitting; but the importance of some more rapid means of applying the crushing power, as suited to such exigencies, forced itself strongly upon my mind.

I accordingly devised for this purpose the application of leverage by means of movable forceps, adapted to each blade of the lithotrite, in such wise that the closing of the handles might approximate the jaws of the lithotrite, and the opening of them, effected by a spring between their shafts, might cause the jaws to gape. The alternate movement of the jaws thus came to resemble a chewing motion, by means of which I found experimentally that fragments might be safely reduced to detritus with far greater rapidity than by any other movement. I also found that the movement was quite as steady and quite as powerful as that effected by means of the screw.

The accompanying woodcut (Fig. 1) shows the entire instrument, with the lever-forceps attached, and open to their full gape. The lithotrite is that usually known as Weiss's. Its peculiarity consists in the fluted handle containing the female catch screws, which are made to project and seize the male screw rod by means of the sliding slot projecting from the upper surface of the instrument (A, Fig. 4).

In employing this lithotrite the surgeon stands on the right side of the recumbent patient, and introduces the instrument into the bladder with the jaws closed, and without the lever-forceps. Rotating the instrument through rather more than a quarter of a circle, right or left, after having opened the blades in the middle space, he closes them gently, and in all probability at once secures the calculus or the fragment. He now closes the slot so as steadily to hold the stone in the jaws till the lever-forceps are applied. When they are secured in position, on reversing the slot, the alternate closing and opening of the handle-shafts of the forceps crushes fragment after fragment. As the larger portions are broken



down, the fragments fall immediately below the jaws; a slight increase therefore of the rotation of the lithotrite brings the remaining smaller portions within its grasp, till nothing but detritus is left, which can easily be washed out by the Clover apparatus.

The lever-forceps are shown apart from the lithotrite in Fig. 2.

One blade terminates in a circular collar X, the other in the fork Y. The collar X encircling the extremity of the female blade of the lithotrite, is held steady in position by the pinch-screw Z, which catches in the groove B C (Figs. 3 and 4), and prevents the slipping of the collar, while, unless screwed up too much, it does not interfere with the rotation of the lithotrite within the collar. The fork Y plays upon the thinned portion of the male blade of the lithotrite at D (Figs. 3 and 4). The elliptical spring which opens the blades is shown at V. A spring-catch is shown open at S T (Fig. 2), by which the blades, when closed, can be kept so by the extremity T holding between the fork at R.

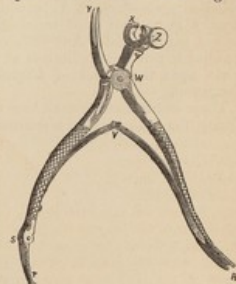


Fig. 2.

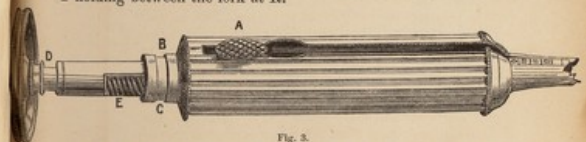


Fig. 3.

Fig. 3 shows the proximal extremity of an ordinary Weiss lithotrite, modified for the application of the lever-forceps, but equally available for use with the screw.

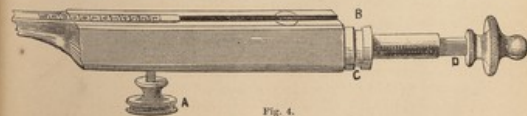


Fig. 4.

Fig. 4 shows an old-fashioned screw-lithotrite of the early Weiss pattern, converted to suit the forceps. The change consists in

the removal of the crushing screw, the elongation of the female blade by the grooved projection B C to fit the collar X on the one blade of the forceps, and in a commensurate elongation of the male blade beyond the female blade, with a thinned shaft at D, suited to the forked extremity of the other blade of the forceps. There is also added a pinch-screw at A, by which the blades may be retained steadily in position after securing the calculus, until the lever-forceps are adjusted. Any form of lithotrite may in this way be modified to suit the application of the lever-forceps, whether it be made upon the model of Charrière, Coxeter, or Sir William Fergusson.

These instruments have all been made or converted for me by Mr Young, the eminent surgical-instrument maker of this city.



ON THE

EXTRACTION OF FOREIGN BODIES

FROM THE

FEMALE BLADDER.

BY

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[Reprinted from the BRITISH MEDICAL JOURNAL, October 10th, 1868.]

LONDON:

PRINTED BY

T. RICHARDS, 37, GREAT QUEEN STREET.

MDCCCLXVIII.

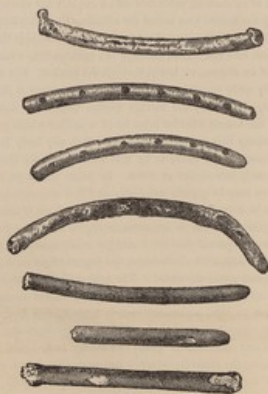
ON THE EXTRACTION OF FOREIGN
BODIES FROM THE FEMALE
BLADDER.

If we exclude urinary calculi formed in the kidneys, ureters, or the viscus itself, from the category of foreign bodies met with in the female bladder, substances which are introduced from without form the only examples of extraneous materials which require our consideration in determining the means best suited for effecting their extraction.

Such foreign bodies may obtain access to the bladder through wounds which open into the viscus, through the spontaneous evacuation by the bladder of an abscess, or, lastly, through the urethra. The two former are necessarily quite exceptional tracks; the last named is the usual route. Practically, therefore, the foreign bodies which are met with in the cavity of the female bladder must be of a calibre which admits of their passing along this canal. Conversely, also, any body larger than the normal canal is not likely to be met with within the bladder, if it has been recently introduced *ab extra*. In some instances, the channel of the urethra may be greatly enlarged, as I had occasion to observe some years ago in a young woman aged 17, who had never menstruated, and in whom the condition of imperforate vagina existed. In her case, the urethra was so patent that the forefinger could easily be introduced into the bladder; and, with a little force, two fingers might readily enough have been inserted along the canal. The orifice of the urethra was the most patent portion of the canal, and resembled a funnel in appearance. In such a case as this, a commensurately large foreign body would admit of easy insertion into the bladder, and of being lodged there; but, just as in the natural condition of parts, the foreign body could readily be removed along the route by which it had been introduced, so here a body of much larger bulk would admit of extraction with equal facility through the urethra, without necessitating dilatation, incision of the canal, or diminution of the bulk of the foreign substance.

I have recently met with three cases of foreign bodies lodged in the female bladder; and, as they serve to illustrate the subject under consideration, I shall in the first instance narrate them.

CASE I.—J. D., aged 23, was brought to me at the Royal Infirmary on November 15th, 1865, by a gentleman attending one of the dispensaries in this city, on account of retention of urine. The patient, a nervous, excitable young female, was accompanied by her mother, from whom I ascertained that she had not passed water for upwards of two days. On examination, the fully distended bladder was easily recognised, rising prominently above the pubis as high as the umbilicus. The introduction of the catheter was resorted to at once, and readily enough effected, in spite of the retraction of the orifice of the urethra. As the bladder did not regain its tone for some time after this extreme distension, she required the introduction of the catheter twice a day; but, as she ceased to return to the hospital after a week, it was presumed that she had regained control over her bladder. At the end of a month,



Fragments of gum elastic and metallic female catheters, extracted at different times from the bladder of Case I.

however, she returned, stating that the distance from the hospital at which she resided had prevented her from coming back, but that she had obtained the services of a nurse to help her, and had acquired the art of introducing the catheter for herself, with the result, a few days before her visit, of breaking off a portion of the instrument (a gum-elastic one) in the bladder, where it was now lodged.

On examining the bladder (in the manner I shall describe immediately), I at once detected the piece of catheter, and extracted it. After cautioning her against the repetition of such carelessness as might risk the recurrence of such an accident, she left the Infirmary. She, however, returned over and over again, at periods varying from a week to a month, with a foreign body, consisting of a piece of catheter, lodged in the bladder, which I similarly removed. On the last of these occasions, her mother, who accompanied her, explained that her daughter was given to habits of masturbation, and begged that something might be done to put a stop to her tricks. Various procedures, moral and remedial, were tried, with the view of soothing her excitable nervous system; but, as this was without effect, with the sanction of her mother I removed her clitoris, in the manner recommended by Mr. Baker Brown. This was followed by a cessation of any retention of urine or introduction of pieces of catheter into the bladder, till last year, when, in the beginning of the winter season, she came to town, apparently as ill as ever, with a piece of catheter in the bladder, which I removed as before.

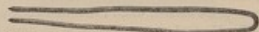
CASE II.—Mrs. H., aged 45, was admitted to the Royal Infirmary in the autumn of 1867, on account of a foreign body lodged in the bladder, which had resisted the efforts of two medical men to extract from the viscus. She stated that, six weeks before, as she was suffering from retention of urine, she obtained the services of a nurse. This female attempted to relieve her by means of an ivory clyster-pipe, and did so successfully; but the pipe, slipping from her hold, disappeared, and found its way into the bladder. Having placed the patient under the influence of chloroform, I dislodged the clyster-pipe from the impacted position it occupied in the bladder, and effected its extraction.



Clyster-pipe lodged in the bladder of Case II. Incrustation of phosphates on surface. Both extremities impacted in the coats of the bladder by ulceration.

CASE III.—A child, aged 5 years, was sent to my charge, in the Royal

Infirmary, from Innerleithen, by Dr. J. Andrew. Her father, who accompanied her, stated that, two days previously, she began to complain of urinary irritation, and that her mother observed her urine was tinged with blood. Dr. Andrew informed me that, on sounding her bladder by means of a bent probe, he detected a foreign body; and that the child, according to her mother's account, admitted she had put something up her urethra, which she described as a pin, but which her mother believed to be a hair-pin. On placing the child under the influence of chloroform, and introducing the forceps, a foreign body was at once detected. It lay obliquely across the neck of the bladder from right to left and from above downwards. Using the forceps as described below, the length of the body was determined to be more than two inches; and, from its other characters when grasped by the forceps, taking it for granted that it was a hair-pin, and that its rounded or blunt end must have been first inserted, I carried the forceps downwards to the left or lower extremity, and, after a little manipulation, contrived to bring the two points of the hair-pin into the axis of the forceps and urethra, and to effect its extraction. The hair-pin was of small size, measuring exactly two inches and a quarter in length. Immediate relief was afforded, and the child returned home in the course of the ensuing day.



Hair-pin (actual size) extracted from the bladder of a little girl, aged 5 years.

These cases illustrate the circumstances, accidental and intentional, under which foreign bodies may be lodged in the bladder; for while, in the first case, the portions of catheter were undoubtedly inserted to satisfy a morbid irritability of the genito-urinary system, and not left behind in the bladder by the accidental fracture of the instrument after it had been introduced, there can be no reasonable doubt, in the second case, that the facts were as narrated by the patient, and the lodgment of the pipe due simply to accident. The third case was one in which a perfect child accidentally hit upon the urethra in attempting to push the blunt end of a hair-pin up one of the channels of the body, by the same perverse ingenuity, in all probability, as leads children to insert peas or beads into the nose, or meatus auditorius externus.

So far as the materials of the foreign bodies were concerned, they were, in the first case, generally soft, non-encrusted gum-elastic catheters, but in two instances metallic; and in three instances the gum-elastic instru-

ment had become calcareously encrusted. In the second, the pipe was hard and non-pliant—sonorous, however, to touch, but impacted by each extremity in the coats of the bladder, from the occurrence of ulceration. In the third, of a metallic nature, but exceedingly ill formed for recognition or extraction.

If the soft and pliant nature of the material of which the gum-elastic catheter is composed affords a greater apparent facility in effecting the extraction of such a foreign body, this advantage is in practice quite lost by the difficulty its softness and non-sonorous character oppose to its ready recognition. If, therefore, no means of examining the bladder are employed, but the introduction and manipulation of the common sound, the existence of such a soft and non-sonorous body as an elastic catheter may easily be overlooked. When incrustation communicates to it new characters which facilitate its identification, such a procedure may suffice. In practice, however, I believe the recognition of the foreign body, and its extraction, can easily be effected at the same moment. For this purpose, nothing more is requisite than the common dressing-forceps usually carried in the pocket-case. When slightly curved in the blades, and with teeth extending well down towards the joint between the blades and shanks, the instrument will be still better suited for our purpose.

The patient, either chloroformed or not, as may seem most advisable, should be lying on her back. The surgeon, standing on her left side, introduces the forceps, with the blades closed, into the bladder. If the bladder is full of urine, the opening of the blades usually at once permits the urine to escape, and brings the foreign body within their grasp as they are gently closed. Should nothing be felt between their blades, these may be opened and closed in another axis, and so, until either frequent tentative use of the forceps proves the bladder to be empty, or something is felt between their blades. If there is nothing, the forceps are withdrawn: the examination is complete. If the forceps cannot close beyond a certain extent, or, when closed, cannot be withdrawn, there is certainly something within their grasp. The forefinger of the surgeon's left hand should now be carried up the vagina as high as a point corresponding to the neck of the bladder, and the foreign body drawn down against its point; the forceps being rotated, so as to bring first the one end, and then the other, against the finger's point, so as to determine the distance of each extremity from the part held in the grasp of the forceps. Now, supporting one or other extremity of the foreign body with the finger, the forceps are made to dip along its surface, and the extreme point is secured. As the

forceps are withdrawn, the foreign body comes away, embraced and protected by the extremities of the blades.

When, as in the second and third cases, the foreign body is rigid, and, by its form and nature, or prolonged residence in the bladder, has become impacted in the vesical coats, by ulceration occurring at one or both ends, the same procedure, slightly modified, is to be adopted. The forceps are gaped in different axes until the foreign body is secured somewhere about its centre; the forceps are then carried steadily down till they push back the vesical coats from the one or other extremity of the foreign body; and then, making traction on the end thus liberated from the pouch within which it was imprisoned, the extraction is completed by the simple withdrawal of the forceps.

I am aware that in cases where hair-pins, needles, pins, etc., have been lodged in the female bladder, hooks, or ingenious instruments calculated to secure, turn, or double-twist the foreign body, have been recommended. To the common blunt hook for the extraction of a hair-pin, no objection need be urged, though certainly its employment is not likely to be of the smallest advantage in the extraction of any other foreign body; while its efficiency cannot be greater than, and in the cases narrated not so great as, that of the forceps, employed as I have described. As regards the instruments for turning or bending a metallic foreign body: so long as it can be shown that so accessible an instrument as a pair of dressing or polypus forceps will effect all that is wanted with precision, rapidity, and efficiency, I can conceive no necessity for the surgeon encumbering himself with implements of such doubtful and at best occasional advantage.



Introductory Address

*delivered at the
Surgeons' Hall, Edinburgh
at the
Opening of the Medical Session,
October 1866*

By

Patrick Aeron Watson M.D.

Edinburgh, 1867-



INTRODUCTORY ADDRESS

DELIVERED AT

SURGEONS' HALL, EDINBURGH,

AT THE

OPENING OF THE MEDICAL SESSION, OCTOBER 1866.

BY

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LECTURER ON SURGERY,

SURGEON TO EDINBURGH ROYAL INFIRMARY AND CHALMERS' HOSPITAL.

EDINBURGH: PRINTED BY OLIVER AND BOYD.

MDCCLXVII.

INTRODUCTORY ADDRESS.

GENTLEMEN,—I wish the duty which falls to my lot to-day had been confided to other hands, and that to some one of your senior teachers had been intrusted the words of welcome, of advice, of warning, and of encouragement which my remarks are intended to convey to you at this the commencement of another winter's campaign.

It is no want of will on my part which makes me pause on this the very threshold; but it seems to me, as the occasion is one well fitted to arrest the attention, to mould the character, to develop healthy and high-spirited aspirations, it had been better that a wiser head and some more eloquent tongue had been selected for the performance of so momentous a duty.

But if the advantages which grey hairs confer are not mine, if the time since I sat as a student on the benches which you now occupy, and listened to more than one Address introductory to the business of a Winter Session is but a very little time ago, such a circumstance should only bring me nearer to you in my knowledge of your ways and your wants, should only make me more at one with you in heart and feeling, and should surely serve to establish between us such a sympathy of sentiment as may help me to speak more heartily to you, and enable you to listen more patiently to me, as little else than one of yourselves.

First of all, then, my duty is to welcome you all, both juniors and seniors, to your winter's studies; and most sincerely, in the name of my colleagues and myself, do I wish you God-speed in entering upon the duties of this session.

Those of you who have met with us here before will believe, I feel sure, that our welcome is no empty form of words. As our highest ambition is to prove successful teachers in our various departments, so it is our fondest wish that each and all of you may work well, and gain not only class honours and prizes—to these

you cannot all attain—but that highest and best reward of all good work, a conscious sense of having done your duty.

"T is not in mortals to command success;
But you may do more: you may deserve it."

To those of you who come among us for the first time, and scarcely yet know what lies before you, I should wish at once to dissipate any feeling of strangeness which may steal over you—any sense of home sickness which may perchance well nigh make your hearts fail you,—by not only welcoming you among us, and sincerely congratulating you upon the choice you have made of a profession, but also by assuring you, that whatever doubts or fears or difficulties may assail you, or seem to impede your progress at the very commencement, we, your teachers, are most anxious to make your acquaintance, and to direct and advise you, if you wish it; so, pray, be well assured if you do not avail yourselves of our proffered assistance whenever you may need it, the fault lies with you in not confiding in the sincerity of our friendship for you. We have no wish to hold off from you, or to make it seem that there is any greater barrier fixed between us than the inevitable one which a few short years places between men and youths, between teachers and pupils. If difficulties occur in your studies, in the arrangement of your course, in any of the thousand-and-one things which start up as obstacles in the way of smooth onward progress, you may be well assured, if your teachers can be of use to you, that your position as a student is the best introduction to them, and that it will always make you welcome to their best consideration.

While to all of you, willing, working students, we most heartily hold out the hand of friendly welcome, I am sure I only speak the wishes of my colleagues when I say to all mere idlers, or worse than idlers, that we do not wish them amongst us. If they come here without contrition for the past waste and loss of time, without any desire to be something better than before—without the determination to acquire good working habits, and to make up for what in time, in means, in opportunities, they have already squandered, their presence here will not only be prejudicial to themselves, not only a practical deception to their friends, but, worse still, a bad example to their fellow-students, and, as I very well know, calculated to distract many who might otherwise have been diligent in their studies, correct in their behaviour, and (were it not for the habits they have contracted from the example and precept of others) ornaments to a profession, in which any moral deficiency is sure, in the long-run, to meet with its just punishment.

This note of warning reminds me that the present may be no inopportune occasion to admonish the young and inexperienced who come among us for the first time, that they should be careful and reticent in the formation of acquaintances, and, still more so, of friendships.

What I mean when I recommend care and due circumspection in the choice of intimates and friends is, that you should study to form the intimacy and friendship of those, and those only, whose sentiments and characters are pure and unblemished, whose walk and conversation are devoid of offence, whose advice and counsel you can cherish, upon whom personally you can depend, who will encourage in you only what is good and praiseworthy, and who will not hesitate to set their faces against all that is wrong in thought, word, or deed.

Such men there are in every year of student life—perhaps they are not to be found amongst those who appear at first sight the most attractive of your fellow-students. To some their very virtue may seem repulsive, their out-spoken reproof of what is wicked may perhaps seem rude, their chaste conversation may seem prudish; yet such men are deserving of being marked, and their example is worthy of studious imitation and diligent following. These men are safe, sure friends. They "stand like solitary towers in the city of God, and secret passages running deep beneath external nature, they give their thoughts intercourse with higher intelligencies, which strengthens and consoles them, and of which the labourers on the surface do not even dream."¹

It is a strange perversity of our nature to see in those persons and things verging upon the brink of what is sinful something attractive, for vice has oftentimes a "goodly outside;" and while

"Vice is a monster of so frightful mien
As, to be hated, needs but to be seen:
Yet seen too oft, familiar with her face,
We first endure, then pity, then embrace."

It is therefore all the more essential that those who would live a godly, sober, and righteous life, should lay their account with having to face the multitude of admiring followers who crowd the train of vicious men. They should set before them as their motto the aphorism of Hippocrates, well-known in classic verse—

"Principiis obeta, sero medicina paratur
Cum mala per longas invaluere moras."

Let them learn to turn away their sight and eyes from viewing vanity, even now, to-day, when they may be said to embark upon an untried course. Let them recollect—

"Lives of great men all remind us
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time:
Footprints, that perhaps another
Sailing o'er life's solemn main,
A forlorn and shipwreck'd brother,
Seeing, shall take heart again."

¹ Longfellow.

I cannot tell what has been the motive which has led to your choosing Medicine as your subject of present study, and the medical art as the profession to which you virtually declare it is your intention to devote your lives; but of this I am confident, that your friends, parents, or guardians, with whose sanction you have come here, and who are, I doubt not, this day full of proud hopes, as well as anxious fears and fond prayers, that you may be kept from evil, have sent you to this school in the confident trust, that in acquiring a knowledge of your profession you will indulge neither idleness nor debauch, but learn to bear yourselves as men loving good, and eschewing what is bad.

This period of your life, this the outset of your professional career, is to you fraught with a large venture. You are sent forth from the parental home, where all the warm affection of loving hearts has cared for your comforts, has shielded you from the cold chilling atmosphere of this selfish, calculating world, has fettered you in the silken bonds of home discipline, whereby self-restraint in the avoidance of evil has scarcely ever needed your serious contemplation. And is all this rich argosy of hope, embarked in strong reliance on your honesty and trustworthiness, to run the risk of wreck and everlasting ruin? is it to go down, perchance for ever, among the darkness of deep waters without one word of solemn warning, without a beacon-light to guide you, without a helping hand held out to assist and direct you?

Shall we, year after year, have the painful experience of youthful depravity, which comes to the knowledge of each one of us, your teachers,—shall we see bright hopes overcast, shall we see the highest expectations dashed to the ground, shall we see young men led away into every manner of vice, and say no word of warning to those who come here to be under our training, and who at the commencement have ventured on the slippery path of ruin, thinking no evil, and fearing no fall?

No doubt, strictly speaking, your teachers are not responsible for anything in your moral conduct or habits. If you attend your lectures regularly, if your presence in the class-room is marked by punctuality and attention, and your visits to the hospital by diligence and interest, we have no more power to make you learn what we teach you, than to compel you to conduct yourselves with propriety when you leave these halls. Ours is no school with collegiate residence, and discipline enforced by tutorial supervision. When you come among us you are presumed to be already men, knowing how to conduct yourselves, and how to study for yourselves.

But, as a painful experience has taught me, in this as in other matters, that things are not always as they should be, I have ventured to raise a warning voice at the commencement of another year of study, in the hope that it may be the means of opening the eyes of some of those who come amongst us for the first time to the fact,

that in friendships carelessly formed, in habits thoughtlessly contracted, they may enter into a snare which lands them in the loss of all which they and their friends had ventured to calculate upon.

Another risk to be avoided is that of idling away time in fruitless efforts at study. A caution on this subject may seem hardly necessary to those who have passed their preliminary examination, and who thus, it may be supposed, have earned the character of students already. I have no doubt some of you are *students indeed*; and those of you who have made a good appearance in the preliminary examination, will generally be found carrying the same aptitude for study into your professional course. And it is for the purpose of insuring, as far as possible, such capacity of mind, and such development of the faculties as study is fitted to produce, that preliminary examinations are no longer conducted in the perfunctory manner once in vogue.

I daresay the stringent regulations now in force in regard to the preliminary examinations, and the greatly increased attention paid to the several departments included therein, may appear to students a most unnecessary exercise of authority upon the part of the different licensing bodies.

I know the licensing boards have been blamed by some for the imposition of an extended preliminary test, as a measure framed on very purpose to exclude all but a certain class from the portals of the profession. I know that some have regarded it as a measure which binds grievous burdens upon the shoulders of the present generation, which they themselves would not so much as touch with one of their fingers. But, however much force such statements may have in some special examples, in which cases of hardship have been adduced as originating in these regulations, I am confident the authorities, with whom lies the decision of such matters, have been actuated by no base, no mean, no class considerations, by no desire to exclude one rather than another from the practice of the profession, by no wish to diminish the number of worthy practitioners. Their aim has been to secure for the public, in their legislation for the student of medicine, who is some day to become a practitioner, such competent knowledge and information as shall fit him for commencing the study of medicine, well equipped for the course which lies before him.

This end is obtained in part by the varied nature of the subjects of ordinary English education embraced in the preliminary course, partly by the amount of classical and mathematical knowledge which must be professed.

A sound English education acquired before the commencement of your professional career relieves you of the necessity of abstracting time from your medical studies to gain what you must some day possess if you are to occupy the position of gentlemen in society. You may imagine that I am exaggerating when I speak of ignorance among young medical men of their own language, and

of arithmetic. I am sorry, however, to tell you that the want of such ordinary schoolboy training is grievously complained of as characterizing many of the *candidates* who annually come to the Army Medical School. An intimate friend of my own, one of the professors in that school, tells me that, in addition to his own professional subjects of instruction, he has positively to teach the candidates vulgar fractions, the rule of three, and the working of decimals. Such things should not be; but while each licensing board must employ every means in its power to check the admission of young men to the study of the profession who are thus imperfectly educated, the blame of such ignorance should lie, not with the licensing board, but with the schools from which young men in this country are permitted to pass, while they have failed to learn what they were sent there to be taught.

In demanding a due acquaintance with classical literature and mathematics, the intention is to set you upon a mental elevation from which, at a glance, you may be enabled to obtain a wide reaching prospect of the field of science, mental and physical, in which, before the conclusion of your student life, you must plough, sow, and reap, the rich harvest you are designed to gather into your mental barns.

All that knowledge you have to acquire in preliminary study, to fit you for examination, will never make you, in the true sense of the word, learned men,—will never gain for you a position among your fellows as classical students, as proficient in literature, or as mathematicians.

To gain such positions in the world of classics or of letters, you must have trenched the soil far more deeply than is required by any preliminary test at present imposed in this or any other school. Your education, to meet the requirements of the boards, will, I think, *fortunately*, never be of such a kind as to enable you, with even a semblance of justice, to plume yourself on the knowledge of what is equally possessed by those with whom you will come in contact in after life; or, in other words, "to regard your education as valuable, because it enables you to look down upon the man who has it not."

But if your literary studies do not afford you a claim to be considered as learned men, it is not, therefore, a matter of indifference what amount of proficiency you have attained in your preliminary studies, or what amount of attention you have bestowed upon them.

If the mind has been properly engaged in these studies, then undoubtedly you come to the study of the science and art of medicine with the fruits of that preliminary discipline ready to your use. You commence, in other words, the study of medicine with the most important of all acquirements in ready exercise,—I mean the power to educate or teach yourselves. If you have not as yet gained that, then all your preliminary studies have been indeed in vain. If the various faculties of your mind and inward

consciousness have not been exercised and duly developed thereby, then you have missed the great aim for which you went to school. Much of the information you there attained is probably for its own sake worthless; it certainly is, if we except the knowledge of the construction of your own language, an acquaintance with the meaning and derivation of the terms employed in medicine, and the art of spelling, writing, and ciphering. At all events, the other subjects of school-training leave a very transient impression behind.

But the grand aim of the years and money spent in gaining what is called a competent knowledge of the dead languages and of mathematics is to develop those faculties which must be rendered robust, and possessed in lively exercise if further attainments are to be made, whether in the study of medicine or of any of those other professions which imply head-work.

You are probably aware that a great philosopher, of whom Scotland and its capital must ever be proud, speaks slightly of the education of medical men, and, alluding more especially to the graduates in medicine of the Scottish Universities, stigmatizes them as *Doctores indocti*. He certainly intended the phrase to be a taunt at the limited amount of preliminary education required in his day to obtain a medical diploma; but I really see no good reason for smarting under the lash; the statement is to all intents a true one. To be a learned man, a lifetime must be expended in the acquirement of that learning; but after all this has been gained, wherein would the student or practitioner be bettered, or humanity relieved? The time expended in becoming a man of recondite learning has been lost, so far as that knowledge which is profitable to the sick and hurt is concerned.

A happy mean has therefore been sought somewhere between the waste of time upon subjects preliminary to medicine, and a too early introduction to that study itself. Too much of the former renders the man little else than a mere student of books, a book-worm, or a visionary; the latter produces a creature but one remove from the village charlatan. The one will be so profoundly speculative as to lose time, his patient's confidence, or even his life in metaphysical fancies; the other will be so grossly material, and abruptly practical, as to be incapable of an idea beyond himself and his own actions.

I am convinced that the great difficulty which obstructs many students at the outset of their career, consists in ignorance of *how to study*. By study, I do not mean to dream over a book, or to spend hour after hour in the fruitless occupation of reading so many pages. It does not consist in accustoming yourself to late hours and strong tea,—sitting,

"Till on the drowsy page the lights grow dim,
And doubtful slumber half supplies the theme."

To study implies not only to read, but to think as well; and to think in such wise that you may learn the very essence of what you read. It demands not merely the attention of the eyes, but of the whole faculties of the understanding quickened into lively exercise.

If a lad has been taught to study in real earnest when at school, he should be able to teach himself any new language, ancient or modern, without further extraneous aid than a grammar or a dictionary. If he finds himself incapable of this, I have very grave doubts of his capacity to teach himself anything in medical art or science, or to study a work on natural or physical science, so as to make the knowledge serviceable to him.

I do not deny that some men who have failed in boyhood and youth to acquire the powers of discrimination, continuous attention, and critical reasoning, from the study of the dead languages, may prove good sound practitioners in after years. They have perhaps failed to apprehend the use and advantage of these school occupations, and only with the dexterous aid of tutors and grinders have drudged up to the threshold of the medical schools. But if they wish to succeed now and in the future, they must somehow discover the use of those faculties which have so long lain dormant; they must, when at length placed face to face with facts and theories which possess an important bearing upon their future professional course, make up for lost time, and discover in study a pleasurable exercise of their mental powers which they had previously failed to awaken. They must recollect, however, that they will find themselves embarrassed with the double weight of learning to learn, and of storing up what they now for the first time begin to learn in good earnest. To such we would say,

"Fall to them, as you find your stomach serves you!
No profit grows where is no pleasure ta'en;
In brief, sir, study what you must affect."

Remember this, that "Every man has two educations—that which is given to him; and the other, that which he gives to himself; of the two kinds the latter is by far the most valuable. Indeed, all that is most worthy in a man, he must work out and conquer for himself. It is this that constitutes our real and best nourishment. What we are merely taught seldom nourishes the mind like that which we teach ourselves."—"And as a man under God is in all circumstances the master of his own fortune, so he is the maker of his own mind. The Creator has so constituted the human intellect, that it can only grow by its own action: it will certainly and necessarily grow. Every man must therefore educate himself. His books and teacher are but helps; the work is his."

It may seem in the retrospect a long period of apprenticeship through which you have been obliged to pass,—these eight or ten

years which you have spent at school in acquiring the art of teaching yourselves,—but if the result has really been attained, it has been time well spent. To most of you, I daresay, your schooldays have been a period of bondage, in which the force of necessity rather than any pleasure or interest in your study has compelled you to work steadily.

I can scarcely suppose you have felt practically persuaded of the force of the homely maxim, which I doubt not has been rendered sufficiently familiar from frequent repetition—"Duty first—Pleasure afterwards."

In schooldays it is rare to find the boy who prefers his books and his study to a holiday, or who can concentrate his attention on his Homer or his Virgil to the entire oblivion of a game of cricket, a fishing expedition, or a paper hunt. Now, however, that you have entered upon your life's study, you are supposed to have put away childish things, and to have disciplined your mind in such fashion, that present duty and duty alone shall take the pre-eminence. If such a state of mind has not yet been reached, the sooner with an *Excelsior* spirit you attain to it the better; for the profession upon which you are about to enter certainly entails a greater—a far greater, amount of self-denial and sacrifice than any other.

If you ever expect any one to intrust his own body, and that of those nearest and dearest to him, to your care, it can only be because you are steadily devoted to what you profess to have made your life's avocation, and because you manifest, by something else than words, your intention of allowing no pleasure or self-gratification to interfere with your devotion to work.

I can believe that such a sudden awakening to the duties and work of life is sometimes a very unpleasant sensation. I daresay we have all met with cases where men have lived the greater part of their lives failing to apprehend that they have been sent into this world for any other purpose than mere sensuous enjoyment, "*Natos consumere fruges*;" but who, suddenly deprived of money and friends, have had the painful fact, that they must work if they would live brought home to them in a single day.

But, if the realization of the necessity of work is oftentimes unpleasant, be comforted by this consideration, that the duty itself, honestly undertaken, will, in the very act of its performance, become a source of real pleasure, and may carry in its train honour and renown.

"Not once or twice in our rough island-story,
The path of duty was the way to glory:
He that walks it, only thirsting
For the right, and learns to deaden
Love of self, before his journey closes,
He shall find the stubborn thistle bursting
Into glossy purples, which out-redden
All voluptuous garden roses."

Not once or twice in our fair island-story,
The path of duty was the way to glory:
He, that ever following her commands,
On with toil of heart and knees and hands,
Thro' the long gorge to the far light has won
His path upward, and prevail'd,
Shall find the toppling crags of duty scaled
Are close upon the shining table-lands
To which our God himself is moon and sun."

By steady work you will find the sting removed from the primeval curse of labour, and, step by step as you advance, the sweets of active constant employment, mental, physical, or both practically realized. There is no man so happy as the busy man, and none so likely to take offence, to keep up a quarrel, or suffer from a painful self-consciousness, as the idle, or comparatively idle, one. You will never meet with a hypochondriac, except among the ranks of those who have more time on their hands than they can occupy with legitimate work. The *otium cum dignitate* for which some men sigh is usually a second childhood,—a wretched, peevish, puling, period of octogenarian imbecility.

Pray set yourselves to gain good working habits, get into harness as soon as you can, put the collar on, and throw your physical and mental strength in steady continuous strain into your work.

You can scarcely imagine, till you have practically tested it, the power which steady working habits will give you. A very moderate degree of ability will, with steady exercise, do a far larger day's work—month's work—life's work—than the spasmodic efforts of great genius. The former is the slow steady crawl of the tortoise which beat the fleet-footed hare of the fable. Genius and steady working power when concurrent—but are they ever concurrent—must win the race; but when only one talent is given, between genius and working power to make a choice, the latter is the more desirable. But as genius—true genius is a rare gift, the mediocrity of ability bestowed on most men needs all the help which steady conscientious labour can bestow to win the prizes of life.

There is nothing worse than spasmodic effort in your work, unless it be labouring with a strain upon your mental energies which no brain could endure for six months. The latter must speedily eventuate in either a mental break-down, or in forced relaxation from all head-work of any kind. I admit, gladly, that such consequences are rare, overwork being a mistake seldom committed by young men of the present generation. Still examples have occurred, once and again, where richly gifted intellects have given way under the strain of continuous unremitting study; or when physical disease, rapidly pursuing its fatal termination, has quenched for ever the light and pride of some happy home. Scarcely a session passes but we have to mourn the loss from amongst us of some favourite pupil, endeared to us not more by his mental abilities than by his diligence and perseverance in work: but in whose delicately

moulded face, where thoughtful care mingled with the winning grace and loveliness of youth, the too bright eye, the spiritual head, the lips that pressed each other with such high resolve and courage of the heart, the slight figure, firm in its bearing and yet so very weak, we could not fail to recognise that the few short years of the earthly span were in his case fast drawing to a close, and that in his earnest walk he was travelling along that way whence he should not return.

"Take them, O Death! and bear away
Whatever thou canst call thine own!
Thine image stamped upon this clay
Doth give thee that—and that alone!

"Take them, O Grave! and let them lie
Folded upon thy narrow shelves
As garments by the soul laid by
And precious only to ourselves!

"Take them, O great Eternity!
Our little life is but a gust
That bends the branches of thy tree,
And trails its blossoms in the dust."

"Sic rosa sic violae primâ moriuntur in herbâ
Candidâ nec toto lilia mense nitent."

Again, spasmodic—by which I mean irregular—efforts in study are fraught with evil. For by them the attention is distracted, and the continuity of effect so broken as to render the result quite unequal to the time and energy bestowed. Read and study much, as much as you can, by all means, but not many subjects or many books upon the same subject, or at the same time. And when you profess to have engaged your mental powers in the consideration of one topic, do not let it wander vaguely from one book to another, or from the words of your teacher to something else quite irrelevant.

The physical and mental constituents of our being naturally correspond; and as the physical are more easily apprehended than the mental, I shall illustrate the evil effects of irregular efforts, and the satisfactory results of steady efforts in study, by an example from the homely and better known instance of the power of the physical frame.

As students of surgery, you will soon come to know that, in the reduction of dislocations, your extension efforts intended to overcome muscular resistance must be steady, uniform, and maintained, a fact not always sufficiently brought home to the attention of our pupils, as the following anecdote will testify.

A famous London surgeon, chancing to visit his hospital at an unusual hour, found the resident staff of the establishment busied in ineffectual efforts to reduce a dislocated shoulder. There sat the patient, a brawny, broad-shouldered Hercules, who, spite the pain he suffered, was inclined to ridicule the puny efforts of four young

gentlemen, who for twenty minutes had vainly expended all their powers upon him. It was before the days of chloroform; and with all their tugging and hauling there sat the patient unsubdued, and the dislocation unreduced. The surgeon, appealed to, had the patient firmly secured to an iron post in the waiting-room, and directed one of the young gentlemen to lean his dead weight upon the extending apparatus. This arrangement accomplished, the patient ridiculed the idea that in ten minutes the reduction would be effected. He was jocose for the first few minutes. Then he began to fidget. Then, as the sweat rolled in great drops off his whitening face, he anxiously inquired if time was not "up," and before the ten minutes were expended, the dislocated bone returned to its socket under the mere influence of the dead weight wearing out the muscles of the half-fainting man.

The moral of this story is, not to tell you how to reduce dislocations,—with that at present I have nothing to do,—but to indicate the principle upon which you are to get yourself to exhaust the whole circle of the art and science of Medicine. This is to be done by the sheer influence of the dead weight of constant, unvarying application. With this the greatest difficulties will be overcome in a much shorter time, and with less expenditure of power, than by the employment of great but fitful effort.

By this I do not mean to teach you that you are never to employ your reserve energy. There are times when it should be called forth, when every exertion of which you are capable should and must be brought into likely exercise. But to have such power capable of being brought into use, it must not be constantly strained, else when the time comes for its advantageous employment you will find it exhausted through fatigue. No general ever sends his entire force into action, or dashes the whole mass of his battalions against the foe. He keeps what in military language are called his reserves, and success often depends more upon the judgment exercised in keeping them out of sight, and certainly out of action, till the decisive moment arrives, when either a feeble position has to be strengthened, or a routed foe needs to be driven from the field.

Employ your mental forces much in the same way, keep a strong reserve ready and on the alert for any special occasion, but do your daily plodding work with your whole heart certainly, but with such energy alone as is sufficient to overcome the resistance which you find any department of study opposes to your steady effort.

Let the work of each day as it occurs be thoroughly concluded in the course of that day. There is no habit more easily contracted, none more dangerous than delaying till to-morrow the duties of to-day. Sufficient for the day is the evil thereof. So, pray, do not condense the inevitable labours of two days into one, else the back will soon grow feeble under the burden. Especially, avoid the habit of condensing a whole week's work into the Friday and

Saturday evenings, for such a habit will soon make you no better than the old woman rendered proverbial by commencing her week's work at eleven o'clock on the Saturday night. Take time by the forelock, and rather leave your Friday evenings,—certainly your Saturday's,—as free from work and as disencumbered for social enjoyment as you possibly can. The bow must be unbent for a time, else it will lose its elastic tension; and your easy working capacity will likewise largely depend on the judicious alternation of work and relaxation.

When you do work, let it be serious, good work, engaged in as such, with an undivided attention. When it is relaxation, let it be as heartily enjoyed, and the work for the time as completely forgotten as is possible. No other mode of union is possible with these two unmixable quantities. They are like oil and water. When shaken together they may appear to mingle, but as speedily separate again, affording no composite result,—they are oil and water still. There is a good Spanish proverb,—by mixing two good things you have made a bad *third*. Well, work and pleasure are just as incompatible; so take the work, which is to be your life's labour, first; give it the chiefest place, and let the pleasure rather resemble the oil floating like a film upon the surface. Floating there, let it prove a protection against the chilling frosts of a cold selfish world, let it smooth the stormy billows which will buffet and may overwhelm your little craft. Let the social pleasures and the playtime of your existence be like oil poured upon the troubled waters of an active, a useful, and a busy life.

"All things have rest, why should we toil alone?
We only toil who are the first of things,
And make perpetual moan;
Still from one labour to another thrown;
Nor ever fold our wings,
Nor cease from wanderings."

I have little to say as to the arrangement of your course of study which implies any important differences of opinion from those who have wisely framed the regulations of our sister colleges.

You will bear in mind, however, that the boundary within which the subjects of study are comprised is a limited one. What is included is not all that may be,—shall I say, all that should be,—but simply what is barely necessary. What is circumscribed within the line is nearer the minimum than the maximum of study needed to make you good practitioners. But the regulations of the boards do not restrict you to such cramped limits, and the more you can add to such a course without interfering with the efficient pursuit of what is essential, will certainly be of the very greatest importance to you. It will not eventuate satisfactorily for you to neglect any of the subjects demanded for examination. The licensing boards stringently require a competent knowledge of every department of

study. They leave no margin for a young man to pick and choose for himself, nor do they admit pre-eminent acquaintance with one subject to excuse ignorance of another. You need not hope that a thorough acquaintance with anatomy will prove any extenuation for a perfunctory knowledge of chemistry, nor suppose that your great practical acquaintance with midwifery will excuse your ignorance of surgery or medicine.

Some of the subjects which you must now study may never require your attention after you have entered on professional life. Nevertheless, till your diploma is obtained, make that subject, as well as every other, a special study, cultivating your interest in it, and devoting all your energy to master it, as if on it, and it alone, depended your future success.

This is specially true of the three departments which you are required to study, both theoretically and practically,—I mean medicine, surgery, and midwifery. You may possibly, in after years, from a special proclivity to one or other of these departments, from the circumstances in which you are placed, or some other cause, have your time fully occupied in the practice of only one department of your profession; but such an anticipation, should it exercise any influence whatever upon your present pursuits, should only incline you the more diligently to make yourself master of those with which you are least likely to come in contact in your practice in after years.

No department of the healing art can be satisfactorily, I may say safely, studied or engaged in without at least so much knowledge of every other as you can hope to obtain during your student life. And to obtain even so limited an acquaintance with each and all of them as shall satisfactorily influence you in the practice of any one, must engage all your diligence and every effort of your attention.

I know perfectly the wild dreams of a practice which shall consist of nothing but *pure* surgery or of *pure* medicine, and the arguments some have urged in favour of such subdivision of labour, parodied in the well-known lines,—

"One science only will his genius fit,
So vast is art, so narrow human wit!"

These are only dreams, from which the man who indulges in them,—unless, indeed, he possess an independent fortune,—will some day awaken to find that, in spurning golden opportunities, he has destroyed the only chance by which the result of his cherished ambition could have been practically realized. Or, after spending the best years of his life in *pure* idleness, after souring his temper, and making himself the laughing-stock of his friends, should his patient endurance be rewarded by the windfall of some coveted appointment, he finds it to be but vanity and vexation of spirit,—the gilded shell, the wasted kernel.

Do not be misled by high sounding titles, but recollect that to obtain, not eminence, but simple mediocrity as a physician or a surgeon, you must have qualified yourself practically for both. If you are ignorant of the one branch of your art, you will inevitably commit errors which will not only make you blush for your own negligence, but may cost your reputation a heavy detraction.

Nice distinctions between physic and surgery are no more understood than is professional etiquette by the world outside, and you will find your names handed from mouth to mouth rather as associated with your mistakes than your successes.

A deformed limb from an overlooked dislocation will scarcely be forgiven in the popular aspect of the question, because you are pleased to call yourself a pure physician, and say, after treating it as a bruise, that the case was not one suited for your proclivities.

A case of so-called gouty rheumatism, and treated with oceans of physic and no end of baths at some fashionable watering place, will scarcely seem to have had fair play when another more surgical gentleman discovers a stricture of the urethra, by treating which the patient immediately recovers.

On the other hand, too *pure* a surgical tendency may inflict an equally irreparable damage upon a patient's frame. It can scarcely be satisfactory to a patient to find, after the surgeon has ineffectually applied the actual cautery to his back or hip, that he speedily recovers under the use of the hot douche and colchicum or iodide of potassium. It is rather too late to discover that a patient is suffering from pulmonary disease of a rapidly fatal kind after you have operated on a painless fistula. It can scarcely be regarded as a triumph of surgery to have operated upon an external aneurism when a much larger and more impending fatal one exists within the chest. Illustrations of the evil of exclusive surgery are neither far to seek nor ill to find. A patient labouring under symptoms of stone in the bladder presents himself to a surgeon. He is sounded, and the existence of a calculus ascertained. But the patient is perhaps in a most unfavourable condition for the performance of any operation for its removal, which is to be discovered only by a careful investigation of the state of his general health. He may have untoward symptoms, which are easily overlooked by the surgeon who fixes his attention on the local disease. His tongue may be furred, his pulse quick, his digestive organs deranged, with loss of appetite, and want of sleep. He may suffer from pain in the loins. His urine may be coagulable, and of low specific gravity, and other symptoms may pass unnoticed which indicate the existence of a renal calculus, or of inflammatory affection of the kidneys. If any operation, be it lithotomy or lithotripsy, is performed under such circumstances, it nearly certainly proves fatal; whereas, by previous medical treatment and regulation of diet, his general health might have been so improved that the operation might have been per-

formed with a good prospect of success, or the existence of further disease might have been discovered, contra-indicating the propriety of interfering by surgical operation at all.

Whatever scope there may be in the larger cities of the empire for subdivisions of medicine and surgery, the provincial practitioner must be equally equipped in knowledge and skill for the duties of every branch of practice.

Those of you, too, who enter the public services will find that such nominal distinctions have no place. You must be as ready as a surgeon to spend your day after an action in your regimental shambles as to devote the next to the care of sick sinking under the ravages of some camp epidemic. You will not find your surgical tendencies any excuse for neglecting the inspection of food, privies, or dunghills, or for refusing to attend the women and children of the regiment, while a whole college of physicians cannot absolve you from attending upon punishment parades or the marking of a deserter.

I might, without drawing upon the resources of imagination, narrate instances enough to show the folly of the neglect of any department of the medical art. But I will only mention one such example which occurred a few years since in my own personal experience.

One Saturday in the end of summer, I was called away from town, to a part of the country remote from railways, and from which I could not return till the ensuing Monday. I looked forward when I retired to rest that night, to a quiet undisturbed Sunday in the country, beyond the range of patients and door-bells. Next morning, breakfast was scarcely over when an urgent summons called me to one of the lodges to see the wife of a gardener. You may imagine my consternation when I found this worthy woman in labour, and that my assistance was all the more earnestly requested because in former labours she had twice nearly perished from flooding. Had the case been one of surgical hæmorrhage, I should have felt great satisfaction in being able to render assistance; but to one who had only attended three cases of midwifery, and those at a very early period of my student life, the position was a very embarrassing one. As hour after hour wore on, and the labour seemed making little or no progress, you may imagine the frame of mind in which I moralized upon the worse than fatal folly of my early negligence. Fortunately, however, for me, and for my reputation, all went well with both mother and infant. And I need not dwell upon the satisfaction I enjoyed, when a few weeks later I acknowledged a letter of thanks for my kindness and skill received from the grateful parents by forwarding some articles of baby clothing as a small thank-offering suited to the occasion of the baptism of my name-child.

In pursuing your prescribed course of medical study, there are specially three subjects I should wish to recommend to your most

constant and persevering attention. These are, Anatomy and Hospital and Dispensary practice.

This is saying nothing else than urging you to lay a sound and wide foundation, and to build your superstructure of choicest materials; for Anatomy is the great foundation upon which your whole success must depend; and as the practice of medicine, surgery, and midwifery is your ultimate aim, the sooner you gain a practical acquaintance with them, the more readily will you be able to undertake the charge of patients on your own account.

It is almost needless for me to tell you, Gentlemen, that without a thorough knowledge of anatomy, no one need ever hope to be an accomplished physician or surgeon. The study of anatomy is, however, a very different matter from any of the other educational exercises in which you have hitherto engaged. In it you will probably begin for the first time to educate your eyes to observe accurately, and to employ your hands in delicate manipulation. Books, and plates, and mere memory, will not suffice to instruct you here. What is of most importance to recollect, what will prove most useful to you in any emergency, must be more indelibly impressed upon your consciousness, than by such indirect means for acquiring knowledge.

If you wish really to know your anatomy, you must know the body, and not the mere descriptions of it listened to in the lecture-room, or even as amplified by the study of manuals, however accurate and minute, and however profusely supplied with elegant woodcuts; your anatomy must be acquired in the dissecting-room, and that with diligence and perseverance. Those of you who can afford the time, and who really desire to distinguish yourselves in after-life as physicians or surgeons, must not be content with the amount of practical anatomy enjoined in your curriculum of study. You must spend much of your leisure time in the dissecting-room; you must familiarize yourselves with every tissue and every region in the body; and you must not only dissect the parts, but you must study them in relation to the diseases and injuries to which they are subject, and in connexion with every operation which you may be called on to perform. If your anatomy is anything less than this, you will merely accumulate a mass of facts upon the authority of nothing better than a text-book. The so-called knowledge of anatomy which a youth acquires with no laborious effort, and which he only retains by an exercise of memory, without either digestion or assimilation of the facts themselves, is no true knowledge at all. Such facts in no way nourish his mind, but deposited, as in a store-house, are as utterly raw and undigested as when he swallowed them. He may be full of facts, but it is the fulness of a bottle, which will pour out only what has been poured in. He may be a convenient depository of other men's labours and thoughts, and he may have an admirable capacity for holding and preserving

them, but to call such a man an anatomist is a misuse of terms, and to trust men to his superintendence and care on the strength of such information is a misuse of humanity. Costly apparatus, splendid cabinets, magnificent plates, abundance of material, lectures innumerable, and daily tutorial supervision, will never make you anatomists. These means to an end will only encumber the path, while the end is forgotten or hidden from view by the very embarrassment of present riches. Many a student with but a single text-book, and that perhaps an indifferent one, but who has spent his days in diligent dissection, observation, and comparison, possesses in the long-run far more real knowledge of the subject than others who, with every means at command which money could provide, have rested content with reading from the dissections of others, and looking at plates and woodcuts, instead of working with knife and forceps on their own account.

Do not permit yourself to neglect your anatomy because you find men who have attained great professional success as physicians and surgeons, and either knew little of it at any period of their career, or have forgotten what they once had acquired. Still less credit the assertion that too intimate a knowledge of anatomy embarrasses the operator, and unnerves him for hazardous ventures. The testimony of all our really great surgical authorities is unanimously opposed to such an opinion. "Above all," says John Bell (one of the most shrewd and observant surgeons of his day), "improve yourselves in anatomy. It was by their knowledge of anatomy that Paré (and some others whom he mentions) were distinguished among hundreds of other surgeons in the camp. It was their own intense diligence, and above all their acquaintance with anatomy, the very basis of our science, which made them the first surgeons of the chief cities of England, Holland, and France, the best authors in their own day, and the highest authorities in ours."—"If a surgeon," adds the same author, "ignorant of the facts of the human body, should be called to perform even an established and regular operation, which he has often seen performed, how must he tremble at the thoughts of what he has to do! Faltering and disconcerted! Hesitating at every step! Acting only as he has seen others act, he is interrupted, startled, perplexed, with any new occurrence. He has foreseen nothing, provided for no accident, and every accident alarms him. He moves fearfully and timorously forwards, like a blind man, who walks with an air of confidence on an accustomed road, but when any new object presents itself, or the road is changed, is bewildered and lost."

I would exhort you then, Gentlemen, *now*, when you have the opportunity, to be diligent above all in the prosecution of your practical anatomy. In after years you may have extensive opportunities of studying the practice of medicine and surgery; you may have time to study with care the literature of your profession; but it is very improbable that many of you will have the leisure or even

the opportunity of acquiring that knowledge of anatomy which is only to be gained in the dissecting-room.

The great basis on which you may safely rest, the secure foundation on which you may build, the touchstone which will discover truth and evolve error, the loadstar of all future discovery in medicine or surgery by which you may safely and fearlessly steer your bark among the billows of surging error to the haven of your life's voyage, is Anatomy as known and vitalised by Physiology.

If you have such a knowledge of anatomy, it will mingle so insensibly in every mental act which guides your examination of a patient, or directs your operative interference with his frame, that your very finger-points will seem to know their anatomy; your knife will seem to guide its point and edge with so prescient a knowledge of the resistance of the tissues and the relation of parts, here working cautiously with deftest touches, there again with boldest sweeps, that all the hesitation of doubt, all the recklessness of ignorance, all careless expression of boldness, will equally be removed from your manner and your art. You will become daily more confident in yourselves, and thus capable of inspiring confidence in those who confide their patients or themselves to your professional care.

Your Hospital practice and Dispensary work constitute the other grand departments of professional study on which I should desiderate a greater bestowal of time and attention.

In former times when a preliminary apprenticeship to some busy practitioner was enforced by regulation of the colleges, a shorter period of hospital attendance might perhaps suffice. But now when apprenticeships are abolished, at least on this side of the Tweed, it becomes all the more necessary that every practical development of study at the bedside should be most diligently cultivated.

In the arrangement of your studies recommended by the Colleges of Surgeons and Physicians, your hospital attendance is supposed to commence in your second year. I see no reason why you should delay so long. I see no good reason why you should not commence your hospital studies the very first day you register yourself as a medical student. There are no unanswerable arguments I am acquainted with against this arrangement. The hospital hour is not occupied by any class. Familiarity with disease, which is to be your life-long work and occupation, can scarcely make you think little of it, or make you less kindhearted in dealing with suffering humanity. The hospital visit is not more likely to excite prurient thoughts in the first year of study than in the second, and the display of disease and death can hardly produce such emotions, except in a mind in which these thoughts are already harboured and encouraged. To observe the effects of disease and injury can scarcely diminish from the interest felt and the attention bestowed upon the more preliminary subjects, all of which are intended to culminate in the cure of disease and alleviation of suffering.

I would again remind those who would defer attendance upon hospital practice till a later period of study than their first year, that medicine is an art, and while certain sciences minister to its accuracy, and rescue it from mere empiricism,—as an art it must be learned. The eye, the hand, all the senses must be trained for its due cultivation. Just as a mechanic in any trade seeks to gain as early as he can the technicalities of his handicraft, so should you make use of every opportunity to gain a knowledge, not only of the mere manipulative requirements essential to the practice of medicine as well as surgery as studied at the present day, but of how to deal with patients, so as to obtain that mental control of them, without which all your skill and professional knowledge must be nearly worthless.

It has often seemed to me a thing passing strange, while in the humblest trade an apprenticeship of from five to seven years is required before a man is presumed to be fit to make a coat or tinker a kettle on his own account, that four years of study are supposed to perfect a young gentleman in the art of cobbling the stomachs, skins, and bones of his fellow-creatures. Four years, too, spent not in such stitching or cutting, such physicking or potting, but rather in listening to musty doctrines handed down to the present day more or less directly from the times of Hippocrates. Four years spent in hearing the same pathological processes described by possibly every one of your teachers, and by each one in a totally different fashion. Four years spent in hearing, perhaps, from one that blood-letting is a panacea, from another that it is nothing short of manslaughter; by one that food and drink is the only true physic of their restorative system, and by another that starvation is the omnipotent heal-all suited alike to overfed dowagers and their pug-dogs; by one that the deligation of arteries makes a wound a dunghill, by another that needles and wires are the source of every possible evil that surgical flesh is heir to.

It seems to me, Gentlemen, that you have fallen on strange times for the study of your profession; one in which the old and treasured traditions of the past are fast melting away like scattered snow-flakes in early summer; one in which the once time-honoured landmarks of the profession are fast disappearing. And while all this whirlwind of conflicting opinion sweeps the face of medical science, the period of reconstruction out of the shattered ruins of the past is only commencing. The materials lie strewn about in vast abundance; there are plenty of young and vigorous builders, but the master mind who shall bring order out of confusion, and re-establish any substantial and permanent system is still wanting. There is but one kind of knowledge which alone stands the shattering blast of passing opinion, and that is personal, individual experience. To obtain your own due share of that experience must therefore be your grand aim, and where but in hospital

or dispensary practice can you hope to secure it during your studentage.

The direction in which science seems to open a way in the further progress of the medical art, is to prevent, rather than to cure disease, and to recognise the influence which unaided nature exerts in the cure of disease and injury. This potency of nature encouraged by gentle means, by careful nursing, by appropriate dieting, by a knowledge of the *juvantia* and of the *ledentia* of the sick and injured, and as little as possible of the wholesale amputations and the half-poisonous administration of drugs which found favour in the times of our forefathers will manifestly constitute the scientific medicine and surgery of the future. The remedial agencies which in our days and in those of our children will alone flourish, must be supplementary to nature and not antagonistic to her efforts. Our highest aim must therefore consist in directing and sustaining the powers of nutrition and repair, which, as a *vis insita*, lurks in each particle of the living frame. To watch these powers to see how they may be modified most safely, how most disastrously, must in great measure constitute your chiefest duty in visiting the sick and hurt. Your object will not be served in studying at the bedside, if you are contented to acquire a knowledge of how to perform operations, how to prescribe drugs, or to modify aliments, but as well when to employ and when to withhold such measures. And in learning this, it will not suffice *jurare verba magistri*, if you hope to make any progress in the race for truth, but to learn by the observation of nature on the one hand, and by noting the effects of the procedures of art upon the other.

You will never gain this knowledge by idling in the passages of an hospital, or by crowding the wards of some favourite teacher, still less will you attain it by thronging the operating theatre in curious crowd, when some unusual case is to be exhibited, or some thrice bloody operation is to be performed.

The knowledge which is really valuable, which will make you good practitioners, and not the mere admirers of other men, is only to be acquired by steady observation, day after day at the bedside, where your own eyes, and your own ears, and no mere dictum of any teacher, however famous, assures you of the real progress of the patient. I do not wish you to neglect any means of study, and it is certainly as far as can be from my present intention to lead you to regard operations as the *opprobria* of surgery, as they have been called. Attend operations by all means; but, in seeing them, abstract as far as you can your attention from what is merely sensational, emotional, or spirit-stirring, and test your powers of observation by means of them, calmly considering, in the quietude of your own thoughts, each step, each act from the beginning to the conclusion of the performance. Unless you could do the same thing, unless you appreciate every element in the operative proce-

ture, and have a knowledge of the reason for which it was introduced, you have spent your time in vain. You have in all probability, by your presence on that occasion, only encouraged the bad habit of looking without observation, and of seeing without the exercise of the mental process whereby you are cognizant of what has taken place in your presence.

The result of this vitiated or sensational method of hospital study is apparent at examinations when students frequently come up ignorant of the employment of the simplest appliances; incapable of amputating a finger or a toe; while they can discourse learnedly upon the twenty different methods of amputating at the shoulder-joint, or write a dissertation upon the various procedures in times past and present by which a stone may be removed from the bladder. They are, as a rule, far more ignorant of those matters of practice they are likely any day to meet with than of those with which they may never once be brought in contact during a long lifetime of practical experience.

I do not wish you to be inattentive to what are commonly called the greater matters of your professional study; all I beg of you is not to neglect the more homely examples of medical and surgical practice. In early professional life, if trusted at all, it will probably be in the lesser and not in the greater cases of medical and surgical diseases or injury. Do not, I entreat of you, when that trivial occasion arrives for showing yourselves competent practitioners, have the pain of finding yourselves incapable of doing what some one of far less skill and knowledge at once rectifies. Your object, as a young practitioner, will some day be to get over the stream of public want of confidence, which cuts you off as young men from the golden harvest which waves invitingly upon the other side. Most men pass quietly and unobtrusively across the stream by the ordinary stepping stones, and as they wait their turn among the jostling crowd of others anxious like themselves to take the first step, they make sure of their footing when the chance comes, and with greater or less rapidity and agility reach the other bank, passing from one stone to another. Be sure then, Gentlemen, that your education in medicine and surgery fits you to step out boldly and steadily in opinion and treatment when the first case is committed to your care, and let your patron or your patient see he has got the right man as a protégé or a practitioner when he comes to you with something in the scale of surgical sensationalism, as trifling as an ulcerated leg or a simple conjunctivitis.

In prosecuting your hospital studies you should take notes of the cases. In attending upon lectures I have said nothing as to note-taking, because it is advantageous or the contrary according to the idiosyncrasy of each individual. But in attending cases you should undoubtedly take careful and accurate notes, however short. This practice you will find not only advantageous as an exercise in teaching you to observe symptoms and to detail them in a consecu-

tive narrative, but also invaluable by indelibly impressing upon your memory the features and characters of these early observed cases, so as to constitute in after life excellent standards of reference. To them at some future period you may betake yourselves, much in the same way that an artist will place before his eye some bit of harmonious grouping, or felicitous colouring which he had copied from a great master when as a pupil he studied in the galleries.

There is still one other matter to which I must allude before I conclude this already too lengthy address, and that is, the necessity for sedulous attention to Dispensary practice. In the various dispensaries with which our city is fully supplied, the senior student is permitted to engage personally in the cure and treatment of the sick poor. He is thus early permitted to come in contact with the realities of disease, in a different sphere of life perhaps, but presenting much the same phase as he will eventually experience in actual practice.

He will then, if not before, discover what practice really is when stripped of the artificial circumstances of hospital residence. Here the study of disease, and of his fellow-man, when in his own humble dwelling laid low on the bed of sickness and death, will form a wholesome contrast in its sad and painful realities with what he had been accustomed to regard it when seen through the medium of clinical instruction. Here he will find himself at last combating disease, which for weeks has enfeebled the father of a family, and made a happy honest household destitute of the necessities of life; or standing in the gap 'twixt life and death, when the last enemy threatens to lay his remorseless grasp upon the only stay of a widowed mother, he feels as if, holding in his hands the issues of life, the burden and responsibility of professional duty had fallen too suddenly on his youthful heart, and as, if under the continued strain of such anxieties, he could not long maintain his mental equilibrium.

Such a position of conscious responsibility is surely likely to make a right-feeling man repent any negligence he has committed in his earlier student years, and bring home to every one the necessity of due attention to every department of study which increases his practical usefulness.

But there are scenes still more painfully trying which he must encounter, and from which, if he has any heart at all, he cannot stay away. When it is his part, as it will be yours, to stand by the bedside while life's tide slowly ebbs away, and when in the now fast fleeting hours which alone separate the dying man from an eternity upon which he is about to enter without one ray of heavenly hope, with nothing to cheer the gloom of the dark valley, and with a mind panic-stricken by a fearful looking-for of judgment and fiery indignation, he has to listen to heartrending cries for aid when the damp, cold, clammy hand of the dying man clings fast to yours and refuses to let you go; when his eye seems greedily to

scan your face, and while you read therein nothing but blank despair, would seem to hold you spell-bound with mute entreaties. Can you, then, forsake him in his extremity? will you leave him to all the blackness, and darkness, and tempest of mind and soul in his mortal struggle with the last enemy? or, will you soothe his dying fears with brandy and opiates, setting his only just-awakened conscience to sleep by drugging his brain? or, will you lead his mind away to other matters, and talking of old friends, of scenes of other days, of choice vintages and of cooling drinks, of a home, of friends and country far away, let him sink in the deep waters with a soul unsaved?

Will you not rather, if you have found for yourself the only balm to a stricken conscience, and a sin-guilty life; if you have laid all your own confidence and hope on Him who calls to all alike to come unto Him and be ye saved; if you have indeed learned savingly of Him who is the alone Physician of Souls,—will you not rather sit on through the dark and lonely hours striving to release that sin-stricken man from the bondage in which the arch-enemy would fain hold him, and in the hour of his sorest and direst necessity enable him rejoicingly to say, like the prodigal of old, I will arise and go unto my Father!

Will it not, in that dread moment of separation between the soul and the body, when all human skill to save life is fruitless, be a source of real joy and rejoicing to feel assured that your efforts have been blessed as a means of saving a soul from death, and of letting in the light and glory of heaven upon what in nature is the darkest, the gloomiest, the dreadest hour of human woe. But, perhaps, you think that in this sorest extremity of a fellow-creature, your duty as a medical man is past, and that such spiritual consolations belong to the function of the minister of religion. So, perhaps, they may; but even when they are so, your word in season can never come amiss. Recollect, however, that there are cases where an opportunity is never given to the clergyman to gain an entrance, or when his formal visit seems to freeze up the whole heart. In such an hour, too, a helping hand may not be near. I have known a clergyman refuse to visit a dying sinner whose soul was plunged in deep despair, because he did not believe in death-bed repentances. I have seen another read the service of his church with indecent haste, and hurry away paralyzed by his dread of infection. Are you, in such an hour, when your patient has fallen among spiritual thieves, to pass by on the other side?

The longer you live, and the more conversant you are with sickness and death, the more convinced, I am certain, you will become that your duties as a medical man will be but half performed if your functions cease with your efforts to heal the bodies of your patients, and you can or will do nothing for the sore diseases of soul which will plunge both soul and body into perdition.

I can imagine no more horrible source of self-accusing condem-

nation, crushing your own souls to the very verge of everlasting despair, than the conviction lying on your conscience, when laid upon your own death-bed, that this man and that has been carried away to everlasting ruin because your faintheartedness stopped your mouth while he wrestled with sore crying and tears in his last agony. I do not see how you can put it away from you that his spiritual death lies at your door, or how you can expect in your after-life, or when you are in the grasp of the last enemy, to escape the sore gnawings of a reproaching conscience for opportunities thus neglected.

I would have each one of you, therefore, in this the time of health and strength, to make sure of your own saving interest in the shed blood of a once dead and now risen Saviour. I would have you, as you would die in peace, dedicate yourself and your every work in life to His service; and whether you are medical missionaries in name or not, to be so in reality, living lives as well as speaking words which shall make you living epistles of Christ known and read of all men.

If you would see the loveliness and the beauty of this combination of the healer of the body and the physician of souls,—after the great prototype set before you in the Master himself,—I know no more refreshing spectacle than that which is afforded you in the Medical Missionary Dispensary of this city. There, the Christ-like combination of the two duties of caring for the sick body and ministering to the diseased soul, is clearly and practically set forth. And under the directing energy, and with the self-sacrificing spirit to guide you of one whose life, and health, and strength has been devoted to that work, I know nothing which is both so well calculated to be blessed to yourselves, and to make you in turn a blessing to others.

Remember in every study that to all some talent has been intrusted. To one more, to others less, but to all some; and in all for the great purpose of being employed in your life-service. See, then, that it is so occupied by you, and that in none is it wrapped up in the napkin of self-interest, worldly calculation, or the sordid desire to accumulate wretched pelf.

Be certain of this, that to spend and to be spent in the service of Him whose you are, and whom alone you ought continually to serve, is the highest wisdom and the greatest gain.

Entering on your work now,—His servant indeed,—devoting all your energies, all your affections, all your hopes and aspirations to Him and to His glory, however humble may be your lot and function here, in that day when all the follies and vanities, the names and the fortunes of this world will seem as less than nothing, to you will be addressed the welcome words from his lips, "Come, ye blessed of my Father, inherit the kingdom prepared for you from the foundation of the world."



EDINBURGH: PRINTED BY OLIVER AND BOYD.

CASE



OF

STRANGULATED HERNIA,

WITH PERFORATION OF THE BOWEL,

IN WHICH THE OCCLUSION OF THE APERTURE BY LIGATURE
WAS SUCCESSFULLY ADOPTED.

BY

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EDINBURGH: PRINTED BY OLIVER AND BOYD.

MDCCCLXIX.



CASE OF STRANGULATED HERNIA.

On Monday the 22d February, Dr Littlejohn received a telegram from Dr Bell of Kettle, in Fife, summoning him to his relative Miss W., and requesting him to bring me along with him, to operate upon her for a strangulated hernia.

On reaching our destination about midday, we found the patient, an active woman of spare habit, but upwards of sixty years of age, in a state of prostration bordering on collapse. The abdomen was tense and tender, the pulse still hard in stroke, becoming frequent in number, but small in volume, constant hiccough and vomiting, a flushed face, a dry tongue, a feeble whispering voice, and copious general diaphoresis. The hernial tumour which occupied the right femoral space was ovoid, lying along the line of Poupart's ligament, tense and tender to touch, the surface slightly reddened, and the cutaneous textures agglutinated to the parts beneath. Her history was one of old reducible hernia, for which she never wore a truss. She stated that when in Kettle, seventy-two hours previous to our visit, she felt the rupture start in her groin, occasioning pain and a sense of faintness; that she returned home immediately, and attempted to reduce the swelling, but without effect; that about 9 p.m. vomiting set in, and that ever since she had suffered from intense twisting anguish in the region of the umbilicus, with constant retching, and latterly hiccough. To relieve these symptoms she had taken aperient medicine, which had been ejected by vomiting, and had applied warm fomentations to the belly. It was not until seven hours before the period of our visit that Miss W. sent for Dr Bell, who at once, on examining her, telegraphed to Edinburgh for Dr Littlejohn and myself.

The condition of matters rendered an immediate recourse to operation imperative. Accordingly, having administered chloroform, I proceeded, with the assistance of Drs Littlejohn and Bell, to operate in the usual manner. On opening the sac, a quantity of claret-coloured muddy fluid escaped, and on exposing the contents, which consisted only of bowel, and sponging its surface, we found it presented a dark-chocolate colour, with its glistening serous surface

obscured by a white or rather ash-gray "bloom." The texture of the bowel was soft, and manifestly admitted of no rude handling. The probe-pointed bistoury was accordingly guided with the greatest gentleness beneath the stricture to the inner and anterior aspect of the neck of the sac, the bowel being protected by the fore and middle fingers, while the nail of the forefinger formed the director of the bistoury beneath the constricting ring. The slightest lever movement of the knife-handle made space so that the bowel became flaccid. On drawing gently upon the knuckle of intestine, it seemed adherent to the ring; but yielding to the gentle continued traction, an adhesion seemed to give way, and the knuckle of bowel came down. At the same moment, with a crack like a bubble of air bursting, a puff of foetid gas and a gush of fluid feculence escaped from the intestine on the level of the mouth of the sac. On washing the parts, the aperture of escape was found on the side of the bowel corresponding to the external aspect of the femoral ring, and close to the mesentery. It seemed like a transverse linear cut, a little more than a quarter of an inch in length, such as a thread might have made in the serous membrane, through which the ulcerated mucous and muscular coats along the whole line of constriction were obviously exposed. Puckering together the peritoneal coat with a pair of dissecting forceps from around the small aperture, I secured it with a ligature tied with a double knot, which, while applied with sufficient firmness to prevent it slipping, was gently tightened so as to avoid further cutting by the ligature of the tender serous membrane.

After again carefully cleansing the bowel, I returned it within the abdominal cavity; the ligature, however, was left hanging out through the wound. Further, the patency of the sac was secured by stitching its divided margins to the edges of the cutaneous incision. The dressing consisted of a pad of tow supported externally by a folded towel, and retained by a spica bandage. The patient was now laid in bed, with the limb on the affected side raised in the flexed position on pillows.

A draught of 50 drops of laudanum was administered as soon as the effects of the chloroform had sufficiently passed off to admit of her swallowing; and a quarter of a grain of muriate of morphia in pill was ordered to be given repeatedly.

Within four hours all painful symptoms had subsided; the patient had also enjoyed several quiet sleeps, and taken from time to time a single spoonful of water or of milk. We desired that her food should consist of milk and beef-tea, with ice, but no solids; and even of those fluid articles of nutriment, she should have no more than a mouthful at a time.

28th February (five days after the operation).—The wound has only once been dressed since the operation. To-day Dr Littlejohn again visited Miss W. with me, and we found all the symptoms of abdominal tenderness quite subdued; the pulse quiet, the tongue

moist and otherwise good, and the thirst moderated. On dressing the wound, I found the sac sloughing, and accordingly cut out the sutures. The ligature still hung out of the wound. There was no feculent smell, and no purulent discharge; the fluid exuding from the surface consisting simply of foetid serosity.

4th March (ten days after the operation).—Dr Bell remarked that some fluid feculence had escaped upon the dressing. The ligature still, however, remained in the wound, which, in the report with which he favoured me, he says, is beginning to granulate, the sloughing sac having separated.

9th March (fifteenth day after operation).—No feculent discharge to-day.

14th March (twentieth day after operation).—To-day the ligature came away on the dressing. There has been no fecal flow since last report. To have oatmeal-gruel three times a day.

21st March (twenty-seventh day since operation).—To-day the bowels acted spontaneously, for the first time since the operation.

1st April.—To-day the wound has soundly closed, no discharge of any kind showing upon the dressings.

Since last report the patient has not only been out of bed, but has been able to venture out of doors, and is now (21st April) perfectly restored to her usual health.

In this case, a period of more than seventy-two hours had elapsed from the time when the rupture descended till the operation was performed, and during at least sixty-three hours of that period symptoms of strangulation had existed. The prognosis of an operation undertaken under such untoward circumstances was necessarily bad. It is a recognised fact in the treatment of hernia, and one which should be sedulously impressed upon pupils as illustrating the necessity of avoiding all unnecessary delay in resorting to operation, that death of the patient has occurred within eight hours after the descent of a hernial protrusion.¹ In such cases, where sphacelation has ensued, the constriction has usually been excessively tight, and the bowel unprotected by any omental wrapping. In any instance where twenty-four hours have elapsed during which urgent symptoms of strangulation have been persistent, there is little likelihood of finding the intestinal contents of the sac in such a condition as to admit of their being returned to the cavity of the abdomen. Those examples where a much longer period has intervened from the recognised descent of the hernia till it has been successfully relieved by operation, such as a week or ten days, have undoubtedly partaken rather of the characters of the incarcerated than the strangulated hernia; and as the condition of incarceration may either insensibly pass into

¹ Sir A. Cooper on Hernia, 2d edition, p. 36.—"There is a drawing of a large intestinal and omental hernia in the museum of St Thomas's Hospital, which Mr Else used to state in his lectures proved fatal in eight hours from the first appearance of strangulation. Under these circumstances, death is not occasioned by mortification, but by the constitutional irritation."

that of reducibility or of strangulation, it certainly becomes a difficult matter to decide when the symptoms of strangulation—*i.e.*, interference with both fecal flow and vascular circulation in the part retained—became established. For convenience' sake, the occurrence of abdominal inflammatory symptoms and persistent vomiting may be accepted as indicating the period when strangulation is established, and after which all delay is dangerous. Accepting this criterion, we have in this case a history of sixty-three hours of strangulation.

The strangulation had fortunately not been aggravated by any violent remedial efforts. She had taken a dose of aperient medicine, certainly, for she regarded the attack as a bilious one; but this purgative had been ejected by vomiting, and it may be eliminated from the history of the case as in any respect complicating its progress. There had, furthermore, been no repeated efforts at the taxis.

Dr Bell, when he saw the case for the first time, at 6 A.M. of the 22d, taking into account the long period the hernia had been down, very wisely abstained from making any violent or long-continued effort to reduce the rupture, regarding the condition of the bowel as very questionable, and doubting whether, if he could reduce it, the result might not be for the worse rather than the better. It would be well if a like prudent consideration guided the conduct of all surgeons. I have more than once been called in to see a patient in a state of collapse and unconsciousness induced by the forcible reduction of a strangulated hernia, and where a soft tympanitic sac indicated that an effusion of the intestinal contents had occurred, and that a gangrenous portion of torn bowel had been returned to the cavity of the peritoneum.

Considering the other symptoms present in this case, there were indications good and bad. The pulse had a steady, sharp, jarring character. The face was flushed; the surface was covered with a warm and copious perspiration. So much was favourable. But, on the other side, hiccough had set in; there was well-marked abdominal tenderness, and the skin was brawny over the sac, while the voice was like that of a cholera patient in the stage of collapse.

By some hiccough is thought to be pathognomonic of sphacelation having occurred.¹ This view I cannot accept, as, not only in the present case, but in several others in which I have operated with success, the hiccough had for hours been a source of great uneasiness and exhaustion.

I regarded the hiccough in this case, especially in combination with the febrile disturbance, well-marked abdominal pain, and brawny thickening of the soft parts overlying the sac, as symptomatic of peritonitis affecting the sac, its contents, and the abdominal cavity. The symptoms, therefore, on the whole, urgently called for operation; but the long continuance of these symptoms and their well-marked inflammatory characters, gave a somewhat doubtful

¹ Sir A. Cooper on Hernia, 2d edition, p. 35.

prognosis as regarded the vital condition of the contents of the sac, and therefore of the prospects of the patient.

The operation needs no comment; it was executed in the usual way. So far as opening the sac was concerned, I will only here remark in passing, that this case was one of those in which not even the most strenuous advocate for the extraperitoneal procedure would have deemed it expedient to have attempted to afford relief without opening the sac. There were two grounds for such a view being taken of the line of operation even before commencing: *first*, that the symptoms of strangulation had lasted almost beyond the period when any hope of finding the bowel in a returnable condition could be entertained; *second*, that the inflammatory symptoms were so well marked, that to open the sac would be desirable, as a means of affording an escape for the fluid inflammatory products. On opening the sac, the fluid which escaped was both good and bad: good in so far as it was not putrid, bad in so far as it contained lymphic flocculi. I have on several occasions observed, when the fluid in the hernial sac is flocculent, and a nebulous haze obscures the natural peritoneal lustre, even where there is no sphacelation of the intestine, that the patient either sinks from sphacelation of the bowel after its return, or that a fecal fistula becomes established from the giving way of the softened intestinal structures. And in the latter class of cases, when the patient has sunk, and an opportunity for dissection been afforded, I have observed well-marked ulceration of the mucous and muscular coats of the bowel at the point of constriction.

The division of the constriction was effected in the usual way with a curved blunt-pointed bistoury. I have never employed a director in operating for hernia, either for the preliminary division of the soft parts, or for guiding the bistoury beneath the constricting margin. When the opening is moderately large, the tip of the forefinger can much more accurately form a guide; when the opening is very small, there is really no room for most of the implements of this kind to be introduced without the risk of bruising the constricted parts. I never experienced the slightest difficulty in insinuating the mere cutting extremity of the edge of the blunt-pointed bistoury guided by the finger under the constricting fibres, so as to notch them effectually; and I have always looked with dismay at operators who seem not to be content unless they have at least half an inch of the knife in the cavity of the belly, and cut as though it required a large incision to give the necessary relief. A very limited division of the stricture is all that is necessary. Such a careful application of the cutting edge of the bistoury, in one instance in my practice, most certainly avoided the division of the obdurate artery, where, after the bowel had been returned, on inserting the finger within the ring, the course of the vessel arising abnormally from the epigastric could be distinctly perceived surrounding the neck of the sac.

After relieving the constriction, on gently drawing upon the bowel, which had become flaccid, there was a slight resistance, and then the escape of the flatus and feculence from the point of constriction as the site of nipping was exposed. Adhesions at the site of stricture had taken place, agglutinating the intestine to the parietal peritoneum within the abdomen, and at the site of stricture. The yielding of these lymph patches exposed the slit-like opening in the peritoneal coat, and thus established a communication with the cavity of the intestine where the mucous and muscular coats had already been penetrated by ulceration. How, it may be asked, was this slit-like aperture produced in the intestine? I believe, by the tight and thread-like margin of the stricture, against which the taxis forced the thinned and softened texture of the bowel with such effect as to cut it through. The absence of any omental wrapping would necessarily favour this effect. But if the solution of continuity took place when the taxis was employed, how came it that the intestinal contents did not escape into the sac, and the collapsed bowel recede within the abdominal cavity? For this is the result in most cases when either the softened contents of the hernia or the inordinate efforts at taxis are attended with perforation of the intestine. The adhesions between the bowel and the parietal peritoneum at the seat of stricture, and on its inner or abdominal aspect, together with the integrity of the mucous and muscular coats at the time the taxis was employed, may suffice satisfactorily to explain this result.

Such slit-like apertures have undoubtedly been sometimes produced by other causes, such for example as a careless application of the bistoury in relieving the stricture. In narrated examples of this accident, the escape of feculence and flatus is described as occurring when the knife is either introduced or withdrawn in dividing the constriction; the aperture is situated on the aspect of the bowel corresponding to that upon which the knife is inserted within the femoral ring, and the slit in the gut is at right angles in its direction to the axis of constriction. In the present case, the aperture in the serous coat of the intestine was linear, but transversely so, or, in other words, in the axis of constriction, there was no fatal or feculent escape on employing the knife, and the opening was upon the aspect of the knuckle of bowel away from that on which the knife was applied. Fortunately, it corresponded to the mesenteric attachment of the intestine, and was not upon its free marginal surface. It was, in other words, situated where the likelihood of plastic results was greatest, and where the puckering together of the peritoneum was least calculated to diminish the calibre of the intestine.

The degree of nipping of the bowel at the site of constriction was sufficient of itself to mark that ulceration of the mucous and muscular coats of the intestine must have advanced to the complete division of these textures at the point where the stricture had most essentially interfered with the vitality of the tissues. It is this

ulcerative change in the mucous and muscular structures of the intestine which so often gives rise to after sphacelation of the loop of bowel when neither the appearance of the intestine nor a gangrenous fœtor indicate at the time of operation that its vitality has been destroyed. When this ulceration of the inner coats has become complete, the serous coat alone remaining entire, the vascular supply must come through the vessels of the serous coat alone, and therefore the vitality of the parts forming the mass of the protrusion must be most seriously imperilled. I am surprised, in looking into the systematic works on surgery, how little is said on this subject. No mention of the early destruction of the mucous and muscular coats at the site of constriction due to ulceration, is to be found in the works of Syme, Erichsen, or in the *System of Surgery* by various authors which is regarded as the great exposition of the British surgery of the hour. In the "*System of Surgery*" by the late Professor Miller, I alone find the fact adverted to. There it is said, that where "the ulceration proceeding from within has nearly divided the intestinal coats," indicated by the existence of persistent "nipping," the condition of the bowel is "fast passing into gangrene," which may occur wholly or partially with fatal feculent extravasation after the intestine has been returned to the cavity of the abdomen. If the completeness of the nipping in this case were not sufficient to prove the degree of the destructive change going on within, it was demonstrated by the ulcerated condition of the mucous and muscular coats as seen through the small slit-like aperture. It also proved that the ulcerative change is one which really occurs during the presence of the constriction, and is not merely a pathological result effected and completed during the period which intervenes between the relief of the stricture and the death of the patient. Certainly, the thin membranous film of the serous coat, denuded of all internal support from mucous or muscular structure, when looked at through the opening did not present an appearance calculated to inspire much confidence in its power of either bearing a ligature, or of materially assisting in the process of repair.

The treatment of the aperture in the intestine, together with the successful result, appear to me the most interesting feature in the whole facts of the case.

Careful examination of the implicated portion of intestine led me to hope that its vitality was not wholly extinguished, but that, after the degree of long-continued constriction to which it had been subjected, its recovery was more likely to take place when lying within the cavity of the belly than if left exposed in the hernial sac. To return it into the aperture unclosed, admitting a free feculent escape, was of course out of the question; but to close the opening as if it were a case of simply wounded intestine, was to run a risk of after-fœcal escape. Against a successful result there were, (1) the weakened vitality of the textures implicated, owing to the long period of

strangulation, and the consequent ulceration of the mucous and muscular tissues of the bowel at the part requiring ligature of the serous coat; (2) the risk of fecal extravasation, in consequence of early separation of the ligature before any satisfactory agglutination of the parts implicated could take place; (3) the increased risk of a septic purulent peritonitis from the presence of a ligature, and, possibly, sphacelating bowel within the cavity of the abdomen. In favour of a satisfactory result there were, (1) the position of the aperture in the constricted parts being, as we have seen, close to the mesenteric attachment; (2) the likelihood of an agglutinative peritonitis fixing the affected portion of bowel close to the mouth of the sac; thus affording it efficient support, and a free external escape for pus or intestinal contents. The procedure by puckering up the serous coat from around the small opening is precisely what should be practised in cases of penetrating wounds of the abdomen, with punctured wound of the bowel, where the application of the ligature can be effected without diminishing the calibre of the intestine. The healthy condition of the viscus wounded in such circumstances makes the probabilities of success much greater than when the textures, long strangulated in a hernia, are subjected to ligature. This plan of treatment, as adapted to the circumstances of wound in the intestine contained in a hernia, was apparently first suggested by Sir A. Cooper, in the second edition of his work upon *Hernia*,¹ where he says, "A small wound may be inflicted upon the gut by the knife of the operator. . . . When this accident occurs, and the aperture in the gut is very small, the surgeon is to employ a different mode of treatment from that required for gangrened intestine. The aperture, with a small portion of the surrounding gut, should be pinched up with a pair of forceps, and a fine silk ligature, being passed round it, should be secured so as to include the ruptured spot; the intestine should then be returned to the mouth of the sac." In the case given by Sir Astley in illustration of this practice, and upon which he seems to have operated himself, he states that, after tying the aperture with a ligature, he reduced the intestine, and closed the wound with five stitches and strapping. He says nothing, however, about cutting off both ends of the ligature close to the knot,—an addition to his plan of procedure which finds its way into the works of both Mr Teale² and Mr Erichsen,³ as if it were part of the original proposal.

In the case I have narrated, I did not cut off the ligature close to the knot. Neither did I close the wound. In fact, I attached the divided margins of the sac to the edges of the cutaneous wound, so as to maintain a patent communication with the cavity of the abdomen, and a free channel of escape for purulent or intestinal matters. The ligature I purposely left hanging out of the wound, that it might afford a guide for the faculence, should it escape. The

¹ 1st part, 2d ed., p. 45.

² Teale on *Hernia*, p. 134.

³ Erichsen's *Science and Art of Surgery*, vol. ii. p. 460.

wound itself was dressed simply with a pad of tow, retained by a spica bandage, so that no impediment might exist to a free fecal escape, should it come in quantity and with force, as is sometimes the case. No better commentary could be made upon the good effects of this mode of procedure, together with the careful restriction of diet to the smallest quantities of fluid nourishment, and the free administration of opiates, than to read by contrast Sir Astley's case, where the closure of the wound, the repeated administration of violent mercurial purgatives, and free bloodletting, was attended with violent fever, retention of urine, a tense and tender belly, great flatulent distention and delirium, relieved at once, when the stitches were cut out, by a copious discharge of pus from the wound.

If there be one thing more than another in the treatment of a strangulated hernia after operation, which, next to early interference, conduces to the success of the result, it is the abstinence from the employment of purgatives, and the somewhat free administration of opiates. Here the patient's bowels were not opened for nearly four weeks after the operation, and then this result was spontaneous, unless the oatmeal food can be supposed to have conducted to have procured their evacuation. Till this evacuation she had no solid food of any kind. The patient was very hungry during a considerable period of her convalescence, and grumbled somewhat at the strictly-limited dietary. By diminishing the quantity of feculent material passing through the intestine, this meagre diet undoubtedly shortened the period during which the fecal fistula existed, while the progress of the reparative changes were at the same time not delayed.

For the first week, Miss W. took a quarter of a grain of morphia every two or three hours; during the second week she had the same quantity thrice a day; during the third week she had a pill only at bedtime; and after that period it was discontinued. To the heroic practitioner of former times, to whom the early evacuation of the bowels after the operation seemed the great object to be sought after, such non-interference may seem foolishness, and, possibly, the idea may even suggest itself that the obstructed condition of the intestines may have favoured the establishment of the fecal fistula. Were it so, the fecal discharge would not have ceased spontaneously before the bowels were moved, nor would it have lasted for only five days,—a duration of flow which, with its very limited amount, points to the separation of the ligature as the source of the escape.

Would it have been a wiser method to have adopted that mentioned as Sir A. Cooper's, by Mr Teale and Mr Erichsen, viz., cutting off the ends of the ligature close to the knot, by which, as in the case of wound, the detached ligature effects its escape by ulceration into the bowel? I think not; for if adhesion be imperfect, and feculent or flatal escape be established, it is surely as well that a free channel of escape be provided than risk the fatal

extravasation, which a complete or even partial occlusion of the neck of the sac from any cause might entail. A painful result, after an illusory period of convalescence.

No doubt, cases have been narrated where a portion of bowel with a small ruptured or ulcerated aperture in its parietes has been returned to the abdominal cavity without employing any measures for securing even a temporary closure of the opening. Such successes are, however, no more worthy argument for the imitation of such practice than the few scattered cases where recovery in cases of unrelieved hernia has followed sphacelation of the bowel, sac, and integumentary tissues, should encourage us to neglect the ordinary operation for relief.

Practically, the adoption of this practice of applying a ligature around any small aperture in the intestinal contents of a hernial sac is not likely to be frequently repeated with success, especially in instances where the strangulation has existed for so long a period as sixty-three hours. But if Mr Erichsen's statement is taken into account, viz., that accidental wounds of the intestinal contents of a hernia have occurred in the "practice of the best and most careful surgeons," that Lawrence, Sir A. Cooper, Jobert, and Liston, have all met with it in their practice,—then we may believe that this class of intestinal wounds may occur again, and the successful issue in this much more unfavourable condition may encourage less distinguished men, should they meet with such an untoward accident, to resort to this method of treatment, and to have a better prognosis than I should imagine their personal feelings, in the circumstances, would be likely to originate.



Excision of the Knee Joint

a description

of a

New apparatus for after treatment

with

Illustrative Cases

By

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Edinburgh

MacLachlan and Stewart

London—Robert Hardwicke

1864



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MEDICAL DEPARTMENT
OF THE ARMY.



Shows apparatus applied to limb, and along by the ankle-hook of suspension-rod from a Salter's Swinging Cradle. Two or three other hooks for suspension are introduced; although sometimes useful, as affording a sense of change of position to the limb, they are not material to the apparatus.



EXCISION OF THE KNEE-JOINT:

A DESCRIPTION

OF A

NEW APPARATUS FOR THE AFTER TREATMENT;

WITH

ILLUSTRATIVE CASES.

BY

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EDINBURGH:

MACLACHLAN AND STEWART.

LONDON: ROBERT HARDWICKE.

1867.

REPRINTED FROM THE EDINBURGH MEDICAL JOURNAL.

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EXCISION OF THE KNEE-JOINT.

PREFATORY REMARKS.

It is with the after-treatment of excision of the knee-joint, more than with any question as to the mode of operation, or the selection of cases of disease of this articulation suited for the operation of excision, with which my remarks have to deal.

I have no intention, for I cannot think now-a-days, after the admirable writings of Sir W. Fergusson and of Messrs Jones, Mackenzie, Butcher, and Price, that it would serve any good purpose to discuss the questions of how far excision of the knee-joint will serve as a substitute for amputation of the thigh, or how far it will bear comparison and rank with other articular resections with which in this country we have long been favourably acquainted.

I should prefer, so far as I am concerned, to accept it as a settled point, that excision of the knee-joint is a good operation, one which has, in so many different hands, yielded such successful results as to render its admission into the common list of operations, not only defensible as something more than an experiment, but justifiable as being an accepted procedure of modern surgery.

I am perfectly aware that such a position is denied to it by some surgeons of repute. Their hostility, however, may be traced to different causes, in some to their ignorance of the procedure, as at present employed; in others, to their jealousy of the success which has

crowned the efforts of the chief promoters of the operation; and in others, to an unfortunate want of success in its employment, which speculatively might be said as reasonably to indicate something blame-worthy in the unsuccessful operators themselves, as in the operation which they refuse to recognise.

The procedure, as revived at the hands of such men as Sir William Fergusson and Mr Jones of Jersey, has stood the test of a sixteen years' trial, during which it has been performed by the chief surgeons of every medical school, not only in this country and in its dependencies, but upon the continent of Europe, and has gained a verdict, if not upon all the issues which its adoption involves, yet upon so many of them as to render its future progress, in civil practice, no doubtful matter. Many of those who at first opposed its employment have changed sides in this controversy; some have passed away from this, as from all else, on this side of time; and those who still continue stout in their opposition to what they regard as a dangerous innovation, have probably done as much to diffuse a knowledge of the operation by attracting the attention of others who would never have concerned themselves about the matter had it not become a subject of dispute, as any ill which may have accrued to the operation from their energetic denunciatory efforts, or their abstinence from its practical employment.

There are two reasons, it seems to me, which may encourage any one whose experience of the operation has been satisfactory, to do what he can to extend his own favourable opinion of it. The one is, that it is still practically excluded from military surgery; the other, that even in civil life the substantive objections taken to the operation apply to what may be regarded as contingent and remediable evils.

Mr Park, the great originator of this procedure, with characteristic modesty, insists in the letter in which he describes his new operation to Mr Pott, "I am conscious that the mode of operating, which I have described, is by no means perfect, but still stands in need of the finishing hand of a more able master." Several such hands as he desiderated have been engaged in the process of per-

fecting it for more than half a century (even excepting the period of comparative oblivion into which it was permitted to fall), and still there are some who regard the procedure as far yet from the standard of perfected art. It may not therefore seem, I hope, a too ambitious effort which I would propose to myself, if I enter the field in which the greatest men of our age in surgery have been engaged, setting before me no greater work than that of gleanings after them, and endeavouring to add a little grain of practical experience to the great harvest wherewith their labours throughout a long day have been so deservedly crowned.

CHAPTER I.

DESCRIPTION OF THE APPARATUS AND ITS APPLICATION.

SHORTLY after the restoration of the operation of Excision of the Knee-joint to the list of creditable procedures by the precept and example of Sir William Fergusson, followed by the gratifying successes which attended upon its practice by Mr Jones of Jersey, the late Dr Richard Mackenzie of Edinburgh performed excision upon four patients suffering from disease of the knee-joint. Two of these were adults, two were adolescents. All these cases came more or less immediately under my charge as his house-surgeon. Thus my attention was early directed to the subject, and I confess that, notwithstanding excellent results in the adult patients, I then formed a very unfavourable opinion of the procedure chiefly on two grounds:—1. The extreme difficulty I experienced of maintaining the limb at rest, and in good position, during convalescence; 2. The risk encountered by the formation of extensive bed-sores during the necessarily long period of confinement to bed, required by the methods of after-treatment of the limb then in use.¹ These very manifest practical difficulties certainly gave great countenance to the opinion, then somewhat strongly expressed by the greater part of the profession, against the adoption of the operation as a substitute for amputation, and led to its all but universal rejection by military surgeons. Even one of so fair and judicial a mind as Sir George Ballingall, while he taught the operation in his surgical class, and

¹ The apparatus employed by Dr Richard Mackenzie was precisely that more recently recommended by Mr Butcher of Dublin, see page 14.

descanted upon it in glowing terms, as one of the greatest improvements in the surgical procedures of the day, spoke of it "as an operation unsuited for military surgery in the field, where the appliances of a fixed hospital could not be depended upon."

Mr Guthrie, also, speaking favourably of excision for gunshot wounds of the knee-joint, pointedly introduces the proviso, "provided every accommodation, and, particularly, absolute rest can be obtained for the sufferer."¹ With such eminent practical military medical authorities at one upon this point, it is no wonder the influence of their opinions showed itself, in the late campaign in the Crimea, by the rarity of the performance of this operation. In that campaign, excision of the knee-joint was only once had recourse to; then, as a secondary operation, and with a fatal issue.² The applicability of this operation to army practice, as regarded from a purely military point of view, may further be gathered from the retrospective remarks of Deputy-Inspector-General Matthew. They are all the more interesting as coming from a man brought up under the auspices of Mr Liston, and assuredly one of the foremost among the operators of that campaign. Though decidedly hostile to its employment, one is glad to see that the ground of objection is found to exist, not in the operation itself, but in the insurmountable difficulty of the after-treatment. "Gunshot wounds," says he, "of the knee-joint are generally looked upon as demanding either amputation or excision; and, were these operations attended with less danger, it might seem advisable to have recourse to one or other in almost all cases where the bone is implicated beyond the most trifling amount, for there can be no doubt that the risk to life from such a wound treated without operative interference is very considerable. Unfortunately, however, the experience of the past war demonstrates but too clearly that amputation of the thigh after

¹ Guthrie, "Commentaries on the Surgery of the War in Portugal, Spain, France, and the Netherlands." Fifth edition, p. 94.

² Medical and Surgical History of the British Army during the War against Russia, vol. ii. pp. 352, 379.—Macleod, Notes on the Surgery of the War in the Crimea, p. 349.

gunshot injury is a very formidable operation, terminating fatally in a large proportion of cases, while the difficulties to be encountered in disposing of a case of resection of this joint during active service, and when the removal of the patient may at any time become necessary, will probably always render the success of the latter operation in field surgery very doubtful."¹ And again,—

"Resection of the knee-joint has only once been attempted, and then as a secondary operation; and considering how vitally essential to its success is the most complete immobility of the limb after its completion, it remains doubtful if the operation will ever be practised to any extent in the field hospitals; and before proceeding to its performance the surgeon will always require to weigh well the possible circumstances in which his patient may be placed during the progress of the case."²

Macleod, too, referring to the circumstances of a campaign as experienced in the Crimea, expresses himself as unfavourable to the procedure; but that opinion is arrived at only because the difficulties in conducting the after-treatment seem insuperable. "Admiring, as I do, the brave attempts which have been made in civil practice to save limbs by excising the knee, I regret that it should not also be extended to military practice; but except in rare circumstances I fear that cannot be accomplished, from the careful after-treatment, and the long period of convalescence necessary to effect a cure."³

Although Professor Longmore does not enter into any consideration of the question of excision in military practice, his statement in cases suited for such an operation is positive against its employment. "When the fracture is comminuted, and affects the knee or ankle-joint, opening the capsule, amputation is necessary. The

¹ Medical and Surgical History of the British Army during the War against Russia, vol. ii. pp. 352, 379.—Macleod, Notes on the Surgery of the War in the Crimea, p. 349.

² Notes on the Surgery of the War in the Crimea, with Remarks on the Treatment of Gunshot Wounds. By G. H. B. Macleod, M.D., F.R.C.S. 1858. P. 354.

knee-joint was once excised in the Crimea, but the patient died: as was the case in the only instance where this operation is known to have been performed for gunshot injury in the Schleswig-Holstein campaign."¹

The late Dr John Brown, in his Notes on the Surgery of the Indian Campaign of 1857-58, remarks: "If there is a class of cases in military practice which demands that the knife should follow the wound, it is this class in which the knee-joint is injured by a musket ball. Occasional recoveries do not affect the question at all; for operative measures should always be had recourse to when there is no chance of recovery without them; and that chance is too remote to be considered in comparison with the greater chance of a fatal result in this form of injury. The operation of resection of the joint, while still doubtful in most cases of disease, seems to me to be applicable to some of the cases of gunshot injury of the knee, provided there be little injury to the bones, and the camp be a standing one; in marching armies the operation is decidedly inadmissible."²

These extracts I have made in illustration of what I have already stated,—viz., that the great practical objection in connexion with the introduction of this operation consists not in the operative procedure itself or in the fatality as compared with amputation, but in the difficulties which have been found to attend on the after-treatment of the case. The operative procedure of itself is admittedly easy of performance, requiring no greater skill than an amputation, preferable surely to an amputation in the case of a wound of the knee-joint, when the injury inflicted on the articulation is confined to the epiphysis of either bone entering into the formation of the joint, because attended with less mutilation, and certainly entailing less life risk, requiring no great amount of skilled assistance, for no bloodvessel of importance is wounded; but rejected, as we have

¹ Holmes' System of Surgery, vol. ii. p. 84.

² Notes on the Surgery of the Indian Campaign of 1857-58. By John Brown, M.D., Assistant-Surgeon Bengal Medical Service. Edinburgh Medical Journal, Sept. and Oct. 1860.

seen, from two considerations: 1, The difficulties which are supposed to attend upon the after-treatment; and 2, The impossibility, by means of any apparatus in common use, to afford such an amount of immobility of the limb, combined with freedom from restraint, as shall permit the sufferer, if need be, readily to be removed from place to place. Similar objections taken to the effort to save the limb after gunshot or compound fracture of the thigh, which has usually sacrificed all these cases to primary amputation, has assuredly been met, in a large number of cases during the late war in America, by means of a simple method of effecting continuous extension.¹ The cases so treated have resulted in saving limbs scarcely, if at all, shorter than their fellows, and of so seemly a form and contour that nothing better could possibly be desired. If such a result, so unexpectedly favourable, has been attained in the analogous, though, I think, more serious, injury of gunshot fracture of the shaft of the thigh-bone, it seems unreasonable to doubt that in cases of excision of the knee, were an apparatus designed for the after-treatment which, while simple and readily obtained, admitted of the easy removal and application of dressings, and permitted the movement of the patient's body and limb, without any disarrangement of the original adjustment, a like favourable result would, even in the difficulties of a campaign, or on shipboard, be found to attend upon the employment of this resection.

The methods adopted for maintaining repose of the limb after excision of the knee-joint, since its earliest employment, have been various. First and foremost, there is the "*case of tin*" sufficiently long to receive the whole limb, from the ankle to the insertion of the gluteus medius muscle," employed by Park on his famous patient, Hector Mc'Gaghen. Since that time (1781), various devices have been fallen upon to keep the parts at rest, varying in the degree of complexity of their construction.

The apparatus employed by the older Moreau, he describes as

¹ Gross, System of Surgery, vol. i., pp. 1034, 1035; Redfern Davies, Esq., Lancet, 6th June 1863.

follows: "This machine was composed of a board, the length of the diseased limb. It was bevelled at the upper end, that it might not hurt the thigh; and scooped out before, that it might receive the heel. It terminated in a sole; and at the side it had ledges of wood, which slipped easily into grooves; and as those ledges rose higher than the dressings, there was no need of a basket to bear up the bed-clothes. I likewise prepared cushions of baked hair, one of which I put between the limb and the underboard, and the other two I placed, one on each side, between the limb and the side boards. The foot rested against the sole, to which it was fixed by a tape."¹

The splint recommended by Mr Butcher of Dublin, and with the aid of which he has produced such admirable results in resection of the knee, closely resembles the splint of Moreau. "A wooden case which I had made for the purpose. The sides were attached to the back part by hinges, so as to allow of being let down at the time of dressing; they were likewise of unequal length—the internal extending nearly as high as the ramus of the pubis, while the external passed up to the axilla, similar to the long splint used by me in fractures of the thigh; the lower end of each lateral piece presented on the inner surface a number of grooves, about an inch apart, so that when the sides were elevated, the foot-board was received into any opposite pair of them, according to the distance required. This lower piece acted in two ways; not only did it maintain the foot at a right angle with the leg, but it steadied the sides and prevented their being pressed inwards from their vertical direction, by the tapes and buckles which girded the apparatus on the outside. The box was supplied with hair cushions carefully adapted to its entire extent, some being covered with oil silk. In addition to the posterior, lateral, and foot support, a broad splint well padded had to be placed over the anterior surface of the thigh, extending from a little below Poupert's ligament, as far as the junction of the upper and middle thirds of the leg, and secured

¹ Jeffrey's Cases of Excision of Carious Joints. By H. Park and F. F. Moreau. P. 133.

firmly down by the surrounding web belts, so as to counteract the powerful tendency towards the distortion of the limb forwards. The external side of the case passed up to the axilla, the object being to insure the straight position for the limb. It was kept in contact with the trunk by a wide girth passed around both. . . . The bed was prepared in the following way: A hair mattress was laid over a feather-bed, raised towards the feet; a blanket folded several times was placed over the part on which the shoulders and hips rested; thus the returning circulation was favoured, and the chances of excoriation of the prominent parts of the buttocks guarded against."¹

The late Mr R. C. Price, in a paper communicated to the *Lancet*,² recommended the employment of a splint or apparatus of his invention, which he describes as follows: "The apparatus is an improvement on the ordinary M'Intyre splint. It consists of two concave portions, the upper part corresponding to the lower half of the posterior surface of the thigh, and the other to the entire length of the leg. These two portions are connected by a narrow plate of the same substance as the splint, which is of enamelled tinned iron, and when in position corresponds to the popliteal space. The lower end is provided with a wooden foot-board, which can be regulated by means of a screw and slide to suit the length of the limb. The plate connecting the upper and lower portions, together with the part corresponding to the lower third of the leg, can likewise be regulated according to convenience. When the splint is in position, sufficient support is given to the popliteal space by this narrow plate, and at the same time no obstruction is offered to the daily dressing of the sides of the wound. By the sliding arrangement of the portion of the splint corresponding to the lower third of the leg, a space is left between it and the foot-board, so that the heel, which is very liable to become affected by the slightest pressure when the patient has

¹ Essays and Reports on Operative and Conservative Surgery. By Richard G. Butcher. Dublin, 1865.

² *Lancet*, 24th January 1857.

been confined to bed for a length of time, is left perfectly free. I have had on more than one occasion to regret the formation of a sore over the insertion of the tendo Achillis, which has acted injuriously as a troublesome source of irritation. The outer side of the splint is provided with hooks, whereby a long side splint of wood furnished with corresponding eyes, may be fastened. This splint ought to extend about two or three inches below the foot-board, and to reach a little higher than the crest of the ilium. I have had the two portions connected by a strong round iron hoop, which, if made sufficiently high, enables the wound to be dressed without the inconvenience of disturbing, in any way, the apparatus. The hoop, or arch, also answers the purpose of a cradle in keeping off the bed-clothes when the limb is not placed in a swing. All the advantages of the long splint are thus gained, without the inconvenience of daily removal, and the liability of injurious pressure being made on the outer margin of the wound, in instances where there is great swelling of the soft tissues. The use of the side splint is the same as in fractures of the femur. By it, in conjunction with the perineal band, extension of the thigh is regulated, and the entire limb kept perfectly at rest."

Dr Frank Hastings Hamilton, in the latest edition of his work upon Military Surgery,¹ recommends "the limb to be laid in a long, well-fitted, and well-padded box or splint. The box may be made of zinc or tin, and supplied with floating sides opposite the knee, to enable the surgeon to dress the wound from time to time without disturbing the limb."

Thus, a simple posterior padded splint, the same with lateral splints, the old-fashioned fracture-box, sand or bran bags, the double-inclined plane or M^cIntyre splint—simple or combined with one or two side splints, with requisite fenestræ—have been recommended by different operators, and have chiefly constituted, in more or less complicated combination, the methods of after-treatment hitherto employed by those whose efforts have been

¹ A Treatise on Military Surgery and Hygiene. By Frank Hastings Hamilton, M.D. New York. Pp. 516-17.

directed to obtaining firm ankylosis. By Langenbeck the immovable plaster-of-Paris apparatus has been recommended, and I am informed, constantly employed in the early period of after-treatment; in the later, passive movement of the limb is commenced, with the view of obtaining a movable articulation in imitation of the natural joint.

In the cases of excision practised by Dr R. Mackenzie, and in two of the cases under my own care, I resorted to the use of several of these devices, but found them inconvenient and irksome in the last degree to both patient and surgeon. In all of them I found, that while the leg and foot were certainly fixed with security, and frequently immovably, the thigh followed the movements of the body, and, consequently, a greater or less degree of displacement resulted in proportion to the restlessness of the patient. The displacements of the thigh I found, as described by every operator, to be of two kinds, rotation in a direction outwards, and abduction with a slight degree of projection forwards. These displacements, I furthermore found, could not be overcome when they had once occurred, without giving great pain, and without the complete re-application of the apparatus.¹

¹ Both Mr Park and Mr Syme allude to this difficulty. July 5th.—"Had not passed so good a night, complaining much of pain in the back from posture."

10th.—"His bed becoming very uncomfortable, he was removed into a fresh one."

12th.—"Spasms in the thigh."

14th.—"Spasms still troublesome; had gotten the limb into a bad position, in consequence of turning too much on the side—the posture in which he has been accustomed to sleep for several years, but at present a very unfavourable one, as by this means the end of the femur was raised too high, and cast outwards: this was rectified, though not without some pain and trouble. It may be sufficient to mention here, once for all, that this circumstance gave me a good deal of trouble at different times during his whole confinement."

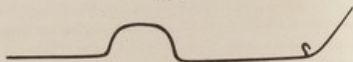
March 23d.—"The knee very slightly bowed outwards, owing to the difficulty of keeping him in a good position, which I have already mentioned"—Mr Park's case of Hector M^cCaghen, pp. 27, 28, 36.

"In order to prevent displacement of the bones, which all our efforts had been insufficient to effect completely, I cut away about two inches of the femur

It was in such circumstances that, about two years ago, I devised the following apparatus, which I have employed in every instance since that time in which I have performed the operation of excision of the knee. Since my introduction of it to the attention of my colleagues in the Infirmary, it has, I am glad to say, met with their sanction and practical approval, having been most successfully employed by Professor Spence and Dr Gillespie in several cases. I have also understood, from the communications of friends and former pupils, that it has received even already a wide reputation, not only at home, but even abroad, commending itself to the attention of practical surgeons chiefly on account of its simplicity, comfort, and ease of application. It consists essentially of two parts—1. A suspension-rod made of iron, about the size of No. V. of trade wire gauge; 2. A modelled Gooch splint, long enough to extend from the tuberosity of the ischium to beyond the heel.

The suspension-rod extends from the groin to the extremities of the toes, and is bent to the outline of the limb, departing from it only in the situation of the excision, where it forms a bow or arch. To the upper surface of the rod are attached one or more hooks by which the suspension is effected.

FIG. 1.



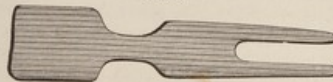
Suspension-rod for front of limb—the arch corresponds to the site of excision, the suspension-hook to the ankle-joint, upper end should terminate at the fold of the groin.

The Gooch splint should not be made too wide, and should certainly not surround the thigh and leg to more than two-thirds of their circumference. It should be scooped away laterally, at a part corresponding to the site of the excision, and should have an aperture cut corresponding to the tendo Achillis and heel. The inferior

with the pliers, and then observed with much concern, that the bone was denuded beyond the farthest extent to which my finger could reach."—Syme on Excision of Diseased Joints, 1831, p. 139.

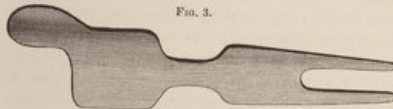
extremity of the splint is thus of a horse-shoe or stirrup shape, and admits of the ankle and foot being supported by the lateral horns of the splint, as they fold on each side of the malleoli, without the risk of inordinate pressure being made upon the tuberosity of the os calcis.

FIG. 2.



Posterior "Gooch" splint of ordinary form—hollowed out in each side on the level of the operation wound, and cut out at the lower part in a horse-shoe or stirrup form, so as to relieve the heel and tendo Achillis from any pressure.

FIG. 3.



Alternative form of "Gooch" splint for excision, hollowed out as in Fig. 2; the rounded part above, adapted to the os innominatum, and secured by means of strips of adhesive plaster.

In application, the limb is first laid and carefully adjusted upon the posterior splint, which should preliminarily be padded with lint, and covered with gutta-percha tissue, or hot paraffine, in the situation which corresponds to the site of operation. The iron rod is then placed in front, and folded lint laid between it and the limb at the groin (where the rod terminates above), at the upper part of the tibia, and at the bend of the ankle. These two parts of the apparatus are then retained in contact with the limb by means of an open-weave roller bandage applied from the toes upwards, the site of the incision alone being left uncovered. The whole is then rendered immovable by means either of plaster-of-Paris applied by the hand, of a consistence like thick cream, or of paraffine, which, having been rendered temporarily liquid by heat, is

applied by a large painter's brush. When the application has solidified, the patient may then be removed to bed, and the limb suspended from the running pulley of a Salter's swinging cradle, or from the roof-bar of the common iron-wire cradle employed to support the weight of the bed-clothes. I do not regard it as a matter of indifference whether plaster-of-Paris or paraffine is used. Each has its advantages. The plaster-of-Paris is firmer and not liable to be affected by heat like paraffine, but it has the disadvantage of permitting soakage or discharge; it takes longer to consolidate, and when consolidated, is less easily clipped through by means of bandage-shears than the paraffine apparatus. I have of late, in the treatment of excisions and of compound fractures, employed the plaster-of-Paris as the substantial substratum, and thereafter applied the paraffine over it as soon as consolidation and drying has become complete, so as to secure its greater toughness, and its complete impermeability to fluids of any kind, whether blood, serum, or pus, from the line of incision, or water from the wound. The foot and limb should not be much raised above the level of the mattress upon which the patient lies, as this is apt to lead to an awkward position of the limb when the patient first begins to move about. When in bed, the sacrum and hips must be protected from all risk of inordinate pressure, by means of a large square corrugated air-cushion completely covered with a blanket and draw-sheet. This will be found to be most evenly and comfortably supported upon a firm hair-mattress, laid either on a thick hair-palliasse, or better, a spring-bed. The patient should be encouraged to sit up as much in bed as he can, even within a day or two of the operation, and as soon as it is possible should be removed out of bed during the day, either to another bed or couch, or should such not be attainable, to a mattress laid upon the floor. In sitting up, the air-pillow placed beneath upon the seat will be found a great comfort, as it admits of easy relief to the irksomeness of maintaining nearly the same sitting posture for a period of several hours.

The chief merits which I have observed in this method of after-treatment are:—1. The comparative comfort the patient experiences from the ease with which he can shift his lying posture or assume the sitting position without disturbing the adjustment; 2. The facility with which dressings are applied without detaching or removing any portion of the apparatus; 3. The permanence of the apparatus, never requiring, when properly applied in the first instance, to be renewed during the whole period of after-treatment; 4. The ease with which the apparatus can be obtained, its simplicity and cheapness.

A few words in explanation of these advantages may seem opportune.

1. *The comparative comfort the patient experiences from the ease with which he can shift his decubitus, or assume the sitting posture, without disturbing the adjustment.*

From what I have premised, it is manifest that the plans of treatment previously adopted imply either a persistent recumbency, the limb being steadily fixed to an immovable apparatus, which, lying upon the bed, admits of no adjustment corresponding to any accidental or intentional movement of the patient's body, or the employment of a lighter apparatus less calculated to maintain accurate apposition, but which, being adapted to the sling of a Salter's apparatus, admits of some degree of movement on the part of the patient.

Between the two plans, certainly the latter is in many respects to be preferred. It has the clear gain of admitting of some degree of motion of the trunk, and is therefore less irksome and less likely to be accompanied with the formation of bed-sores.

But this alleviation of the uneasiness attending upon the continued maintenance of one posture is somewhat shorn of the benefits it undoubtedly confers, by the apparatus, partly from its weight, partly from its exerting a greater purchase on the leg and foot than upon the thigh, admitting of some degree of displacement in the direction of rotation outwards, abduction and advancement of the thigh-bone.

The fixed apparatus treats the case as one of fractured thigh-bone, combining in its construction the old fracture-box with the long splint of Desault. Here the limb is steadily fixed to the bed, and the leg is therefore, to all intents and purposes, immovable as the bed itself; while the thigh, subject to constant displacement, shifts the accuracy of adjustment with every effort on the part of the patient to raise himself in bed, or to shift the position of his buttocks. But as any such movement must be at best limited, the chief risk to be encountered with this apparatus is the formation of bed-sores on the sacral region. Another serious objection to this method of treatment has, however, been found to obtain in practice, viz., that in spite of every contrivance to prevent the displacement of the lower end of the femur at the site of operation, or to reduce it to a minimum, some degree of displacement will and must occur. For example, a patient cannot long lie in the recumbent posture without some degree of sinking of the buttocks into a hollow in the bed produced by the intrinsic weight of the part; this, if the thigh is free, is followed by a commensurate tilting of the femur in the direction of flexion, abduction, and rotation outwards. If the thigh is fixed, this of course cannot take place to the same degree, but must occur in some measure. Lest this objection should be considered a merely hypothetical one, I may mention, in addition to the undoubted fact, that such displacements are observed in nearly every case where the operation has been performed which I have had an opportunity of examining—explain them as we may,—this sinking of the pelvis is recognised by Malgaigne as an important “mechanism” in the production of the well-marked displacement always encountered in cases of sub-trochanteric fractures of the thigh-bone, especially when treated by the long splint,—“Plus tard encore, j’observai que le bassin du malade faisait un creux dans le matelas et attirait ainsi en dedans la tête fémorale, laissant en dehors l’autre bout du fragment supérieur;”¹—and is overcome by him by the following device:—“Je fais coucher le malade sur un lit plat, une large planche passée sous le matelas.” (P. 719.) A plan scarcely cal-

¹ Malgaigne, *Traité des Fractures et des Luxations*, tome i. p. 716.

culated to tempt one to imitate it, risking, as it must in a great degree, the occurrence of bed-sores.

It appears to me, therefore, that the great objects to be desiderated in any apparatus for the after-treatment of excision of the knee-joint are,—1. Commensurate adjustment of the sawn ends of the bones not only at first, or at each dressing, but constantly throughout the whole period of after-treatment. 2. Such equipoise of the whole limb, that the thigh-bone shall be able to follow the inevitable movements of the trunk without losing its proper relations to the tibia.

The light nature of the new apparatus, its equal hold upon the thigh and leg, and its suspension from a single point providing for all these requirements, seems theoretically, therefore, well suited to obtain a satisfactory result. The amount of movement on the part of the patient permitted by this apparatus is infinitely greater and more varied than any other. It permits every possible degree of flexion and abduction or adductive movement of the thigh, so that the patient can incline the hips from side to side without the slightest disarrangement of the apparatus or of the adjustment. By a slight modification of the mechanism by which suspension is effected, the patient can even turn completely upon the sound side.¹ To effect this, a piece of tape or bandage, or a circular wire hoop, if it can be obtained, is passed round the apparatus on the level of the lower part of the calf of the leg, and to this, instead of the hook in

¹ I may here mention that in one of Dr Mackenzie's cases, that of a young lad who sank from exhaustion, after excision of the knee-joint, the difficulty created by the occurrence of bed-sores in spite of the use of every preventive and palliative measure which could be devised, I was obliged to have a large bed-table constructed half the height of the greatest diameter of the ossa innominata, upon which the limb and its splints might be laid, while the patient was turned upon the sound side. This plan, although it relieved the patient's back, and afforded him for days a respite from the dorsal decubitus, was so exceedingly troublesome of adjustment to any variation in the lateral posture of the trunk, that I was obliged to lay it aside and have the limb and its apparatus buoyed upon a large thick air-cushion obtained for the purpose, which, although more comfortable, was not satisfactory in maintaining quiescence of the femur and tibia.

front, the chain of the swinging cradle is attached. If the tape tends to slide over the surface of the plaster-of-Paris case, this can be prevented by the application of some fresh plaster, by which the tape may be at once fixed to the under surface of the plaster case at any level. I have by this device enabled patients, within a few days after the operation, to lie upon the sound side, and thus pass a more comfortable night than on their back. Should they during sleep turn upon the back, the tape sliding within the hook of the chain, or the whole case turning within the wire hoop, permits the limb to follow the movement of the body without awaking the patient, or requiring the aid of a nurse or other extraneous assistance to help him to modify his position.

The patient can also sit up in bed at an early period after the operation. In the second last case of excision of the knee which is narrated in the sequel, on the day following the operation I found, on entering the ward, the patient sitting up in bed combing her hair, and so turned round as to permit her long back hair to fall over the edge of the bed, while the foot of the sound limb was supported upon a seat on the other side of the bed. On inquiry, I found that she had assumed this posture of her own accord without assistance, and that, at even so early a period, neither pain nor displacement followed upon so considerable an amount of freedom of motion. I find that the lightness of the apparatus admits of the patient being easily moved out of bed within a few days after the operation. This I regard as no unimportant matter in securing a favourable result, and in avoiding the risks of pyæmia. It is impossible, so long as a patient lies in one bed, to have that bed made, aired, and properly cleansed, as is essential after an operation, if the health of the patient is to be maintained; even with draw-sheets, air-pillows, and the most sedulous use of all that painstaking care which really good nursing can secure, the patient's health must suffer so long as he is obliged to maintain the recumbent posture day after day in the same bed. I think it, therefore, as no inconsiderable element in the excellence of this apparatus that it affords a wonderful facility for removing the patient from bed to bed, and out of bed to the couch or chair.

Furthermore, I am confident from my experience of the employment of this plan of after-treatment, that it is admirably adapted to the exigencies of a campaign, and that it is likely to prove advantageous to the military surgeon, by enabling him on active service to undertake the operation of excision of the knee-joint in the midst of all the uncertainties of a regimental camp hospital, or even when on the line of march. In other words, the military surgeon may, with it, safely excise the joint where he knows that he cannot have the advantages of a fixed and permanent hospital for his after-treatment of his patient. I must confess that I have had no practical personal experience of this procedure under such circumstances, but having had ample experience of the exigencies and difficulties which do arise and which must be met in the treatment of surgical cases during a campaign; and, furthermore, having made experience of what is to be obtained from this plan of after-treatment, I can say with every confidence, that were I myself engaged in the surgical treatment of patients during another campaign, I should never hesitate to employ excision in preference to amputation in cases of injury of the knee which have hitherto been supposed to require amputation, or from which, at all events, excision has been withheld, not because the operation was deemed improper or insufficient, but because the means necessary for after-treatment were not to be obtained.

It was one of the great benefits Park anticipated as likely to accrue from his successful introduction of this excision into practice, that it should become, in army practice, a means of saving life and limb. Accordingly, writing in 1805, twenty-three years after the publication of his letter to Mr Percival Pott, in which he details with just satisfaction his well-merited success, he sorrowfully remarks,—“I have not yet learned that it has hitherto proved the means of saving a single limb in the whole of the British dominions; and since its publication, this country has passed through a long and bloody war, without this practice being at all adopted, or scarcely known either in the army or navy of Britain.” “However, as we are now but just entering upon the serious part of another war, I hope it is yet in time to do infinite good by preserving a

great number of limbs, if the knowledge of it can be generally diffused through the army and navy." "When I speak of diffusing the knowledge of this subject through the army and navy, I feel myself justified in using this language, by having been assured by gentlemen of the profession, who had seen much service during the late war, that the only idea then entertained respecting wounds of the large articulations, was, that such limbs were to be considered as fit objects for amputation."

Were Mr Park alive at the present day, I fear he would still have much reason to adhere to the same language and still to express the, as yet, unfulfilled wish, that his new operation might prove the means of benefit to his fellow-creatures. He was himself apparently sufficiently aware wherein lay the difficulty, for he remarks further on in the same sagacious letter,—"To the solicitude I have expressed to introduce this practice into the army and navy, it has been objected, that the accommodation in these situations are not always such as to admit of such attempts; and that the hurry of an action may often oblige a surgeon to have recourse to the most expeditious method of saving his patient. These objections I admit to a certain degree. I allow that the excision of the knee may be wholly inadmissible in ships, as the necessary state of quietude can hardly be obtained there for a sufficient length of time to accomplish a cure; and, perhaps, similar difficulties may occur in military hospitals belonging to an army in action."

¹ Subsequent observations by Mr Park, appended to the former work, in Jeffrey on Excision of Joints, pp. 60, 61, 63, 64.

² "The following example we believe to be the only successful case of excision of the knee-joint made for gunshot injuries ever yet placed upon record. The operation was made by R. B. Bontecue, surgeon, U.S.N.; and for this brief history we are indebted to Dr J. W. Lyon, House-Surgeon to the Bellevue Hospital, who is engaged in preparing an elaborate paper on Excisions.—A man, aged 20, was wounded in the right knee, 22d October 1862. The ball passed through a portion of the external condyle of the femur and lodged in the popliteal space. On the second day after the injury, Dr Bontecue removed one and a-half inch of the lower end of the femur with a saw, and with a pair of bone-forceps cut away the exposed surface of the tibia until the bone was exposed. The patella was dissected out. A portion of the wound healed by the first intention; on the twenty-eighth day the wound had entirely closed; and at the end of little more than two months from the date of the operation

2. I have next to consider the special advantages which this method of treatment affords for the application of dressings to the site of operation.

the patient was discharged. There was then 'no pain or tenderness about the joint.'—Hamilton's Military Surgery, p. 514.

Table of Cases of Excision of Knee practised on Account of Gunshot Injury of the Articulation.

	Deaths.	Recoveries.
¹ Textor, senior, 1847	1	...
² Fahlé—Schleswig-Holstein,	1851	1
³ Lakin—Crimea,	1855	1
⁴ Brown—Alumlaugh,	1857	1
⁵ London Hospital—Hutchinson, small shot,	1861	1
⁶ Birmingham case,	1861	1
⁷ Verneuil's,	1863	1
⁸ Bontecue,	1862	1 { "Trough stuffed with hay."
⁹ Heller,	1863	1
¹⁰ Hinkle,	1863	1
¹¹ Bently,	1863	1
¹² Bently,	1863	1
¹³ Homans,	1864	1
¹⁴ Unknown,	1864	1
¹⁵ Bontecue,	1864	1
¹⁶ Rush,	1865	1
¹⁷ Fairfax Seminary Hospital case,	1862	1
¹⁸ Thorne,	1863	1
	18 cases	14

¹ Fuchs' Dissertation, 1854; and O. Heyfelder's *Traité des Résections*, par E. Boeckel. Paris, 1863, p. 106.

² Friedrich Esmerich, *Die Resektionen nach Schusswunden*. Kiel, 1851. Stathams Esmerich, p. 113.

³ Medical and Surgical History of the British Army during the War against Russia, vol. ii. pp. 352 and 379.—Macleod, *Notes on the Surgery of the War in the Crimea*, p. 349.

⁴ Brown, *Edinburgh Medical and Surgical Journal*, October 1860.

⁵ *The Lancet*, April 20, 1861.

⁶ *Medical Times and Gazette*, May 1861.

⁷ *Gazette Hebdomadaire*, November 1862; *Soc. de Chirurg. de Paris, Séance du 10 Juin 1863*.—Ligoues, *Traité de Chirurg. d'Armée*, p. 730.

⁸ Reports on the Extent and Nature of the Materials available for the Preparation of a Medical and Surgical History of the Rebellion. Circular No. 6, War Department, Surgeon-General's Office, Washington, November 1, 1865, pp. 58, 59, 60.

This is no matter of secondary importance either to patient or surgeon. Pain, which can scarcely fail to be excited by the removal of any portion of the apparatus essential to the quiescence of the limb, is thus prevented, while the complete exposure of the line of incision throughout its entire extent admits of a thorough drainage being effected so far as discharge of any kind is concerned, and while the free circulation of air around the area of the operation keeps the parts cooler and more comfortable than they can be when shut in by splints or a box and cushions. In operating, I have hitherto always adopted the semilunar incision, by which the soft parts over the knee, including the patella, are raised in one flap.¹ I have deviated from this plan only in one case of compound fracture of the patella, where the double elliptical incision, originally recommended by Mr Syme,² was adopted as a means of including the bruised and lacerated integument together with the patella, and corresponding to the site of injury. In the semilunar incision the perpendicular length of the flap raised from the front of the knee is about five inches, and the open space left between the bandages upon the leg and thigh amounts to fully six inches. In this space, the whole extent of the line of incision is exposed, and the extreme angles, which correspond to the level of the upper end of the distal epiphysis of the femur, are both the most dependent part of the whole wound, and are at the same time free from all confining dressings. I have accordingly found little trouble with bagging of matter within the excision wound, little occasion for making counter-openings to allow of the escape of pus, and since I employed the paraffine as a varnish to the padding of the splint and to the gypsum, no annoyance from

¹ This long anterior flap incision, originally recommended by the late Dr Richard Mackenzie, and employed by him in three out of the four cases on which he operated, is a modification of the incision proposed by Mr Park in his brochure on this subject, where, in the postscript of his letter to Mr Pott, he says, "Query, May not the end be in some cases obtained by means of a single incision, made transversely half round the joint, so as to divide the lateral ligaments?"—P. 45.

² Syme on Excision of Diseased Joints, p. 133.

either soiling with discharge, or in warm summer weather the formation of maggots beneath the margins of the gypsum bandage. The discharge as a rule has not proved copious; and in some cases I have scarcely ever applied the smallest portion of any dressing to the line of incision throughout the whole progress of the case. In one example, in fact, I employed no dressing whatever, permitting the serosity which escaped immediately after the operation to form an incrustation which remained untouched until it fell away spontaneously.¹

I conceive that the best dressing which can possibly be applied is well-carded tow, which has the power of absorbing whatever discharge flows from the wound without plugging up the orifice of escape, which constitutes a serious objection to the employment of either cotton, lint, or charpie.² It is very rarely necessary to remove the metallic sutures which have been introduced immediately after the operation till the union of the soft parts is complete. These, if not too numerous, and if no great tension occurs from oozing, inflammatory action, or the advent of phagedaenism,

¹ Edinburgh Medical Journal, July 1865.

² I am glad to find this view of the usefulness of tow as a material for dressing, long since recognised in the Edinburgh Infirmary, confirmed by the experience of Mr Redfern Davies in the late American campaign. "One of the objects in applying lint to a suppurating wound is that it may absorb the discharges. Lint is composed of cotton. If a bale of cotton is immersed in a river for a month, the cotton in the centre of the bale will be found to be upon examination perfectly dry. If the same quantity of picked oakum be similarly treated, it will be found in a few hours to be completely saturated. So, when a pad of lint over a suppurating wound is removed, after having been upon it for many hours, it will be found to be—save at its points of immediate contact—quite dry, and the pus beneath will gush out. Thus the pad of lint acts as a tampon, preventing the free escape of pus, which necessarily burrows in different directions, giving rise to extensive and dangerous abscesses. Now, when *picked oakum* is placed over such a wound, upon its removal the wound will be found dry and clean, the oakum saturated with pus. The picked oakum acts like a syphon, discharging the pus as it is secreted by capillary attraction, and, partly from its fibres being tarred, is a very excellent antiseptic, and removes all unpleasant odour."—*Lancet*, June 6, 1863.

will usually be found to retain their position, maintaining satisfactory apposition of the edges of the wound, without exciting any irritation. It is usually well to leave the dependent angles of the wound for fully an inch without any sutures, that a free drain for blood and fibrinous serosity may be afforded in the early period of the case, when the confinement of either in a decomposing state would determine more extensive after-supuration than would otherwise in all probability have occurred. Immediately after the operation, however, after securing the actually bleeding vessels, and applying the immovable gypsum apparatus, without introducing any sutures, I am in the habit of applying a common roller bandage firmly around the knee, so as to afford a temporary support to the flap, and thus prevent as far as possible the distention of the cavity with blood clot. To do this satisfactorily, openings in the bandage must be left or made at two points corresponding to the angles of the incision. Were this not attended to, the bandage, while by its pressure it restrained the oozing in some measure, would only the more certainly confine the blood which oozed out after the closure of the wound. This bandage is, however, merely a temporary one, to be removed in about six or eight hours after the operation, when the sutures should be introduced.¹ Should acupressure have been employed in the operation, the needles may safely be withdrawn at the same time.

3. *The Permanence of the Apparatus.*—As a rule, I never have required to shift the apparatus, from the moment of its first application, till it is finally removed,—consolidation of both soft and hard parts having advanced so far as to render this safe. In my earlier cases, I have done so if the discharge undergoing decomposition has rendered the splint or margins of the gypsum bandage in any degree offensive. Latterly, the paraffine, as a waterproof varnish

¹ I am strongly impressed with the advantage to be obtained by employing carbolate of glycerine or carbolic acid diluted with twelve volumes of olive oil, as a disinfectant solution with which to sponge out the wound and in which to soak the tow employed as a dressing from the commencement to the termination of the case.

for both splint and gypsum bandage, has rendered even this unnecessary.

In this respect, the apparatus contrasts strongly with the other measures recommended for effecting retention during the after-treatment, and tends, therefore, to render the progress of the case a much more agreeable one, both for the patient and his surgeon.

I can quite conceive that the permanence of the apparatus may, in certain circumstances, form a theoretical objection to its employment. One is so ready to think that a permanent apparatus which does not yield, which covers up the greater part of the limb concealing it from observation, must be liable to impede the circulation of the extremity, to cause constriction or undue pressure at some part, to interfere with swelling, in fact, to preclude that constant and close attention to every part of the limb during the after-treatment which, by some, is considered an essential of any good apparatus. To those who have familiarized themselves with the employment of the starch, dextrin, gypsum, or paraffine apparatus, in the treatment of fractures, and especially of compound fractures, this objection is not likely to have much weight; and, when we recollect how safely the patient's sensations of ease, or the contrary, may be taken as a true exponent of the progress of matters within the hard case, the objection to the use of such an apparatus in the treatment of excision of the knee will at once be removed. Should we wish to remove the apparatus, either partially or completely, at any period of the after-treatment, this is easily effected by shears for the purpose. The powerful curved instruments, with short blades, of unequal length, made by Lutter, of Berlin, seem to me preferable to those (*Suetin's scissors*) commonly supplied by instrument makers in this country, which, by the length of blade, in proportion to the handles, lose power and accuracy in their application.

4. *The Ease with which the Apparatus can be obtained, its Simplicity, and Cheapness.*—An iron rod, easily procured from any smith, a long Gooch splint, fashioned for the purpose by the carpenter, or made of two common Gooch splints, of a size suited for the thigh or leg, stitched together, and then cut to suit the limb in length and contour,

two *open-weave* bandages, a pound of gypsum, and a couple of ounces of paraffine, are all the requirements. A few points, even in regard to such simple matters, may as well be mentioned. The measurements for the iron rod should be made by the surgeon himself, and in making them, he should commence from below upwards, measuring in detail with a piece of common tape. The measurement from the tip of the toes, to the flexure of the ankle, should first be made for the foot piece; then, from there, to an inch below the tuberosity of the tibia, for the leg piece; then, five or six inches should be allowed for the diameter of the portion of a circle which arches over the knee; and, last of all, the measurement for the length of the thigh portion should be made from two inches above the patella, to the fold of the groin. This allows for the ordinary amount of bone removed in the excision, which usually varies from one and a half to two inches. If these measurements are not carefully taken, the surgeon may find to his annoyance a rod quite unsuited to the limb presented to him for application after the completion of the operation, which will necessarily delay the final adjustment till a properly constructed rod has been procured.

The Gooch splint should not be made too broad, nor of too *thin* wood. The amount and extent of the cutting out on each side of the splint is of less moment. If not sufficient, it can easily be rectified by means of a pocket-knife at the time of the operation. The opening below for the heel and tendo Achillis should, however, be seen to, that it may be at least three-quarters of an inch wider than the transverse width of the tuberosity of the os calcis. If it is not so, it is apt to press unpleasantly, even when well padded, against the malleoli. Should this have been overlooked, and occasion annoyance after the apparatus has been applied, the pressure can easily be relieved at any time by inserting a portion of wood beneath the heel, between the two lateral extremities of the splint, where they project beyond the sole of the foot. This piece of wood, to be of use, must be longer than the greatest breadth of the malleoli.

It has been oftener than once suggested to me that, with the

gypsum bandage, the Gooch splint, or, in fact, any posterior splint, is an uncalled-for addition and complication of the apparatus. I think this is a mistake, for, after the operation, when the parts are very movable and easy of displacement, even when the patient is fully chloroformed, it affords a great additional security that the apposition of the cut osseous surfaces shall be maintained till the gypsum has consolidated, that we can adjust the limb upon a splint. Thus it is rendered more firm than it could possibly be with the rod alone, not only during the application of the bandages, and the application and setting of the cream of gypsum, but throughout the whole period the apparatus is retained. Furthermore, the splint behind serves to diffuse the pressure of the bandage, and to prevent its girdling the limb, and interfering with its circulation. The open weave bandages are preferable to the common cotton or linen bandages, because their open structure fits them better for readily absorbing the gypsum, and forming along with it a tough and hard case, softly padded on its inner surface.

The gypsum may sometimes constitute a difficulty in employing this apparatus. When the plaster-of-Paris is of fresh quality, recently burnt, or, at least, if old, secured from air and moisture since it was first burned and ground in an air-tight case, no difficulty should be experienced. Mistakes may be made by one unused to its application, in mingling it with water; and the usual mistake is rather on the side of making the cream too thick than too thin. The plaster powder can usually be best mingled by being sprinkled into the water from the one hand, while the plaster and water are stirred together with the other. This should be effected in a common wash-hand basin. If experienced in the use of the gypsum, or if possessed of an abundant supply, the whole quantity likely to be required may be prepared at once, just before it is to be applied. If, however, the operator is inexperienced or inexpert in its employment, he may have it made in two or more smaller quantities, so as to secure himself against the plaster hardening too quickly for his rate of application.

I have been asked if this method of treatment is original? I

believe it is. So far as I know, the only anterior suspension splint which has been employed or recommended is that of Dr Nathan Smith, of Baltimore,¹ and that only in the treatment of fractures. The nature of that splint, and its essential difference from the splint and apparatus I have just described, will be at once perceived from the following extract from Professor Gross's work on surgery:²—

"Professor N. R. Smith has for a long time treated fractures of the thigh with great ease and success with what he calls the *anterior splint*. It consists of a single piece, made of wire, of the size of a No. 10 bougie, and bent at each extremity—the whole representing the form of a long parallelogram, 3 inches wide above, and 2½ inches below. It must be long enough to reach from a point a little above the anterior spinous process of the ilium, to an inch beyond the toes, when the thigh, leg, and foot are extended, 3 feet 8 inches being a good average length for adults. The side pieces are firmly connected by cross pieces, at a distance of about 8 inches. Thus constructed, the wire frame is easily bent to suit the case in hand. The angle at the tibio-tarsal joint, 6 inches from the extremity, is about 120°, to secure an easy posture for the foot; that at the knee, and the one at the hip are each about 160°,—the latter being 7 inches from the upper extremity. The splint, properly padded, or lightly wrapped with a muslin bandage, and secured to the limb by a roller extended from the toes upwards, is suspended, by means of a pulley, cord, and loops, to the ceiling,—a compress being placed upon the instep, and another upon the groin, to ward off pressure. The proper position of the hooks is a matter of great consequence. In general, the upper one should be attached nearly over the seat of the fracture, and the lower a little above the middle of the leg,—the object being thoroughly to equalize the pressure of the splint. The roller confining the apparatus should

¹ See Treatment of Compound Fractures of the Thigh from Gunshot Wounds. By Redfern Davies. *Lancet*, 6th June 1863.

² A System of Surgery. By Samuel D. Gross, M.D., Philadelphia. 1862. Pp. 1033-34.

be well stitched, to prevent it from slipping, and great care taken that it do not make undue constriction. This apparatus, the efficacy of which has been thoroughly tested in numerous cases, is exceedingly light and comfortable, and is equally well adapted to fractures of the thigh and leg, in every portion of their extent."

This apparatus of Dr Smith would, I have no doubt, be perfectly capable of adaptation to cases of excision of the knee, just as it is for cases of compound or gunshot fractures of the thigh or leg, or for cases of excision of the head of the femur; but the advantage over the single rod apparatus would, I think, be more than doubtful. Its double line of wire on the outer and inner side of the anterior aspect of the limb would, I should fear, give rise to a considerable interference with the line of incision, while the want of the posterior splint and the adherent gypsum bandage, which forms an essential part of the apparatus I now recommend, would detract considerably from the firmness and immobility of the leg and thigh during the process of gradual healing and consolidation.



CHAPTER II.

ILLUSTRATIVE CASES.

THE ensuing cases will serve, I trust, to exhibit the effects of this method of treatment. They, at the same time, illustrate the nature of the cases in which the operation has been resorted to, and the progress made under very various forms of disease, conditions of constitution, age, and of external circumstances. I have thought it well to enter into particulars and details, as I believe such minutiae confer an additional value to the narration, and afford data for those who have not seen the cases, nor employed this operation or mode of after-treatment, for arriving at their own conclusions as to its expediency.

CASE I.—W. F., aged 24. A farm-servant from Ayrshire. Admitted to Chalmers' Hospital on the 24th May 1864, under Dr Watson's care.

This lad has suffered for four years from a chronic affection of the left knee-joint, consequent upon an injury received in the stable. From the account given by the patient, the joint appears to have been violently wrenched, then to have inflamed, and to have been greatly swollen. After a brief period of quiescence, which had permitted the first effects of the accident to subside, he had once and again attempted work, and as frequently been laid aside. This alternation of repose and work continued for some months, till he was obliged to give up his place, and, from want of means and friends, he had no resource but to become an inmate of the poorhouse. While there, after severe and long-continued suffering, an abscess

formed in connexion with the joint, and discharged itself by lateral and posterior openings. This occurred about a year since.

On admission; *generally*, the patient is extremely feeble and anæmic. His appetite is voracious. He has lately suffered from diarrhoea, and is subject to copious night-sweats. He cannot sleep without opiates. *Locally*, the knee is bent at nearly a right angle. There are several openings from which purulent matter is copiously discharged, especially from a large aperture on the outer side. A probe introduced at this sinus comes in contact with the posterior surface of the condyles of the femur in a carious condition. The slightest effort to move the limb occasions excruciating pain.

After a few days' repose to recover from the exhausting effects of his journey, excision of the knee-joint was performed by the long semilunar flap operation. After laying bare the condyles of the femur, the patella was detached from between the condyles of the femur, by means of the bone-pliers, the flap of soft parts, including the patella, now turned upwards, was released from its attachments to the soft parts by a few sweeps of the knife. The articulating surface of the femur and tibia were then found partially ankylosed, and all traces of the crucial ligaments gone. The leg was accordingly forcibly flexed upon the thigh till the heel was brought in contact with the buttock. The extremity of the femur thus exposed, projected from the wound, and was seen to be riddled with worm-eaten cavities. The whole extent of disease, limited by a line passing through the spongy texture of the bone, just above the inner condyloid pit, was removed by a few strokes of a saw, provided with movable back. Space was now obtained to clear the posterior aspect of the head of the tibia, the knife being carried close to the bone, so as to avoid the popliteal artery. A thin slice of the head of the tibia was removed by the saw, applied from behind. The entire extent of bone removed was close upon an inch and a half, but rather less. The rough torn surface of the patella was smoothed by means of the gouge. Five vessels were secured. The limb was temporarily placed upon a common gooch splint, well padded, and secured in its place by roller bandages. The patient

was carried to his bed, which had been meanwhile carefully arranged with a water-pillow and draw-sheet. To maintain repose two thick round sand-bags were placed on either side of the limb, which was kept in a state of rigid repose by broad pieces of flannel bandage. These were placed over the thigh and leg on four different levels, so that when carried beneath and around the sand-bags, and pinned in front, the weight of the bags secured the immobility of the limb. A large opiate was administered, so soon as the patient had sufficiently emerged from the chloroform as to be able to swallow. During the ensuing week he suffered severely from sickness and entire loss of appetite, only partially relieved by ice and bismuth. The retching and restlessness consequent on this unfortunate state of stomach, produced so much disquietude of

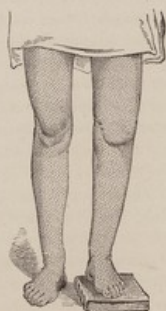


FIG. 5.—CASE I.

the limb, and such a tendency to displacement of the osseous surfaces that the sand-bags were removed, lateral splints adjusted, and the limb and apparatus laid in the Salter's swinging-cradle. This afforded very great relief, permitting any degree of movement which was wanted, but was found inconvenient, from the necessity of

taking off the side supports each time the dressings were changed. To obviate this, the movable gypsum apparatus, already fully described, was applied.

8th June.—The sutures were removed, the entire surface wound having soundly healed. The only openings which remained being those of the old sinus.

The sickness has completely gone. His appetite is re-established—he is free from pain, and is usually sitting up all day long, with the sound limb hanging over the side of the bed. In the middle of July, after all discharge had ceased, except a drop or two in twenty-four hours, he was attacked with rigors, followed by some degree of swelling about the joint, and an increased amount of discharge from the sinus, which had nearly closed. This exacerbation was attributed to his catching cold, as he spent most of his time smoking in the lavatory of his ward. The abscess which resulted required careful management, numerous counter-openings having to be made. This unfortunate intercurrent inflammatory attack, although delaying the ultimate cure, did not in the least interfere with the satisfactory progress of the consolidation of the osseous surfaces, which in August was so complete as to enable him to move about without the employment of any support to the limb.

He was retained in hospital, however, till the 25th of January, till, in fact, he was fit for work, the sinus having entirely healed, and the limb having so regained its strength and muscular energy as to enable him to walk about with ease, without further auxiliary aid than a cork heel in the inside of his boot, corresponding in thickness to the amount of bone removed in the operation, and amounting to nearly an inch.

CASE II.—A. M., æt. 30, a servant, was admitted into Chalmers' Hospital on 3d February 1865.

Patient states that more than a year ago she sustained a severe bruise of the right knee-joint, in consequence of a fall upon the stair in carrying coals. This occasioned considerable pain and swelling at the time, but with repose, and some degree of relaxation of work,

she continued in her place till the ensuing term. The pain has, however, never altogether subsided, and she walked very lame all that time. She states that the pain has always been increased by exercise, change of weather, or alternations of temperature, and that she has frequently been obliged to spend whole nights sitting up in bed through sheer pain. After leaving her place, finding herself incapable of work of any kind, and being destitute of means or friends, she was obliged to seek parochial relief. She was then admitted to the workhouse, and was transferred to the sick ward of the establishment. There she had remained ever since, with the exception of two occasions, when she had been placed under surgical care elsewhere; but as the only relief then suggested consisted in amputation, she refused to submit, and returned to the parish infirmary.

When admitted to Chalmers' Hospital, she was weak and bloodless, much emaciated, though cheerful and full of hope. Her appetite was good, but her sleep at night was broken in consequence of the pain in the knee. The whole limb was much shrunken, the knee was flexed at nearly a right angle, and firmly ankylosed in that position. The slightest pressure over the head of the tibia, or inner condyle of the femur, gave rise to very great pain.

She was quite ready to submit to any treatment except the removal of the limb.

As her condition was as favourable as it was likely to be at any future period for the operation, and as her sleepless nights demanded some speedy relief to suffering, the knee-joint was excised upon the 8th of February. The operation was practised in the method usually employed by Dr Watson. That is to say—having been fully put under the influence of chloroform, the patient was placed upon the operating table, and the sound limb being confined by means of a towel to the leg of the table, the tourniquet was applied. An incision was then made, commencing above and a little behind the external condyle of the femur, and, with one curvilinear sweep brought down towards the tuberosity of the tibia, then onwards and again upwards, when it terminated at a point exactly opposite to its

commencement, and on a level posterior to the inner condyle. This flap having been dissected up as far as the lower margin of the patella, that bone was detached by the bone-pliers from its ankylosis with the condyles of the femur. The adhesions between the posterior part of the articular surface of the femur and head of the tibia were now broken up by an assistant forcibly flexing the leg upon the thigh till the heel touched the buttock. The condyles of the femur now projected from the wound, and were sawn off. The posterior margin of the head of the tibia being cleared for the saw, had a thin slice removed from behind forwards. The bleeding was very copious, but readily arrested by ten needles. No sutures or dressing of any kind applied to the edge of the wound. The limb was immediately adjusted upon the posterior splint, and the iron rod applied with gypsum bandage.



FIG. 6.—CASE 2.

In the evening, as all oozing had ceased, the requisite wire sutures were introduced. The needles were not withdrawn till the next day at the hour of visit.

13th February.—Patient keeps well, perfectly free of pain, and which she somewhat hyperbolically expresses, by saying she is in

heaven. A little serosity escaping from the inner angle of the incision, amounting to about an ounce in the twenty-four hours.

16th.—There is still about a tablespoonful in the day. This fluid has daily been examined by the microscope by my most attentive and painstaking resident surgeon, Dr Coull Mackenzie, and no trace of pus can be detected in it. No dressing. 18th.—The quantity of fluid oozing from the wound is much diminished, and to-day (eleventh from the operation) is found to contain a few pus corpuscles.

20th.—Fluid still scanty. Contains microscopic traces of pus.

22d.—Discharge has entirely ceased.

28th.—Patient well. No discharge since the 21st instant.

10th March.—There is neither pain nor redness about the knee; the soft parts feel firm, and pressure occasions no uneasiness. The patella is firmly fixed to the bone beneath.

31st March.—The last of the crusts which had formed along the line of incision fell off to-day, leaving the whole line of the incision soundly healed.

10th April.—To-day the whole apparatus was removed; the ankylosis was found perfect. The apparatus has never been touched since its original application to the limb, sixty-one days ago.

The shortening of the limb is less than one inch. This is determined by the thickness of the book required beneath the heel to set her straight upon her limbs. This patient has again returned to service, and I lately saw her walking along the street at a pace of more than three miles an hour.

CASE III.—M. M'D., *et* 30. Admitted to the Royal Infirmary on the 28th of June 1866, on account of acute disease of the left knee-joint.

This patient states that for some time past she has suffered severely from pain in the knee, from which she has obtained relief only by the administration of large opiates. She is in a state of great nervous excitement, due partly to pain and feverishness, but

also in part to taking morphia, and perhaps to other habits of intemperance. The knee-joint has become greatly swollen within the last few days, previously throughout the whole progress of the case there has been very little swelling. When I saw the knee for the first time, upon the 29th of June, I found the patient sitting up in bed clasping the thigh firmly between her hands to prevent the muscular twitchings, which are constant. The slightest effort to move the knee causes frightful pain, and gives rise to a sensation of rough grating of two exposed bony surfaces. The patient was put on antimony and morphia, and the operation of excision arranged for the following day.

30th June.—Excision of the joint performed in the ordinary manner. In turning up the flap of soft parts to expose the bones, a quantity of turbid serum, containing flocculi of purulent lymph, and portions of cartilage, escaped. A large mass of fawn-coloured lymph was contained in the upper part of the articulation. The crucial ligaments were gone, and both osseous surfaces completely exposed and spicular. The extent of bone removed from the femur and tibia did not exceed an inch. Bleeding stopped by five needles. Dr Watson's immovable apparatus applied, and the patient removed to bed. A large opiate given as soon as she could swallow.

In the evening the edges of the incision were approximated by wire sutures. Brandy and ice ordered to check the incessant vomiting, which had induced great depression of the circulation.

1st July.—Patient passed a tolerable night, and had some sleep, in spite of the vomiting, which, when awake, is nearly constant. Pulse 120.

10th July.—The vomiting continued with little abatement for three days, the pulse ranging from 100 to 120. Nothing staid upon the stomach, and her restlessness and exhaustion were so extreme that death was apparently imminent. The vomiting resisted the employment of all remedies, but has now gradually subsided since yesterday, when a blister was applied to the epigastrium, and morphia administered, in the form of quarter grain pills, repeated so frequently as to maintain a narcotic effect. The gradual

subsidence of the swelling of the limb, withdrawing it from close contact with the apparatus, together with the constant restlessness, has produced some degree of displacement of the thigh bone. The whole apparatus was accordingly removed and re-applied.

20th.—There is still great gastric irritability, which is kept in check by repeated doses of the effervescing citrate of potash and hydrocyanic acid. The knee is, however, progressing rapidly—there being very little discharge in the course of the twenty-four hours. All that there is escapes by the dependent angles of the wound, while the line of incision in front is perfectly and soundly healed.



FIG. 7.—CASE 3.

8th August.—Wound all but healed. Patient is now out of bed throughout the whole day.

1st September.—Apparatus removed. Wound completely healed. When moving about the ward, to have lateral leather splints applied, and secured with straps. From this period she commenced the use of crutches; and although retained in the hospital till the 25th November, because she had no home to which to go, she might have been dismissed in September, as she was perfectly well, and the

limb healed and consolidated. The shortening amounts to a little over an inch.

CASE IV.—C. M., æt. 21. Admitted to Dr Watson's ward in the Royal Infirmary, on account of disease of the left knee-joint, 1st August 1865.

She states that she has suffered from disease of this joint for more than two years. The disease commenced in the soft textures, accompanied with swelling and stiffness of the articulation. These symptoms increased, and pain became superadded. Latterly the pain has been very great, attended with loss of rest, and starting of the limb. The joint is partially flexed, and the ham-string tendons rigid. The slightest attempt to move the joint, or any pressure over the condyles of the femur, gives rise to great agony. She had twice previously been in hospital, when, by repose, the employment of Scott's dressing to the joint, and constitutional treatment, every effort had been made to check the progress of the disease.



FIG. 8.—CASE 4.

She is now, so far as her general health is concerned, losing ground daily, in consequence of irritation, loss of rest, and impairment of the appetite. She is extremely anxious that something should be done to

relieve her from the disease, and so restore her as to enable her to follow her occupation as a dressmaker.

Excision of the joint was proposed, to which she gladly assented.

8th August.—The joint was to-day excised in the manner usually adopted by Dr Watson, by means of a long anterior flap retaining the patella. Fully an inch and three-quarters of bone was removed. These vessels were secured by acupressure. The apparatus applied, and the patient removed to bed. In the evening, as there was no oozing, the acupressure needles were withdrawn, and the flap secured *in situ* by several points of interrupted wire suture. For the next twelve days, as there was some slight redness of the skin, simple cold water dressing was applied. The patient was quiet, and comfortable, free of fever, and able to take nourishment of a light kind freely.

20th.—The entire line of incision has healed, except at the ultimate *cornua*, from which some purulent discharge still escapes.

6th September.—Lateral apertures reduced to mere points, from which not more than a speck of discharge escapes in the course of twenty-four hours. Dry dressing.

18th.—Wound entirely healed. Apparatus removed. Lateral leather splints applied. The patient desired to move about with crutches.

25th October.—Can walk with little or no inconvenience without the assistance of crutches, a thick pad being placed beneath the heel.

5th January.—Supplied with a boot, the cork heel inside measuring perpendicularly one inch and a half.

CASE V.—G. M., æt. 18, a clerk. Admitted to Chalmers' Hospital, 19th September 1865.

In early life he states that he had suffered from disease of his right knee-joint. He had recovered from this after protracted suppuration. The joint was, however, ever since, more or less tender, and as it was bent to nearly a right angle, he was unable to move about without the assistance of a crutch. As this state of matters forms a serious obstacle to his occupation, preventing his

promotion in the government office with which he is connected, he is anxious to have anything done which will secure a useful and a straight limb.

His general health is good, his complexion florid, his appetite excellent, and in the meantime he has no pain, and sleeps soundly.

The articulation on examination was found to be firmly ankylosed, the patella fixed to the femur, and the hamstring tendons rigidly contracted. There was some degree of increased temperature of the soft parts around the joint, and pressure over the osseous prominences, or jerking of the limb, gave rise to great pain. In these circumstances excision was determined upon as preferable to forcible rupture and extension of the ankylosed limb.

28th September.—To-day, Dr Watson excised the articulation in the ordinary way. The soft parts were found greatly condensed, and adherent to the hard tissues. The cartilage of incrustation entirely gone, and the ankylosis so firm that it required to be partially sawn through before the condyles of the femur could be exposed, by forcibly bending the limb for the application of the saw. The extent of bone removed did not exceed an inch and a quarter; the amount of the head of the tibia to be taken away was determined after the condyles of the femur were removed by the tension experienced on attempting to straighten the limb. The bleeding chiefly came from the surface and margins of the flap; the vessels were secured by acupressure. The limb was arranged in the ordinary manner, with splint and rod; the gypsum bandage was immediately applied, and the patient conveyed to bed.

In the evening, as a good deal of oozing had been going on all afternoon, the flap was raised, a large coagulum removed, and the surfaces left exposed for an hour or two. At the end of this time, as all bleeding had ceased, the acupressure needles were withdrawn, and the interrupted metallic sutures introduced.

29th.—He has been very sick all night, and is quite unfit to take any food. To have ice and soda-water.

30th.—Had a slight rigor, which speedily passed off. The sickness has quite gone, and his tongue is clean and moist. To have five grains of quinine twice a-day.

15th October.—He has progressed rapidly since last report. The sutures were removed to-day, the wound having entirely healed, except at the angles, from which a very scanty discharge, scarcely sufficient to stain the dressings, escapes in the course of twenty-four hours.

30th October.—The plaster of Paris apparatus removed, and lateral splints substituted. To move about with crutches, as union is tolerably firm.

20th December.—He has been perfectly well for more than a month, walking about with the aid of a stick and one crutch, but



FIGS. 9. and 10.—CASE 5.

always complaining of a sharp pricking pain at one spot, at the lower part of the semilunar flap. A few days since, he complained of feeling shivery and feverish; a reddish blush appeared over the front of the knee. This was relieved by a dose of purgative medicine and saline diaphoretics, but there is a small abscess

formed in the line of incision, over the head of the tibia. On opening this about a teaspoonful of pus escaped.

21st.—He says that on removing the dressing this morning he felt something hard in the opening. On examining this I found the twisted wire, which is attached to the eye-end of an acupuncture needle. On laying hold of it with a pair of dressing forceps, and exerting considerable force, I withdrew an acupuncture needle, which must have been interposed between the osseous surfaces since the day of the operation.

30th January.—The wound is soundly healed. He can walk with perfect ease, with a high heel in the inside of his boot. To-day he walked more than half a mile to the photographer, to have a portrait taken of his limb.

CASE VI.—F. M'P., æt. 26, dressmaker. Admitted to Chalmers' Hospital, 25th April 1866.

Patient states that about seven years ago she sustained a severe fall, which produced a dislocation of the knee-joint. This luxation was satisfactorily reduced at the time of the accident, and after a period of rest she was again able to move about. The joint has, however, since that time been stiff, and of late has become increasingly painful, and more and more contracted. About five months ago, abscesses formed around the knee, discharging themselves laterally and posteriorly by three openings. The whole limb is shrunk, and she is incapable of employing it for progression. There is a considerable degree of puffy swelling in the interval between the condyles of the femur and the head of the tibia. The temperature of the soft parts over the joint is increased, and pressure over the knee at any point, or an attempt to move the limb, however gently, gives rise to great pain. There are three openings, two on the outer side, one upon the inner side of the joint, from which matter is copiously discharged. Her general health has failed. She has lost flesh rapidly of late. She sweats at night, and her appetite is gone.

2d May.—The articulation was excised by Dr Watson in the

usual manner, the limb placed in the apparatus he employs, and the patient removed to bed.

During the ensuing six weeks all went on most satisfactorily,



FIGS. 11 and 12.—CASE 6.

and the wound, healing rapidly, had become reduced to two small apertures, from which scarcely enough discharge came in the interval between the dressing to make a mark on them; while, for a fortnight, the patient had been out of bed all the day long, sitting in a chair with the limb and apparatus supported on a bench.

15th June.—A patient lying in the adjoining bed has had an attack of sloughing phagedæna of the side and flank, following the removal of a fatty tumour from this part, from which she is only now convalescent. To-day, the knee-joint has assumed a swollen puffy appearance, the skin is glazed, and of a dusky red hue around the sinus upon both the outer and inner side of the joint, and a curdy offensive discharge issues from the opening. She complains of feeling cold. Her pulse is quick and feeble, her face flushed, her tongue coated, and she has no appetite. To have an emetic,

followed by an opiate, and to commence as soon as the sickness has abated the use of iron in effervescing draughts internally, while the pure Condyl's fluid is applied over the knee.

For the next fortnight the phagedænic ulceration spread, opening up the whole line of incision, which gaped widely, disclosing the osseous surfaces covered with a white pulpy substance. The ulceration next spread towards the outer side of the popliteal space, exposing the external hamstring tendons, and threatening the central part of the space. Chloride of zinc solution was applied by means of balls of cotton wool soaked in Sir William Burnet's solution. These were introduced into the gaping wound, and built up one on another till it was entirely occupied with them; a bandage was then applied, to keep the mass in its place.

That evening the patient passed a quiet night, sleeping soundly, and awaking refreshed and hungry for food.

7th September.—Since the separation of the slough caused by the caustic, the wound at once assumed a healthy aspect, and has cicatrized rapidly. The patient's strength is quite restored, the apparatus has been removed, union of the osseous surfaces is complete, and without the aid of crutches she can walk about the ward. Lateral gutta percha splints are still, however, applied to the limb when she moves about, as a precautionary measure. The shortening is very slight, and measures exactly one inch.

CASE VII.—H. N., æt. 22. Admitted to the Royal Infirmary on the 22d of December 1863, under Dr Watson's care, on account of gelatinous degeneration of the synovial membrane of the left knee-joint.

The disease had continued for several years in the chronic stage, attended with no pain, but characterized by gradually increasing swelling and stiffness of the articulation. Latterly she has suffered occasional attacks of pain, which has subsided under rest and counter-irritation. The knee is generally enlarged, of an ovoid shape, the thigh and leg being greatly wasted. She complains of pain on the slightest movement, upon pressure, and during the night from

spasmodic jerking of the muscles of the limb. Her pulse is excited, her tongue coated behind, and red at the tip. Appetite very capricious, and she is liable to attacks of diarrhoea. For some time she has suffered from nocturnal diaphoresis.

The limb was placed between lateral bent leather splints, moulded to the outline, and clothed with chamois leather, so as to maintain perfect repose. To have quinine and acid before meals, and morphia at bedtime.

10th January.—She has generally been much relieved since her admission; but the condition of the articulation has changed for the worse, in so far as the swelling is considerably increased by the effusion of fluid into the cavity of the joint. The limb was laid upon a wire cradle splint, and the knee covered with hot lead and opium fomenting cloths.

1st February.—Since last report some improvement manifested itself. The fluid became absorbed, in great part the pain subsided, and the general health began to improve, with coincident gain in flesh.

28th February.—Shortly after last report the joint again became more painful, and the swelling was reproduced. The pain has steadily increased. Now the slightest movement, even coming roughly against the bed, causes severe agony. The ligamentous apparatus is so relaxed that lateral movement, accompanied with a rough grating of the osseous surfaces, can be distinctly felt. A troublesome tickling cough has annoyed her for some nights, and the expectoration is streaked with blood. There are symptoms of softening tubercle in the left apex. The propriety of operative interference, which had previously been rejected by her, was again insisted upon. The operation of excision of the articulation was finally determined upon.

4th March.—To-day, resection of the knee-joint was performed in the usual manner. The patella was left, its roughened surface having been removed by the gouge. The extent of the articular surfaces removed amounted to rather less than an inch and a quarter. A large abscess, situated on the outer side of the limb be-

neath the vastus externus, was at the same time freely opened, both in communication with the excision wound, and also by a free and dependent counter-opening at its upper part through the skin. There were five vessels secured. Metallic sutures introduced. A gooch splint was applied behind the knee, extending from the tuberosity of the ischium to the heel, and secured in position by roller bandages, leaving the site of the operation free. After being removed to bed, the limb was kept in position by means of lateral sand-bags.

Vesperi.—Constant vomiting; pulse 120. Ordered ice, brandy, and morphia.

5th March.—Sickness not so constant; some sleep; pulse 100; limb easy. To have essence of beef and brandy throughout the day in small quantities. Water dressing applied over the line of incision.

12th.—Patient has progressed favourably till to-day, when the sickness returned. The mouth and throat covered with aphthous spots. She has a sunken look, and quick feeble pulse 120-130. To have bismuth in scruple doses, with hydrocyanic acid. To be fed on milk and lime-water.

13th, 14th, 15th.—Sickness continues unabated. To have gr. v. of nitrate of silver in an ounce of distilled water, immediately. To have brandy in aerated lime-water, and essence of beef, as she can take them.

16th.—Sickness entirely checked. Aphthous patches on mouth and throat quite gone. The pulse has fallen to 100. Splint, which has become soiled with discharge, removed, and freshly re-applied. The wound looks healthy, though weak.

18th.—Diarrhoea has set in. Pulse 130; very feeble. To have hot fomentations over the bowels, lead and opium pills, and as much brandy and essence of beef as she can take.

19th.—Quite collapsed at the hour of visit, and is unable to take nourishment or medicine. Sank gradually, and died at 6 P.M.

CASE VIII.—Miss I. A., æt. 52. I was requested to see this lady on the evening of the 9th September 1864, having come to

town to place herself under my care, on account of an affection of the knee-joint.

She states that about eighteen months ago she sustained a fall, and twisted or bruised her knee, and from that time onwards she has suffered from pain, which has been more or less severe. She was at first treated with rest and hot fomentation, then with blistering, and splints with firm bandaging. During this time she was able to move about with crutches, but latterly the pain has been too severe to admit of this, having been almost completely deprived of her night's rest through excruciating agony. The limb is slightly bent and quite rigid, the thigh and leg completely atrophied, the knee apparently enlarged to a great extent, which was, however, considerably greater in appearance than reality; there is, however, some fluid around and beneath the patella. The patient is extremely exhausted, very thin and meagre, with a dry skin, and pulse constantly about 100. Suffering extremely from dyspepsia. To have a mild nutritious diet. Bismuth, with charcoal throughout the day; mindererus and morphia at bed-time. The limb to be confined in splints, and the recumbent posture to be maintained.

3d October.—The condition of the patient has greatly improved, so far as her constitutional condition is concerned. She sleeps well. The pulse has fallen to 76. Her appetite is fair, and the dyspepsia is relieved. The state of the knee is much the same.

12th November.—Has remained much as before till within the last ten days. She complains of a considerable increase of pain, and there are two swellings situated on either side of the knee, one over the outside of the head of the tibia, the other behind the head of the tibia, which manifestly contain purulent matter. In these circumstances it was determined to perform excision of the joint.

16th November.—Excised Miss A.'s knee in the usual way. No vessels required to be secured. Abscess behind the head of the tibia opened where it pointed. The usual apparatus applied, a portion of the splint being cut away behind in the inner side to allow of a free drainage from the abscess.

Vespere.—Free of pain; has slept well all afternoon; free from sickness, but complains of flatulence.

24th December.—The wound is now almost entirely healed; the two cornua alone remain open, but the quantity of discharge does not amount to a quarter of a teaspoonful in the forty-eight hours. There is no pain, and for the last ten days she has been able to be in the drawing-room, sitting on a couch all day, busied writing, reading, or working. The only complaint she has to make is, that the acidity of stomach and flatulence are very troublesome. She is, however, greatly relieved by bismuth and Belloc's charcoal.

5th February.—Miss A. has made steady progress, able to move from room to room with her crutches. Sleeping well at night, and in all respects going on most satisfactorily till to-day, when she was suddenly attacked with a fit of colicky pain in the region of the caput cecum coli, followed by violent diarrhoea.

Vespere.—This has been checked with hot turpentine stupes and chlorodyne.

8th.—Diarrhoea has again commenced to-day with abated violence, and has assumed a dysenteric type; great pain along the whole of the colon. Lead and opium pills every four hours.

12th.—Diarrhoea excessively fetid; pain continues. To have morphia pilules and the carbolate of lime in pills.

16th.—Diarrhoea, accompanied with greatly increased pain along the course of the colon, passing blood in every motion. Evidently sinking fast. Died towards evening.

A post-mortem examination showed the remains of old tubercular disease of the lungs, and of the mesenteric glands, a waxy liver, and ulceration of both the large and small intestine. The joint was removed for more careful examination, when union between the osseous surfaces was found to be complete. This consisted of a granulation material undergoing ossification, which was furthest advanced at the margins; all the discharge within the last period must have come from that portion of the cavity where the abscesses had originally formed, and with which the sinuses, which discharged matter alone, communicated.

CASE IX.—I was requested, on the 15th of July 1864, to see R. S., æt. 18, who had long suffered from disease of the left knee-joint.

I found him with the limb confined in a box, and enveloped in a rude many-tailed bandage, in the fashion of Scott's dressing, but in which the medication consisted, as I was told, of Archangel tar. This had been applied on the recommendation of some local quack. There was no pain in the joint so long as the limb was kept at rest and no effort made to move the articulation, or to rest any weight upon the foot. Pressure, however, over the head of the tibia or condyles of the femur, elicited a complaint of very great and intolerable suffering. The joint was generally swollen, and swelling and stiffness constituted the commencement of the disease two years ago. The patient was thin, tall, pallid, and anæmic, in spite of living in the country, and sitting constantly when the weather admitted of it in the open air.

I suggested the propriety of operative interference with as little delay as possible, as suppuration was manifestly impending. To this the friends objected, desiring delay for consideration. In the beginning of August his friends, having considered the subject, consented to the excision of the joint. He was accordingly brought into town, and placed under my care in the Infirmary.

10th August.—To-day, the joint was excised in the usual manner, leaving the patella. A large abscess on the outer side of the lower part of the thigh was freely opened, both externally at its most dependent part, and also into the excision wound. Immediately thereafter, the ordinary apparatus employed by Dr Watson was applied. No dressing of any kind was applied to the site of the operation, the wound being left open until evening.

In the evening, the oozing having ceased, the flap was laid in position, and retained by means of sutures. He is very sick and depressed from the chloroform; to have six ounces of brandy during the night.

12th.—Sickness still continues, but the depression has quite passed off. Wound adhering throughout its entire superficial extent.

16th.—Some redness of edges of flap, and a little pus escaping at the angles posteriorly. Water dressing applied.

5th September.—The entire wound is healed, with the exception of the openings at the angles, from which a small quantity of pus is still discharged. He is daily out of bed for some hours.

30th October.—Since last report he has had several small limited abscesses forming here and there in the thickened synovial textures, and has suffered from an attack of erythema, followed by a phagedenic state of the sores. The abscesses were evacuated by incisions; the phagedenic surfaces treated by means of strong nitric acid, and the deranged state of system with mindererus, and afterwards with iron and taraxacum.

17th November.—The openings corresponding to the abscesses still continue to discharge. A probe passed in at them fails to discover anything else than tracks through the thickened synovial tissue. This has been treated, first, by repeated blisters; and, latterly, by freely laying open all the sinuses.

7th December.—He is very much better in general health, the swelling of the knee is nearly gone. There is still, however, some discharge from the sinuses posteriorly. The osseous surfaces have consolidated, and there is neither lateral nor antero-posterior motion. The limb is kept between lateral splints, and he is encouraged to move about with crutches. To return home.

22d September 1865.—He was placed under my care in Chalmers' Hospital, the sinuses still continuing unhealed. The osseous textures do not communicate with the track of the sinuses, but these latter all pass towards the patella.

12th October.—Having administered chloroform, Dr. W. laid open the sinus upon the outer side of the limb, which seemed to communicate most directly with the parts beneath the patella, and introduced his finger to explore the condition of parts. He found the patella covered with a granulation membrane, and in no part exposed; Chassaignac's drainage tubing passed along all the sinuous tracks.

1st November.—The swelling is now almost gone, the discharge from the tubes is daily getting less.

16th.—Alarming hæmorrhage suddenly occurred from one of the sinuses, and had gone on to a great extent before its existence was recognised by any one, the patient himself being sound asleep. This was checked by plugging the wound with dry lint and applying a bandage.

20th.—The bleeding has recurred on the 18th, 19th, and again to-day. It is obviously of arterial origin, and comes, Dr Watson believes, from the anterior tibial artery, either before or immediately after it perforates the interosseous membrane. The bleeding has only been staunched by plugging with lint soaked in the solution of the perchloride of iron, and retained in position by a bandage.

21st.—Bleeding still going on. The patient greatly exhausted. Dr Watson, in considering all the circumstances of the case, determined to amputate without further delay. This was executed in the lower third of the thigh. Acupressure employed.

22d.—Patient has rallied wonderfully; he is squeamish from the chloroform. Acupressure needles withdrawn.

Vespere.—Bleeding has taken place, the cavity of the stump is distended, and blood and clots come oozing and rolling out between the sutures. Dr Watson opened up the stump, cleared out the clots, and found the face of the stump perfectly dry, but the oozing coming from the side of the bone. On sponging away the blood, the femur was found to be stripped of its periosteum for more than four inches,¹ and the bleeding seemed to come from the inner sur-

¹ This stripping of the periosteum from the bone is no uncommon occurrence after amputation of the thigh in scrofulous or cachectic patients. I have seen entire denudation of the shaft of the femur follow the excision of its head and neck. Its occurrence after excision of the knee has been put on record by Mr Syme, as occurring in one of his two original cases: "On the 6th January, in order to prevent displacement of the bones, which all our efforts had been insufficient to effect completely, I cut away about two inches of the femur with the pliers, and then observed, with much concern, that the bone was denuded beyond the farthest extent to which my finger could reach."—(Syme on Excision of Diseased Joints, p. 139.) So far as I am aware, however, the occurrence of copious bleeding in such cases from the nutrient artery of the bone has not been recorded.

face of the periosteum. To reach the bleeding point, Dr Watson extended the external angle between the flaps upwards, dividing periosteum and muscles in the incision as well as the skin. The bleeding was then found to come from the *nutrient* artery of the bone. This was secured by means of a needle, when all bleeding at once ceased. The denuded portion of the shaft of the femur was then removed with the saw, the flaps brought together by means of sutures, and the stump supported by means of pads of lint and a roller bandage.

23d.—Patient very weak and exhausted all night and morning, but rallied a little this forenoon. Ordered small quantities of champagne to allay the sickness. Towards evening he began to sink, and died about 9 P.M.

His friends did not permit any examination of the body. But on dissecting the amputated limb, my house-surgeon, Mr Hamilton, found that my surmise as to the anterior tibial artery being the source of the hæmorrhage was correct, the aperture in the vessel exactly corresponding to the point where it penetrates the interosseous membrane. The whole extent of surface of both femur and tibia was united together by granulation substance undergoing ossification from the margin towards the centre.

CASE X.—I was sent for on the evening of the 24th of January 1866 to the country to see Mrs E. S., æt. 32, who, in a fit of temporary insanity, had precipitated herself, from a window some 25 feet above, upon the pavement in front of the house. I found that, in addition to several other injuries, she had sustained a compound comminuted fracture of the right patella, the fragments of which were driven into the cancellated substance of the articulating end of the femur.

Having laid the limb upon a well-padded splint, and supporting her on a mattress, I had Mrs S. brought into town, and placed in Chalmers' Hospital.

As she was in a very collapsed state, and some doubt existed as to the extent of her other injuries, Dr Watson deemed it expedient

to do nothing further till he saw her again at the hour of visit on the following day.

25th January.—Reaction has taken place. Her hallucinations have all passed off. She is perfectly calm and collected. The state of the knee-joint having been represented to her, she at once acceded to the proposal to excise the articulation.

This was done by means of two semilunar incisions, including, between them, the patella and the lacerated wound lying over the bone. The extremities of the two incisions met together over the outer and inner condyles, and were then extended backwards as a single incision to the level of the posterior aspect of the joint. The articulating surface of the femur was alone removed, the tibia, being uninjured, was left untouched; the inter-articular cartilages were also left attached to the head of the tibia. The limb was put up in the mode usually adopted by Dr Watson.

Vespere.—The edges of the incisions approximated by means of sutures.

26th.—Patient passed a tolerably easy night, and is now quite free from all pain in the knee. The acupuncture needles removed.

30th.—Continues very well indeed. Some purulent discharge escaping from the angles of the wound; the central part entirely healed. Pulse feeble.

31st.—To have wine, four ounces. Brandy and water at bedtime.

10th February.—Everything has gone on most satisfactorily till to-day, when Mrs S. was suddenly seized with rigors, followed by feverish reaction and copious sweating. To have five grains of quinine, twice a-day; opiate at night.

16th.—She has had the rigors and fever with sweating repeated daily since last report. Her breath has a sweet odour, like newly mown hay. She has a sunken look, and no appetite for food. A violent attack of pain seized her to-day, about 11 o'clock. She complains of it chiefly in the lower part of the right side, shooting up to the shoulder, so that she cannot draw a long breath without it catching the breathing. Over the lower part of the right side of

the chest there is a distinct friction sound recognised. To have a blister applied over that side, and to have iodide of potassium in five-grain doses, three times a-day. Continue the quinine and opiate.

20th.—The pain was greatly alleviated by the employment of these measures. Mrs S. has become distinctly icteric. She sleeps the greater part of the day, and is more or less delirious every night. Omit the medicine. Continue nothing but nutriment.

24th.—Has lain since last report in a semi-comatose state, passing her urine in the bed. Pulse feeble and rapid.

26th.—Died comatose in the afternoon.

The post-mortem examination revealed recent pleuritic adhesions of both sides, especially of the right, with considerable effusion of serum. There were numerous metastatic abscesses throughout the substance of both lungs, especially of the right.

On the upper surface of the arachnoid there was a collection of a jelly-like substance. The other organs were healthy. The parts engaged in the excision were in a most healthy condition, but the open surfaces were quite ununited.

CASE XI.—I was requested, in the beginning of May 1865, to see C. W., æt. 24, clerk. He has suffered from disease of the knee-joint for many years, which obliged him at an early period to relinquish business, and turn his attention to the occupation of a clerk. For a time there was no change for the worse in his symptoms, but within the last six months the joint, in addition to being swollen and stiff, has been painful, so much so, as almost entirely to prevent his moving about, or to admit of sleeping at night.

30th May 1865.—On admission to hospital, the whole limb was found to be atrophied. The knee generally swollen, presenting an ovoid spindle shape between the emaciated thigh and leg. There is severe pain experienced when any attempt is made to move the articulation, or pressure is made over the articular ends of the bone. The patella floats, and the capsule of the joint is distended with fluid.

Blisters were applied on either side of the joint, and as soon as the blistered surface permitted, a bandage was applied around the articulation. The whole limb was confined in bend-leather splints, moulded to the limb and lined with chamois leather.

14th June.—All pain is gone, but the quantity of fluid in the joint remains undiminished.

20th.—The most complete repose has been maintained since last report, while tincture of cantharides and iron have been administered internally. The fluid effusion continues unabated. To-day Dr Watson tapped the joint with a hydrocele trochar, and withdrew about a pint of turbid serosity. Nearly an ounce of tincture of iodine was then injected into the articulation.

21st.—The swelling this day at visit is reproduced to the full extent. The heat of surface over the joint is increased, and the skin is suffused of a reddish colour. To have an evaporating lotion applied.

26th.—Swelling has gradually diminished since last report. The temperature of the skin and the redness have also subsided.

8th July.—The swelling is now nearly gone. What increase in bulk there is, is more apparent than real. There is, however, still some puffy swelling, due to a thickened state of the synovial membrane. The limb strapped with the gum and mercurial plaster, and the side splints again applied. He left the hospital at his own desire.

In the month of January 1866, I was again requested to see him, as of late the knee had occasioned him considerable pain. The swelling anteriorly is rather less than when I had formerly seen him, but there is more emaciation of the leg and thigh. Posteriorly over the head of the tibia and also above the head of the fibula there are two fluctuating swellings, which on pressure are painful.

Desired to foment the knee, and keep it at rest; while means of a dietetic and medicinal kind were employed with the view of improving his appetite, and strengthening his system.

22d January.—C. W. was admitted into Chalmers' Hospital, as

the fluctuating swellings had gradually increased. The pain in the joint was now very severe, and as this was attended with loss of rest, complete absence of all appetite for food, a quickened pulse, night sweats, and general exhaustion, it was determined to excise the knee-joint. Meanwhile, the abscesses were opened, and about half an ounce of thick, adhesive, ropy pus escaped from each.

4th February.—The pain has not abated since the opening of the abscesses, the swelling of the entire joint has been reproduced, and a large fluctuating swelling exists above the patella beneath the extensors of the leg.

6th.—To-day, Dr Watson excised the knee-joint in the method he usually adopts, removing the patella, however, on account of the degree of ulceration of its articular surface which was present. In clearing the femur and tibia for the application of the saw, quantities of thick, almost cheesy, masses of purulent substance adhering to the surface of the synovial membrane were observed and wiped away with the sponge, and a large mass of gelatinous lymph matter was removed from the upper part of the capsule of the joint. The usual gypsum apparatus with splint and suspension-rod was applied, and the patient removed to bed.

In the evening, the flap was laid down in its position, and secured there with sutures.

20th.—Ever since the operation he has suffered from more or less sickness and vomiting, everything he took for five days being ejected from the stomach. Along with this an almost constant hiccough tormented him, which prevented rest. Nothing afforded so much relief to these painful symptoms as a heavy weight (eight pounds) applied over the epigastrium, and morphia administered by subcutaneous injection, in pilules, or by the rectum as circumstances admitted. Ether, ice, chloroform, prussic acid, cannabis indica, musk, champagne, were all tried, as well as bismuth and grey powder, but none seemed to afford more than temporary relief. He is now reduced to an extreme state of emaciation from the inability to take food, which till to-day has

continued, without anything but a very little essence of beef remaining on the stomach. He has become icteric within the last three days. A bedsore has formed over the sacrum in spite of every care and precaution. To have essence of beef and champagne or sparkling hock every hour.

3d April.—The jaundice rapidly subsided under the use of liq. bismuthi. He has commensurately gradually gained appetite and strength. The bedsores are now completely healed. The limb has progressed satisfactorily, the only trouble being occasioned by the tendency in matter to bag in the hollow left by the removal of the patella. To-day, to obviate this, a free opening was made through the skin, in this situation evacuating a quantity of pus.

6th June.—With the exception of the sinuses, which continue to discharge purulent matter, the whole original incision is healed. On laying open one of these apertures to examine into the cause of the delayed consolidation, Dr Watson felt in the head of the tibia a large portion of dead cancellated tissue. To effect the removal of this as speedily as possible, and to permit the osseous surfaces to come in contact with each other, Dr W. laid open the whole line of the incision, and forcibly bending the leg upon the thigh, disclosed the cut surface of the head of the tibia, with a portion of dead cancellated tissue about the size of a five-shilling piece situated in the middle. This was partially detached from the surrounding osseous tissue. Its removal was effected by taking away a slice of the tibia, which included its entire thickness, and left a healthy osseous surface beneath. Limb adjusted and apparatus applied as at first.

12th.—He has gone on well till to-day, when rigors, followed by febrile reaction, hiccough, and vomiting, set in.

15th.—This was attendant upon an attack of erysipelas which, seizing the limb, has spread upwards, and is now occupying the abdominal and thoracic regions on the same side. A blister applied over the region of the liver. Effervescing citrate of potash draughts with ten minims of tincture of the muriate of iron every two hours. To have sparkling hock with aerated lemonade.

20th.—The erysipelatous attack has subsided, leaving the

limb, however, greatly swollen. A severe attack of diarrhoea has come on, which requires him to have a $\frac{1}{4}$ gr. of morphia every four hours, with $\mathfrak{ss}$. doses of bismuth to subdue the pain and irritation.

5th July.—Diarrhoea subdued. The appetite is returning in some degree. The swelling of the thigh, which was so great as to require the cutting up of the bandage, is rapidly subsiding. There is still, however, great tympanitic distention of the abdomen in front, and some degree of dropsical effusion in the lateral and posterior part of the cavity.

30th.—The diarrhoea again set in after a brief period of improvement which seemed to promise a rally, and after great abdominal uneasiness, which resisted everything but the employment of large opiates, he has gradually become more anæmic and exhausted, and died in the course of this evening. No sectio permitted.

CASE XII.—J. G., æt. 35, admitted 8th October 1866. Patient states that about two years ago, when in India as a private in the 28th Regiment, he received a blow from a cricket ball upon the left knee, which laid him up in hospital for some time. About two months after the receipt of the injury he returned home with his regiment and proceeded with it to Aldershot. While there, he was attacked with pain and swelling and stiffness of the joint, which obliged him to go into hospital; there he continued till discharged from the service some months ago. During his residence in hospital there were two abscesses opened, one over the head of the fibula, the other along the line of the outer hamstring tendons. Since his discharge from the service, he has resided in Stirlingshire with his friends. The gradual deterioration of his general health has led him to come into the infirmary.

On admission, the knee is greatly swollen, the swelling being elastic in its characters, and engaging chiefly the subcrural pouch of synovial membrane. There is considerable freedom of movement of the joint both passive and active; the patient cannot, however, employ the limb in progression, as bearing his weight even partially upon it occasions severe pain. There is a copious

gluey discharge from both openings. A probe introduced through either enters the joint cavity, but comes in contact with no osseous texture. Hot opiate fomentations were applied over the joint, and the limb was laid upon a wire splint.

18th October.—Two fresh abscesses formed on the outer side, above and below the level of the patella. These were opened, water-dressing applied, and quinine and sulphuric acid ordered to check the copious night sweats.

22d.—Splint removed as the posture is uneasy; warm opiate fomentations continued.

31st.—Complains of great pain and starting of the limb at night. To have an opiate.

4th November.—Patient's health failing rapidly. He is now anxious that anything short of amputation should be had recourse to, which affords the slightest prospect of relief from the severe pain he constantly suffers in spite of large and repeated opiates.

6th.—To-day, Dr Watson excised the knee-joint in the usual manner. With the view of removing as little of the femur as possible, he sawed off the condyles on the level of the condyloid pit by a transverse section, and then removed the upper and posterior portion of the articulating surface by applying the saw at right angles to the original section, *i.e.*, parallel to the long axis of the bone. The amount of the femur and tibia removed amounted exactly to an inch and a quarter. A large abscess beneath the *quadriceps extensor cruris* was then opened, and the whole suppurating surfaces pencilled over with strong tincture of iodine. The patellar surface was perfectly sound. Acupressure was employed to arrest the hæmorrhage, which was unusually profuse, owing to the vascularity of the diseased structures. The limb was immediately put up in the ordinary method employed by Dr Watson, and on removing the patient to bed, the limb and apparatus were attached to the running pulley of a Salter's swinging apparatus. There was considerable sickness and depression after the effect of the chloroform passed off, which was relieved by the

administration of brandy and ice while he was surrounded by pans of hot water.

7th.—Patient had a good night. The bandage round the knee was clipped away, and the margins of the plaster bandage varnished with hot paraffin to prevent soakage of discharge.

8th.—Acupressure needles withdrawn. Bismuth and hydrocyanic acid ordered to check an inclination to vomit. To have essence of beef and milk with aerated lime-water for food with brandy. The limb is dressed with water-dressing, and an ice-bag is suspended over the site of operation. As matter seems to collect at one point beneath the flap, an incision was made to-day to evacuate it directly. The whole amount of the discharge in twenty-four hours does not exceed one ounce.

12th.—Patient still improving.

From this period until the 20th November he continued to progress favourably, and, although feeble, took nourishment readily. He then, however, began to manifest unmistakably the existence of pyæmia, from which he sank upon the 24th November. The only situations, however, in which there was even a suspicion of any metastatic deposits were the sheath of the *rectus abdominis*, and the temporo-maxillary articulations.

The *sectio cadaveris* revealed the existence of obsolete tubercle in the apices of the lungs, with œdema of their lower lobes. Old adhesions between the liver and diaphragm, enlargement of the spleen, pericardial effusion, and purulent collections in the right temporo-maxillary articulation and sheath of the rectus.

CHAPTER III.

CONCLUDING CLINICAL REMARKS.

I HAVE arranged these twelve cases in two sections, placing the successful results before the fatal cases, not that I would give them an undue value, but because I have less now to say about them, for they speak for themselves; while having more to say about the fatal cases, I have detailed them last, that the reader may the more readily follow my remarks.

With the exception of the one case of primary operation the others were all instances of long-standing disease. In four of these five cases the disease which destroyed the joint had undoubtedly originated in the synovial membrane, and the patients' condition gave evidence of an originally enfeebled constitution. In the first of the fatal cases, Case VII., there was hæmoptysis and physical symptoms of phthisis pulmonalis. In Case VIII., dysenteric diarrhoea and pulmonary symptoms with constant dyspepsia had existed for a long period. In Case IX., the lad was tall, overgrown, and emaciated from the very first. In Cases XI. and XII., the patients were anæmic, had suffered previously from hepatic affections of warm climates, and from the whole progress of their cases indicated the existence of some internal mischief. In only two of these cases, IX. and XI., was the operation of excision a matter of choice; in the others it was undertaken at the strongly expressed wish of the patient, that (whatever the result) they selected it in preference to amputation, to which they would not submit.

Furthermore, in Case IX., feeble constitutionally as the lad

undoubtedly was, there was nothing decidedly to contra-indicate excision, and the fatal result is assuredly attributable to the accidental occurrence of hæmorrhage,—a complication which no prescience could have foreseen or prevented, any more than after the amputation, the recurrence of hæmorrhage from the separation of the periosteum of the femur, opening the nutrient artery of the bone, could have been anticipated. In Case XI., the violent attack of continued hiccough which immediately succeeded the operation threatened to prove fatal of itself, and had, in my opinion, a very decided influence in determining the necrosis of the cancellated tissue of the head of the tibia. To this last unfortunate complication of the operation must be referred the want of union of the osseous surfaces, and the spongy unhealthy condition of the surrounding soft parts. Had no necrosis followed the operation, had no hiccough disturbed the limb and exhausted the patient, I am convinced the extremity would to-day have been as sound and useful as that of any of the successful results.

In Case VIII. the dysenteric diarrhoea, due to tubercular disease of the intestines, may have been excited during the progress of the post operation period, but a careful inquiry into the antecedent health and history of this lady's case convinces me that it was an old and insidious mischief, long lingering about her, and now called into fresh vigour from the long track of bad health, the unavoidable confinement, and the difficulties of digestion which had all come in upon her during the last few months. Still, with all this, the progress of the knee up to within a week of her death was all that could be desired, and had the intercurrent illness not proved fatal, all seemed to promise a prosperous result.

In Case X. the fatal issue due to pyæmia is a result which may be said in no respect to have any connexion with the operation being one of excision. It is the most frequent cause of death in all surgical procedures, great and small. It has been known to prove as fatal after such trifling operations as tying hæmorrhoids or cutting a squint, as in the greater procedures of surgery.

In Case XI., as in the others, we may reasonably question if

any other line of practice would have afforded a better issue. In none of these five fatal cases was the operation undertaken as an *opération de complaisance*. It was necessary that something should be done to relieve each of these patients from a condition of the textures which afforded no prospect of other relief than death if left to follow its own course; and the only question at the time was, whether excision or amputation should be undertaken in the circumstances with what we knew at that period of the patient's condition and antecedents? The answer in favour of excision seemed clear; but in looking back to what influenced me then, and carrying the mind forward with what I know now of the progress and issue of each of those cases, I do not think I could come to any other resolve now than that amputation—the progress of which in regard to these patients and their systems we cannot really know—would have proved in all human probability equally fatal, and possibly much more rapidly so.

Are there, however, any indications from the successful cases as compared with the unsuccessful ones, whereby we can in anticipation regard the prospects of a given case as better or worse in undertaking excision? I think there is. I am inclined, next to the employment of the operation in cases of accident or injury, to regard its success as probably greatest,—1. When the disease has commenced in disease of the hard textures of the joint, or at least when there is but little chronic change in the synovial membrane; 2. When there is no great burrowing of matter beneath the muscles or in the popliteal space; 3. When the acute stage of the disease is on the decline, or has declined, leaving the patient with no manifest evidence of original defect in constitutional vigour; 4. Where no bedsores already exist, in such a situation as to prevent a dorsal decubitus. But because my experience in my own cases, and in those of others, leads me to such a practical conclusion, I do not think myself justified in deciding that all outside this selected number must necessarily be given over to amputation. A like selection to that I have indicated no doubt would have afforded the most successful results when amputation alone was employed; yet the

others, because less hopeful, were not permitted to perish simply because they were unfavourable for recovery. If the existing condition which urged the necessity for surgical interference were a fatal one, no man could hesitate to employ what held out never so slender a chance even of recovery because it was a slender one. Should we, therefore, at the present day, withhold the employment of excision in such unsatisfactory cases because they are for the most part unsatisfactory? I believe not, unless one of two things could be proved,—1. That amputation would have succeeded better; or 2. That these cases are so unsatisfactory as to prove uniformly fatal. The ordinary method of determining such questions by a reference to statistics seems to me fallacious in the extreme, for statistics in such circumstances place upon the same platform of dead figures living quantities which differ oftentimes *toto celo*. If an operator selects his cases, and refuses his operative aid in instances where a fatal issue is to be feared, he may produce to the wondering gaze of the profession results of the most astonishingly successful kind so far as numbers are concerned, but miserable in the extreme, I am inclined to think, if the greatest amount of relief to suffering humanity is to be accepted as the aim of all surgical interference.

There is only one way in which a surgeon, in regarding the propriety of any course of practice as estimated by the results of another's practice, can really arrive at any useful conclusion, and that is by placing himself mentally alongside of the practitioner who was in charge, and attempting, from the data afforded at a certain point, to decide whether at that time any other procedure was then more suitable, or if anything in the symptoms should have enabled him to prognosticate the unfavourable or favourable result.

No man would ever submit to amputation if he knew that by excision he would get rid of his disease, and at the same time preserve life and limb. No man, again, would ever for an instant submit to excision of the knee could it promise nothing more than certain death. But after these points have been determined, the

risks in each case, not as gauged by numbers, but as of a determinate nature, and as specially likely in a certain given condition of constitution and external circumstances to influence unfavourably the one operation or the other, should alone be permitted to weigh in the balance and turn the scale one way or another. A vital element sometimes, however, must come into our calculation in deciding upon our operative procedure, and that is the wish of the patient himself. Holding such views as to the principles which should alone influence a surgeon in his choice of an operation, where a choice does exist and operative interference is unavoidable, I do not think, had I again in those twelve cases to decide upon the line of action to be taken, that I should pursue a different course from that which I took. Nor do I see any reason to think that, had I resorted to amputation instead of excision, the results would have been less fatal than they proved under the treatment adopted.

Before concluding this paper, I have a word to say in regard to several moot points connected with this operation. First, then, with reference to the allegation that incisions freely laying open the whole extent of a suppurating joint, combined with complete repose, effected by splints, gypsum apparatus, starch bandages, or otherwise, may with perfect propriety be substituted in most cases where excision of the articulation could be satisfactorily substituted for amputation. Such a statement can only hold good where the lower extremity is concerned, and where the limb is nearly in the straight position, or where with tenotomy and forcible extension under chloroform a like position could be obtained. I apprehend, in all such cases, there is a very great difference in the after progress and result to be observed from the conditions obtained by excision. Where the bones undergoing more or less diseased action are kept in steady contact, no excision being practised, the tension and counter-pressure of the osseous surfaces thus maintained must tend, in many cases, to determine farther suppurative progress, farther ulceration, it may be, in some cases, actual necrosis of considerable fragments of the cancellated tissue of the opposed bony surfaces. When, on the other hand, excision is practised,

complete relief is at once afforded to all the tension, and ill results due to further destruction within the limits of the field of operation rarely occur.

2. It may, perhaps, be asked, when such admirable results are obtained from excision of the elbow-joint, in the shape of a movable articulation, scarcely less useful or seemly than the natural joint, and infinitely more serviceable than an ankylosed one, why should we rest content in excision of the knee with a stiff limb? There are both theoretical and practical objections to this suggestion. The theoretical or analogical reasons are:—1. That the elbow-joint is useful in virtue of its freedom of movement in every direction, so long as the approximated osseous surfaces do not actually pass each other, while in the knee any movement which interferes with the complete rigidity of the limb as a column of support, capable of sustaining the weight of the whole trunk, renders the limb almost unserviceable in progression. When, for example, the ligaments and muscles fail to lock the knee-joint in complete extension, walking is almost an impossibility. Again, while an ununited fracture of the arm is more an annoyance than a cause of incapacity in the affected arm, an ununited fracture of the thigh disables the patient till the limb is in some way rendered rigid. It is further easily demonstrated in any case of excision of the elbow-joint where the arm is in every respect most perfectly useful as a prehensive organ, that the patient can rest no weight upon it. I have seen a patient whose elbow-joint has been excised scrubbing a floor most energetically with the affected arm, and resting her weight upon the sound limb; on asking her to transfer the scrubbing-brush to the hand of the sound limb and support herself upon the arm operated upon, she made the attempt and at once fell over upon that side, the limb doubling beneath her weight. There is this manifest difficulty in attempting, in excision of the knee-joint, to obtain a movable articulation which shall be of any use to the patient, that in making the union flexible in one direction it must be flexible in all directions equally. Thus the tendency to bend outwards or inwards would be as great as the extent of the

motions of flexion extension, and as we have seen that in the after treatment there is a tendency to bow outwards, this would, in all probability, be the direction in which the flexure of the limb would occur when the weight of the body was borne upon that extremity. 2. The practical difficulties which have occurred in attempting the formation of a useful limb with only a fibrous union at the site of the excision are, I think, sufficient, so far as our knowledge at present goes, to forbid its repetition. It is no new proposal this of a movable joint. Mr Syme, so long ago as 1831, seems, in his early essays, to have been in favour of such an attempt. He says:—"During the cure, it does not seem proper to insure absolute rest in order to obtain a true ankylosis or osseous union, since the very long bone that would thus be formed, besides being extremely inconvenient to the patient, by rendering the limb perfectly rigid, could not fail to expose it to a great risk of fracture, by affording long levers to forces acting at the extremities. A great degree of flexibility, on the other hand, would unfit the limb for support and progressive motion, so that while perfect immobility and free motion ought to be avoided, a slight degree of flexibility ought to be promoted. The chief difficulty of the cure consists in preventing the tendency to bend outwards, which is always strong, and if not counteracted, most injurious to the appearance and usefulness of the limb."¹

I am also informed that in those cases in which Langenbeck has performed excision of the knee, he has adopted measures calculated to obtain a movable articulation, but that the result has been the necessity of resorting to amputation in every case. Such are the reasons, theoretical and practical, which have prevented me from making any attempt in this direction, and which meanwhile appear to me likely to influence practical surgeons against the adoption of any method of after treatment calculated to obtain such unsatisfactory results.

3. The method by which I have practised the excision has, in every instance except one, been by means of the semilunar incision

¹ Syme, *Treatise on the Excision of Diseased Joints*, p. 134, 135.

raising a long flap from the anterior surface of the articulation. The one exceptional case in which I employed an elliptical incision, crossing the front of the joint, and including the patella within its limits, was one in which the operation was practised on account of compound comminuted fracture of the patella. Here the lacerated condition of the integuments, together with the necessity to effect the removal of the comminuted bone, made this method preferable to any other. In employing the long anterior flap as a means of gaining access to the articulation, I have preferred it for four reasons, chiefly:—1. That while it opens up the parts to be dealt with to both sight and touch more thoroughly than any other, it is easily and rapidly mapped out by a single curvilinear sweep of the knife. 2. That when its extremities are carried behind the line of the condyles they form a complete and efficient drain for the whole extent of the cavity formed by the excision. 3. That its margin corresponds in a less degree than any other to the line of section of the osseous surfaces. 4. That the flap so raised will serve for amputation of the thigh through the condyles, should the state of the joint render that advisable after excision has been completed. The H incision, the simple transverse incision, the lateral incisions, both straight, or one straight and the other curvilinear, I have employed on several occasions in operating upon the dead body, but none of them have seemed to me to possess any such superiority over the long flap as to lead me to employ it in practice. They have certain advantages, it is true, which I readily grant, such as admitting in the case of the H, the transverse, or the elliptical incision, a more easy removal of the mere patella, if that is thought essential or desirable in any given case; but as I have always attempted to retain the patella where this is possible, incisions specially suited to favour its easy removal have not seemed to me to possess any advantage in this operation.¹ If the articular surface of the patella is affected by disease,

¹ In cases of extensive synovial disease, where it is deemed expedient to effect the removal of the altered synovial tissue to as great an extent as possible, this is easily effected by the long semilunar flap. In performing the operation with this object in view, the flap raised should consist of skin and

the gouge will usually enable its diseased tissue to be easily removed to the desired limits as regards both superficial extent and depth. Besides, it is well to bear in mind the practical fact that it is rare to find any such extent of disease in the patella as to determine the necessity for its removal,—an observation in morbid anatomy which its position as a sesamoid bone might almost lead one *à priori* to anticipate. The lateral forms of incision, straight on each side, or straight on the inside of the knee and curvilinear upon the outside, were devised for the purpose of leaving, not only the patella intact, but the ligamentum patellae as well. This may seem at first sight an advantage, and were a useful movable articulation attainable as a result, it would be so without doubt; but as such has not hitherto been known to follow upon this method of operating, the difficulties which it creates in the manual procedure should be sufficient to condemn it.

Perhaps it may be asked, why I have retained the patella? My reply is, that (1) its removal is unnecessary in most cases; (2) its presence in the flap bears up the soft parts from the line of incision, and, without preventing consolidation, helps to keep them away from the cut margin of either osseous surface; (3) that its removal occasions more bleeding; and (4) that the hollow left after its removal from the centre of the long flap leaves a hollow cavity in which matter bags, and requires a separate incision to drain it efficiently.

4. The patients whose cases I have narrated are all adults. I have not performed the operation in any child or adolescent. I have been deterred from doing so by the small prospect which the removal of the epiphysis of the femur and tibia must afford of the after growth of the limb proving commensurate to that of the rest of the body. In children I have hitherto regarded amputation as a preferable operative procedure. I believe I shall con-

areolar tissue alone, the quadriceps extensor and ligamentum patella should next be divided, the synovial membrane and capsular ligaments on either side being next cut through, the patella surrounded with the greater mass of diseased synovial tissue is at once completely excised. The operation is in its further steps executed precisely as already described.

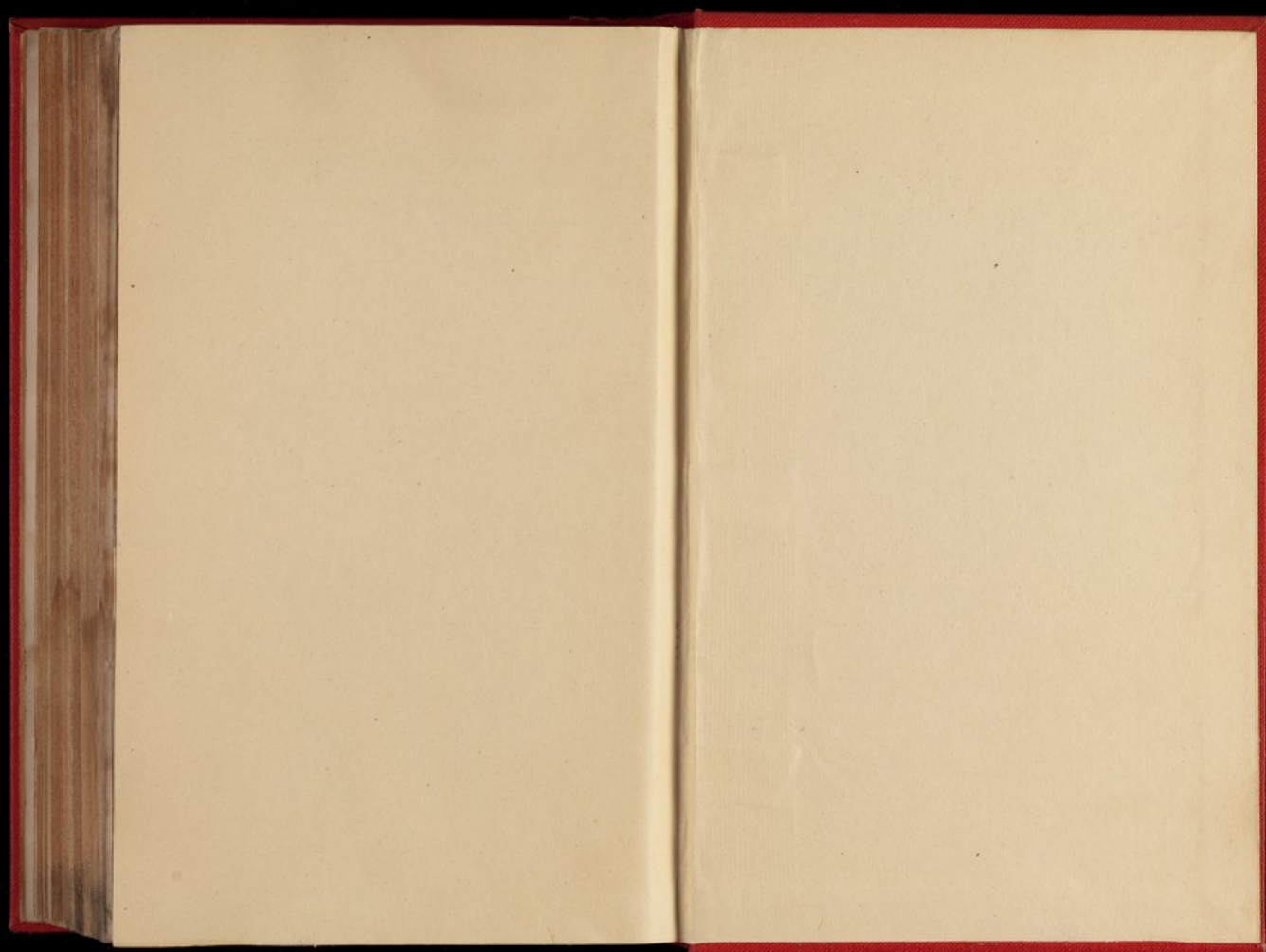
tinue to do so until I have had satisfactory evidence that the limb grows, or that the short and shrunken limb is capable, with the aid of a wooden pin, to support the superincumbent weight of an adult body more satisfactorily than a thigh stump and a wooden leg.

5. In regard to instruments requisite for the performance of the operation, I need say nothing further than that I have required nothing more than a large bistoury in a firm handle, and a common amputation-saw with a back which yields as the blade cuts its way through the condyles of the femur or broad head of the tibia. Various ingenious devices have, however, been recommended and employed by others in this extremely simple operation for dividing the osseous tissues. Among these, Mr Butcher's saw, Symonovsky's saw modified by Lürer, the old double-toothed saw of Moreau, and the chain saw recommended by the late Dr Jaffray of Glasgow, in his edition of Park and Moreau's works on excision of the joints, specially deserve mention. There can certainly be no objection taken to their employment if the section of the bone were more easily or nicely effected by means of them than by the common amputation-saw. But as one and all of them are less easily manipulated, and there is no evidence in favour of their effecting this work more smoothly, I cannot conceive why instruments, certainly well suited for the key-hole work or the pattern sawing of the cabinetmaker, should be imported into the armamentarium of surgery, or made of such great moment in the performance of an operation which requires neither sections in curves, in zigzags, nor in dovetail patterns.

I once heard a surgeon desiderating some instrument by which two smooth sections of the tibia and femur might be easily effected in excision of the knee, as he had seen difficulties occur from a want of capacity in the operator to cut two flat surfaces, which, when laid *in situ*, produced a straight limb. It may have been a legitimate wish upon the part of so clumsy an operator, and were the saws we have named capable of affording such facilities, we should strongly recommend them to his attention; but, as they are certainly not

fitted to afford such assistance, a simpler expedient would perhaps be more easy of adoption, viz., that until a man acquires the very moderate degree of command over his hands and eyes necessary for the performance of so simple an operation, he had much better totally abstain from engaging in the operative department of his profession.





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