Lectures on the causes and treatment of ulcers of the lower extremity : delivered at the London Hospital, during the summer of 1848 / by George Critchett.

LECTURES

ON

THE CAUSES AND TREATMENT

OF

ULCERS OF THE LOWER EXTREMITY.

DELIVERED AT THE LONDON HOSPITAL,
DURING THE SUMMER OF 1848.

BY

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TO THE

PUPILS OF THE LONDON HOSPITAL,

WHOSE ZEALOUS INDUSTRY

SUGGESTED AND REWARDED THEIR COMPILATION,

THESE LECTURES

Are Inscribed,

BY THEIR SINCERE FRIEND,

THE AUTHOR.

PREFACE.

THE author of the following Lectures, which have already appeared in the pages of "The Lancet," feels it due to the Profession to offer some reasons for re-publishing them in a collected form. There exists such a plethora in Medical Literature, that it behoves each new commentator upon Nature's morbid operations, if he would expect to obtain any attention from his professional brethren, to accomplish one of three objects:—he must either propound new and original views, founded on legitimate induction, or he must collect the rays of light that lie scattered over the fields of pathology, and present them in a clear, concentrated, and useful form; or, lastly, he must resuscitate some old principle, valuable in a practical point of view, which, from some accidental cause, has been allowed to slumber in neglect and oblivion; it is in this latter and humbler capacity

that the author of these Lectures breaks silence; he claims not the high honour of having discovered a new window, whereby light may be admitted into our Surgical Temple, but simply to have rendered transparent one that had become obscured and useless. The author's main object, then, in the publication of this little book, is to place the principle of mechanical support, in the treatment of ulcers of the lower limbs, on a correct and scientific basis; for although, as he has elsewhere endeavoured to show, this has already been briefly done by the late Mr. John Scott, in his work "On Diseased Joints," a reference to all the best surgical authorities since that work appeared, proves how entirely that principle is still, if not unknown, at least most imperfectly expounded; but, in addition to this, the author has devoted considerable attention, during the last ten years, to the treatment of this class of disease, and has had extensive opportunities of testing the practical value of the principle he advocates, and also of arriving at certain rules with regard to its applicability to the various phases which this disease presents, and the modifications required, in order successfully to cope with the peculiarities of special cases. He has, therefore, been anxious to offer the Profession such rules as he has been able to work out and has found useful in his own practice, and such as he has reason to believe would

have considerably facilitated and rendered far more successful his own early efforts in this branch of surgery.

How far this little volume accomplishes the twofold object the author had in view, or contains within it a sufficient amount of true and useful material to justify its production, must be left to the decision of his professional brethren.

46, *Finsbury Square*,
March, 1849.

LECTURE I.

Introductory Remarks — Reasons for selecting the subject — Its importance enforced by a quotation from Sir B. Brodie's lectures — Causes of ulcers of the lower limbs — Position — Varicose veins—Various modifications of this condition—Other causes—Plethora—Anæmia—Struma—Syphilis—Suppressed Menstruation, &c.—Classification of Ulcers—General Principles of Treatment.

THERE are many ways in which the wide field of observation presented to us by a large hospital like this, may be made available for instruction; and it behoves every teacher to select such a method for himself as he believes will, in his hands, prove most instructive to his class, and present to them in the clearest manner what he thinks will be practically useful to them in their future professional life. Of the plan to be pursued, let each man judge for himself, neither influenced by precedent, nor fettered by anticipated criticism, but actuated alone by his own mental promptings. On the present occasion, it is my intention rather to present you with groupings of disease, than to select one or more cases for

your consideration; I propose fixing upon a common form of disease, bringing our experience, at this hospital and elsewhere, as to its causes and treatment, to bear upon what is generally taught, and found in books, and thus, by drawing our inferences from a large mass of facts, endeavour to reconcile whatever we may find contradictory, and to correct what is at variance with sound principles or successful practice, and by appealing humbly, but confidently, to the book of Nature, arrive at well-founded and scientific results.

The subject that I propose treating after this method, in these observations, is, the Causes and Treatment of Ulcers of the Lower Extremity. I have been induced to select this subject, because I have, from circumstances, been led to devote considerable attention to this class of disease; because it is very common at this hospital, and very successfully treated here; because it is an intractable and painful disease, lingering on, and wearing the patients for many months, and often years; and because I believe that, even to this day, the true principles upon which the treatment of such cases should be founded, are most imperfectly taught by surgical writers, and consequently most imperfectly understood by the profession in general. And I have been the more anxious to bring the subject before your notice at this time, because we have lately had numerous surgical works issuing from

the press, stamped with the authority of some of the highest names our profession can boast, all more or less touching upon this subject, but affording very scanty and imperfect information, having a tendency to perpetuate erroneous principles and injurious practice, and starting upon false premises a century old, and handing down the same even to the very time when I am addressing you. Thus it often happens, as in this instance, that an error is copied from one to another through a long series of years, and it requires all the authority of extensive practice, and of a large mass of cases, to break through old-established authority, and to vindicate true principles and sound practice. As I proceed, I shall have occasion to refer to these writers, and to point out in what important particulars I differ from the instructions they inculcate—but it would be tedious and confusing to bring forward proofs of what I am now stating at the present stage of the inquiry.

If it should seem to any gentleman present a subject too insignificant to deserve his serious attention, and to demand his best energies, rather than trust myself to dwell upon the importance of a topic in which I take a strong personal interest, and upon which I may have an undue bias, I would bring to my aid the matured judgment of that Nestor of our profession, Sir Benjamin Brodie, whose essays and clinical teaching, drawn from

Nature with such close exactness, present such admirable summaries of long experience, and such highly useful and practical results to the junior members of our profession, that all his opinions must be received by us with deep respect and attention. In lecturing on this subject, he says,* "Ulcers of the leg are cases in which there is no question about the patient's life or death; and I think it very probable that many among you may pass by the bedside of such a patient without thinking it worthy of attention. But I am not disposed to regard it in this manner. Although the patient may not die of this malady, yet without care it may render him miserable for life. The disease may be very much relieved by art, and it is one of very common occurrence. You examine carefully a case of aneurism, a case of stone in the bladder, and so on; but these are things of comparatively rare occurrence, and which will not fall under your treatment in the beginning of your professional lives; but ulcers of the leg are cases of a very distressing nature, and such as meet you at every turn of your practice; and your reputation in early life will depend more upon your understanding a case of this kind than upon your knowledge of one of more rare occurrence."

Before we can hope to arrive at any sound rational scientific views respecting the treatment of this class of

* Lectures on Various Subjects, p. 151.

disease, it is of the first importance that we should understand the causes which give rise to these ulcers, and which prevent the healthy process of healing; and these causes naturally divide themselves into predisposing and exciting, although the former often become the latter.

It must at once strike even a surgical tyro that that form of inflammation which we call ulcerative occurs much more frequently, and is much more persistent, in the lower extremity than in any other part of the body; and this rule may be carried out still further, for it is found that when ulcers occur in the lower extremity, the more remote the position of the sore from the centre of circulation, (*cæteris paribus*,) the more tedious and uncertain is the reparative process. This fact shows that *position* is an important element in the consideration of this subject; and in addition to this, it would seem to be a law of universal application, that whatever tends still further to impede the return of blood from the lower extremity to the heart, increases, in the same proportion, the liability to the formation of an ulcer, and the difficulty in healing it.

We may next inquire, what are the principal impeding causes to the return of blood through the lower limbs? A *varicose condition of the saphena veins*, from whatever cause it may arise, frequently predisposes to this class of

disease, and is so intimately bound up with the consideration and correct treatment of these ulcers, that you must allow me to digress somewhat, and dwell for a short time upon the causes of this dilated condition of the veins, and the various efforts that Nature makes to relieve this condition. Females are much more liable to this state than males, owing to the pressure of the gravid uterus, which must therefore be ranked as the most frequent cause of this affection. The next cause in point of frequency, and which affects equally both sexes, is cramp in the muscles of the leg in its more aggravated forms. I am not aware that this circumstance has been alluded to by any writer on this subject, but I have so frequently observed it in connexion with this condition of veins, that I cannot but regard them as cause and effect; and it seems to me to arise thus:—when the muscles are thrown into violent spasm, the deeper veins are much pressed upon, and thus the entire burden of returning the blood is thrown upon the superficial veins, which become inordinately distended. This process, oft repeated, causes permanent dilatation. The constant habit of wearing tight, inelastic garters may originate, and must always very much aggravate, this condition. The habit of remaining for many consecutive hours daily in the erect position, and a prolonged exposure to wet and cold, and great height of stature, are all causes of this

affection. It would seem that when the veins become dilated beyond a certain point, the valves, upon which a healthy performance of their function so much depends, become incapable of acting; the circulation becomes thus permanently impeded. Under these circumstances, it becomes an interesting inquiry as to what cause Nature takes to remedy or to alleviate this state of things, and what are the various phases under which the varicose condition presents itself to our notice; and we may trace at least five different ways in which this varicose condition may be said to terminate.

First: As in valvular disease of the heart, and other obstructions, so here hypertrophy of the coats of the veins sometimes takes place; thus further dilatation is prevented, the circulation is carried on nearly as well as before, and a *statu quo* condition is established, which may endure for many years without producing much pain or inconvenience.

Secondly: This dilated condition of the veins sometimes sets up chronic inflammation of the inner coat, with deposit of lymph, narrowing, or even entirely blocking up the calibre of the vessel; and thus, by diverting the current of blood into other channels, Nature establishes something like a radical cure of the disease.

Thirdly: This varicose condition, instead of becoming

arrested thus early, spreads to the capillary vessels of the skin and subcutaneous cellular tissue. This gives rise to a bluish or sometimes brownish discoloration, which often becomes permanent; it also causes considerable thickening and induration, which often spreads itself over a large portion of the leg, and thus forms a thick shield or defence to the large weak veins. This state often gives rise to a very indolent and obstinate form of chronic ulcer, which may last for many years. In certain aggravated forms of this condition, I have known the hypertrophy of the skin and cellular tissue to increase to an enormous extent, giving rise to a condition almost resembling elephantiasis, and resisting every mode of treatment.

Fourthly. The enlarged veins, in some cases, continue to increase in calibre and in length, becoming twisted and convoluted upon themselves, and forming immense swellings in the thigh and leg. This dilatation gradually involves the smaller veins; they thus become in their turn enlarged, and apparently multiplied; their coats become exceedingly thin; the skin over them also becomes attenuated, so that limbs so affected present a mottled-blue aspect: they also become permanently very much increased in size, and seem almost reduced to the condition and structure of a large nævus. In this state the surface gives to the touch very much the sensation

of sponge, and however tightly it may be bound up, it always retains a soft elastic feel: this condition may be denominated the "spongy leg," to mark a state of limb that must be familiar to every observer. If this sort of universal venous dilatation be permitted to pursue its course unchecked by the interference of art, the coats of the superficial veins sometimes become so thin, that they are unable longer to sustain the column of blood, and at some point they give way, and frequent and even alarming hæmorrhage takes place, which occasionally assumes a vicarious character. Thus does Nature make another, but less successful, effort to relieve herself of this condition of over-distended vessels. When to this state of the veins pregnancy is superadded, the lower part of the leg and foot presents peculiar red patches arising from extreme engorgement of the minute veins; this appearance is strongly indicative of a gravid state of the uterus, often shows itself rather early, and never, according to my experience, is found except during utero-gestation.

In this spongy condition of the leg we sometimes find that instead of the veins giving way, a spot, generally about the region of the ankle, becomes red and inflamed, occupying an area of three or four inches; about the centre of this, a peculiar and very characteristic white patch is seen, irregular and undefined, and

indicating that the skin is here separated, or nearly so, from the parts beneath. This is, in fact, a white slough of the skin; a little serum forms between the cuticle and cutis vera, the part ulcerates, and thus a genuine and spontaneous *varicose* ulcer is formed, and by its constant discharge is doubtless another method by which Nature attempts to relieve herself of the burden of this accumulated column of venous blood; and in this last case, a varicose condition of the veins becomes not only a predisposing, but the immediate, cause of ulceration.

Fifthly: A varicose condition of the veins often produces a very obstinate and troublesome form of disease of the skin, of a scaly character, and attended with serous discharge. Thus, then, briefly to recapitulate:—We have seen that a dilated condition of the veins of the lower extremity, from whatever cause it may spring, may terminate in five different ways:—

First: It may produce hypertrophy of the coats of the veins, and thus resist farther distention.

Secondly: The principal veins may become plugged up more or less completely with fibrine, and thus by diverting the current of blood into other channels, the disease may become stationary.

Thirdly: The capillaries of the skin and subcutaneous cellular tissue may become likewise dilated, giving rise to permanent discoloration of a large portion of the skin,

and to thickening and firm fibrinous deposit beneath it, and thus the disease in the larger trunks would seem to be checked, if not arrested.

Fourthly: The larger veins may become more and more enlarged and elongated; the smaller trunks may become gradually implicated, until what I have denominated the spongy leg is produced; this condition sometimes relieves itself by hæmorrhage.

In this spongy condition of a leg a congeries of red vessels may form, in the centre of which a white patch appears on the skin, which is the immediate forerunner and indicator of ulceration, which being established is another way in which the congested veins are temporarily relieved.

Fifthly: A diseased condition of the skin may be induced.

I have dwelt thus minutely upon this varicose condition in its various phases, because I believe it to be not only a very frequent cause of ulcers, but also a serious barrier to their successful treatment, and a very constant source of their recurrence. I reserve my remarks on the best method of managing this varicose condition in its different stages, until I come to the treatment of ulcers generally.

I pass on now to the consideration of some of the other predisposing causes. A plethoric condition of

system will sometimes light up very severe and extensive ulceration, either spontaneously, or more commonly from some slight abrasion of the cuticle. An anæmic condition, resulting from any debilitating cause, but most frequently from a diet deficient in quantity, or defective in quality, gives rise to a peculiar form of ulceration of the lower limbs, easily recognised when once seen. Scrofula has its own peculiar form of ulcer; secondary syphilis is another cause. The suppression of the menstrual discharge sometimes finds relief in a peculiar form of ulcer in this region. Patients sometimes tell you their leg became bad after a fever, or, in their own words, "that the fever settled in their legs;" and certainly I have observed ulceration of the lower extremity following a severe febrile attack, particularly of a low type. The most common exciting cause of ulcers in this part is external violence of more or less extent and degree; and in some cases where the predisposing cause is in full operation, so slight an injury as almost to escape notice is sufficient to set the mischief going; or it may arise spontaneously, and thus what we commonly regard as a predisposing cause, may become an exciting one.

In the foregoing remarks, I do not profess to have fathomed and expounded to you all the causes of this class of disease. Some, perhaps, are still unknown, and

others I may have omitted, but my special object has been to direct your attention to those causes which seem to have a practical bearing upon the treatment. I will proceed in the next place to attempt a classification of ulcers, and this I shall found as much as possible upon the various causes I have just enumerated, avoiding all minute distinctions, and keeping in view such subdivisions as are useful in practice, reserving for after remark such uncommon forms as cannot be conveniently brought within the scope of my present classification. I propose, then, in the first place, to divide all ulcers into simple or local, and specific or constitutional.

I again divide the simple or local into acute or spreading, subacute, chronic, healthy, irritable, and varicose; the specific or constitutional I arrange under the various heads of strumous, syphilitic, phagedenic, periosteal, menstrual, œdematous, and malignant. Each of these classes of ulcer has certain characters and symptoms by which it may be recognised, and requires for its successful treatment certain modifications of local and constitutional appliances; and as in medicine and surgery generally, so especially in the particular form of disease we are now considering, your success in curing will not depend so much upon the multiplicity of your remedies as upon your power of recognising the exact

form of ulcer with which you have to deal, and the plan most suitable for that particular case.

I propose, then, to describe to you, seriatim, as far as my observation and experience will permit, the leading characteristics of the different classes above enumerated, and the treatment I believe to be most suited to each; but previous to entering upon this part of the subject, I am anxious to direct your attention to some general principles which are to guide you in the treatment of this class of disease, and if, in so doing, you find my opinions, as I have before hinted, somewhat at variance with most of our highest surgical authorities, I fearlessly appeal to a very large mass of successful cases thus treated by some of my colleagues and by myself, at this hospital, in vindication and confirmation of what I am now propounding to you, and I invite you, gentlemen, closely to scrutinize the result of cases treated upon these principles, and to make experiments for yourselves.

In considering, then, the principles upon which the treatment of ulcers of the lower extremity is to be conducted, I must again remind you, "that the reason why ulcers are more frequently found in the lower extremity than in any other part of the body, and are more difficult to heal, and more liable to recur in this situation, is on account of the weight of the superincumbent column of blood weakening the vessels, and impeding the circula-

tion through the part. The truth of this will, I imagine, be admitted by all surgeons, though it has not, I think, been sufficiently clearly and forcibly insisted upon by writers upon this subject. If this be so, it follows, as a necessary consequence, that the chief aim and object, independent of any specific treatment that the case may require, is to place the circulation of the lower limb on a par with the rest of the body: this object once accomplished, there is no reason why ulcers so situated should not heal as readily and as quickly as in any other region; and such is, indeed, found to be the fact.

The next important question is, How is this desirable result to be accomplished? The answer that at once suggests itself to the mind is, remove the weight of the column of blood by the recumbent position; keep your patient in bed, and at perfect rest, and the ulcer will heal; and this is found to be actually true of a large majority of these cases—perfect rest, combined with the simplest possible treatment, will effect a cure; and in some few cases which I shall hereafter particularly point out this plan is necessary. The facility and rapidity with which many ulcers heal when perfect rest is persevered in, accounts for the reputation which many constitutional and local remedies have acquired as valuable applications, and even specifics in these cases — the medical mind being somewhat prone to confuse and mis-

take the "post hoc" and the "propter hoc." But there are many practical objections to this mode of treatment; persons engaged in the active pursuits of life, whether rich or poor, find it very inconvenient to keep their beds for two months, or even for a longer period sometimes. Then, again, a cure obtained on these terms is very apt not to be lasting; but as soon as the patient moves about again, and hangs down the limb, in spite of every precaution, the weak cicatrix will give way, and the sore speedily becomes as bad as ever. Surgeons are unwilling, upon such terms, to admit these patients into hospitals, and thus both doctor and patients become tired of this plan, and the latter often put up with the pain and annoyance of a bad leg for a considerable part of their lives, trying a thousand different nostrums, and at last giving it up as hopeless. I have met with cases of this kind that have never been healed for five-and-twenty years. Is there, then, no other way besides rest in which the circulation in the lower extremity can be brought to a par with the rest of the body? I reply, with a confidence based upon extensive personal experience, and upon extensive observation of the same practice in other hands, that there is a plan, more rapid, more certain, and far more lasting, and more applicable to a large majority of these cases than rest, and even useful, in some cases, when rest fails, and that is "uniform and complete

support to the entire limb, which, I maintain, cannot be obtained by the ordinary bandage, however skilfully applied, but is only to be efficiently accomplished by a proper application of strapping, so as completely to envelop the limb from the toes to the knee." The practical method of obtaining this result, its modification in certain cases, and the important particulars in which it differs from the plan recommended by the highest surgical authorities of past and present times, I must reserve for other lectures.

LECTURE II.

General Principles of Treatment, continued—Baynton's Method the one now generally recommended; its Value discussed—Mr. Scott's Remarks on this subject—Best Method of Applying Mechanical Support to the Lower Limbs—Answers to Objections.

I THINK, gentlemen, I shall most clearly explain to you the method of treatment I am anxious to recommend, and, at the same time, offer a sufficient reason for bringing this subject before your notice, if I commence by giving you a brief summary of the views of some of the principal surgical authorities of the present day, and endeavour to show you in what essential particulars their plan differs from the one I recommend. I will subsequently enter into the details of what I believe to be the best, and indeed, I may add, the only effectual mode of obtaining complete and uniform support for a weak and ulcerated limb. If you refer to the best modern authorities upon this subject, you will find that bandaging is the only means recommended for accomplishing mechanical support to the lower limbs, and that

wherever pressure is spoken of as useful in the treatment of old indolent ulcers, Mr. Baynton is invariably mentioned as the author of the plan, and his recommendations carefully detailed and scrupulously enforced. This being the case, I think it will be both interesting and instructive to trace exactly what is meant by "Baynton's method," and impartially weigh its merits.

In the year 1799, Mr. Baynton published a little work, entitled "An account of a new method of treating *old* ulcers of the leg." You will observe, that he begins by limiting his plan to old ulcers—a limitation which I hope to show you, in the sequel, by no means belongs to the proper application of mechanical support. He says, in the early part of his book, that "he determined to bring the edges of the ulcer nearer together, by means of strips of adhesive plaster;" he thus starts with a false principle. He then gives the following account of his method of accomplishing this purpose:—"Take pieces of diachylon plaster spread upon calico, about two inches in width, and of such a length as to encircle the limb, and overlap at the ends to the extent of three or four inches; the middle of each piece so prepared is to be applied to the sound part of the limb, opposite to the inferior part of the ulcer, so that the lower edge of the plaster may be placed opposite to the inferior edge of the ulcer, and the ends drawn over the ulcer with as

much gradual extension as the patient can bear: other strips are to be secured in the same way, each above, and in contact with the other, until the whole surface of the sore and the limb is covered *one inch below and two or three above the diseased part.*" He further states, "The force with which the ends are drawn over the limb must be gradually increased, and when the parts are restored to their natural ease and sensibility, as much may be applied as the calico will bear, or the surgeon can exert."

I could quote from nearly every surgical writer of the present day who has touched upon the subject, an almost verbatim transcript of these directions; but as such quotations would be mere repetitions of the same idea, with slight modifications in language, I must refer, in confirmation of my statement, to their published works. Sir B. Brodie, in his published lectures; Liston, Fergusson, Syme, Miller, Chelius, Cooper, Rust, Blandin, in the French "Dictionary of Medicine and Surgery," and others, echo "Baynton's plan;" although, from the commentaries they for the most part superadd to their recommendation, it would seem that they are somewhat dubious as to its value even in these old chronic cases. Thus Sir B. Brodie says,* "It is of great consequence that the plaster should be tight enough to give comfort-

* Lectures on Various Subjects, page 153.

able support, and, at the same time, not so tight as to make the limb swell below, for if it should produce this effect, it will very likely bring on a sloughing of the sore." It appears to me that this distinguished surgeon could hardly have required at the hands of his pupils a more difficult feat of dexterity than in the foregoing rule; in my judgment it in most cases involves a physical impossibility. Liston says, "If bandaging be neglected, whilst tight pressure is made round the limb above, troublesome swelling, and even ulceration about the ankle, will ensue." Liston adds, further, "The elevated position is still to be preserved." Miller, in his "Principles of Surgery,"* after recommending Baynton's plan, adds, "The amount of pressure must be carefully regulated, at first tolerably severe." Further on, he says, "The dangers plainly are, over-action and strangulation of the limb, even although the latter be provided against by previous careful bandaging:" to obviate this, he recommends the plaster, which he previously told us ought to be tightly applied, to be cut through on a director, and so left adhering to the limb, but gaping. This surely sounds like playing at "fast and loose."

Rust, a German surgeon of some repute, who has written the most elaborate work on ulcers with which I am acquainted, (a quarto volume of above 500 pages,)

* Page 237.

after quoting from Mr. Baynton, and recommending his plan, dwells at considerable length upon the danger of strangulating the limb, and increasing the evil you intend to remedy. And lastly, M. Blandin, in a very elaborate article on the subject of ulcers, in the French Dictionary of Medicine and Surgery, sums up in the following words his estimate of this plan:—"We have made several experiments in order to ascertain the value of this method, (Baynton's,) and they all teach us, that though very useful when combined with perfect rest, it is very treacherous, and not to be depended upon when applied alone." Now, as one of the leading merits of mechanical support is, that it enables the patients to move about with impunity, this sentence seems to me to amount to a practical condemnation of the system altogether. Syme is so dissatisfied with the plan, that he proposes to substitute one of his own, upon which I shall have hereafter to speak. I must now leave these commentaries to speak for themselves, and proceed, in the next place, to inquire how far the plan recommended by Mr. Baynton, and since his time by all the best authorities, is in accordance with the principle with which I started, or answers the requirements and conditions upon which I have previously insisted.

I stated in my former lecture, that one main object to be obtained was to facilitate the return of blood through

the limb, so as to place the circulation in this part on a par with the rest of the body: now I maintain, most strongly and confidently, both from reasoning on the matter, and also from experience and observation, that Mr. Baynton's plan, so far from accomplishing this object, has a decided and direct tendency to impede the circulation through the limb, and, like a tight garter, produce stagnation, with its train of evils; hence these cautions about strangulation, sloughing, &c., which I have just quoted. And even if it produce benefit in some few cases to the dilated capillaries immediately round the wound, this advantage must usually be more than counterbalanced by the injurious effect upon the rest of the limb. Perhaps it may be argued, that the bandage applied so as to cover the entire leg is sufficient to counteract this evil tendency of the circular strips; but I contend that the most perfectly and accurately applied bandage affords but irregular and imperfect support to weak vessels, even when used alone; and when called upon to counteract the strangulating tendency of Mr. Baynton's tight circular adhesive band, it is wholly unequal to the task, and leaves the limb in a most unsatisfactory condition for the healing of a wound. It may be thought that I am insisting with unnecessary minuteness and vehemence upon this matter, and that the plan I am about to propose differs but little from Mr.

Baynton's; but I contend that there exists all the difference between a correct and a false principle—between a safe, efficient, and widely applicable mode of practice, and one that is at best very limited, doubtful in its result, and dangerous in its tendency.

The only written account to which I can refer you for a correct view of the practice I am now about to detail to you is to be found in a work, published in 1828, by the late Mr. John Scott, formerly surgeon to this hospital, on the treatment of diseased joints. Owing to the extreme brevity of his remarks upon the subject of ulcers, to their being locked up, as it were, and hidden, in a work professing to treat upon a different subject—owing, also, perhaps, to some little prejudice that existed in the mind of the profession against the author, and to the very limited circulation of the work, which might have been thought to contain too exclusive an advocacy of a peculiar method of treatment;—from whatever cause it may have arisen, certain it is that this valuable principle, suggested originally by the eminently practical, acute, and self-taught mind of his father, the late Mr. Scott, of Bromley, has been almost entirely overlooked or neglected by the profession.

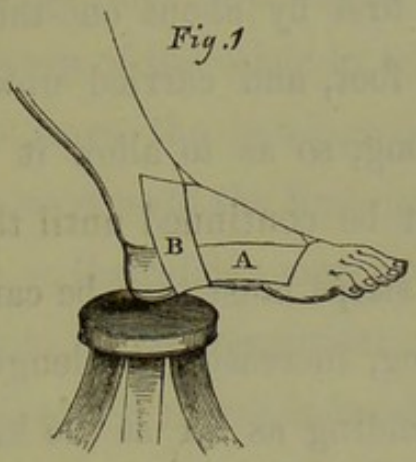
If, then, we would justly apportion merit, we must limit to Mr. Baynton the credit of being the first to recommend the use of adhesive strips in the treatment

of ulcers. Here I contend his claim ceases. To the late Mr. Scott of Bromley is due the higher honour of working out the true principle upon which alone these adhesive strips can be safely and successfully used; to the late Mr. John Scott the profession owes the publication of these principles, and the teaching of these views to his pupils, many of whom have for years vindicated the advantages of this method of treatment, by the success that has attended their labours in this department of surgery; and to the London Hospital belongs the merit of having afforded abundant materials whereby the correctness of the principle and the efficacy of the practice have been extensively worked out and tested, and pupils practically qualified to carry out this system. Whence, then, I would ask, can the reassertion of this principle, so strangely neglected or unobserved by all professional authorities, more legitimately emanate, than from that hospital where it was first publicly taught and practically substantiated?

I will now proceed to explain to you, in detail, the method I recommend you to adopt, in order to accomplish a complete support of the entire limb. You must seat your patient opposite to you, and support his foot upon a small stool, about a foot and a half in height, and so constructed as to receive the point of the heel, and leave the rest of the foot free. You should be pro-

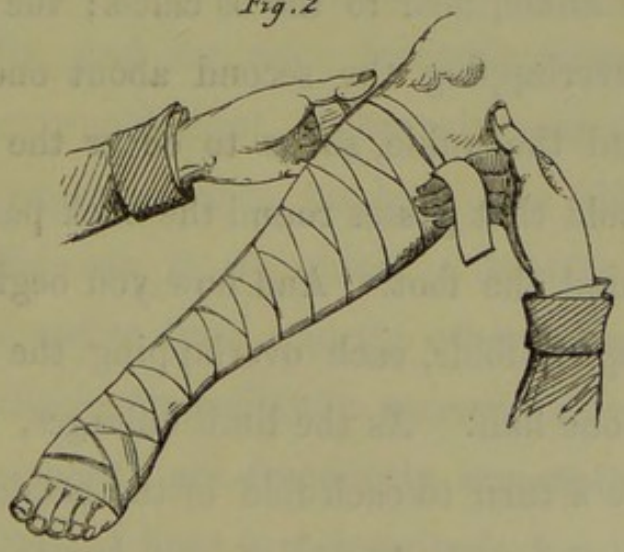
vided with strips of plaster, about two inches in width, and varying in length from twelve to eighteen inches, according to the size of the limb. The best material for this purpose is the simple emp. plumbi of the Pharmacopœia, spread upon soft, unglazed calico, and free from resin, which is often introduced to increase its adhesiveness, but which is very liable to irritate the skin. If the plaster be well made, and of the best materials, it will adhere perfectly; I have often found it unmoved for many weeks, and even months. It is convenient to provide yourself with a metallic warmer, made with a flat top, upon which you can lay three or four pieces, heated either by hot water or by small lamps, which are better, if you require it for any length of time. This form of warmer is far preferable to the circular one ordinarily in use, saving both time and trouble. But to proceed. You then take the centre of the first piece, and apply it low down to the back of the heel, and then, with the flat part of both hands, (*see the position of the hand in* Fig. 2,) press the plaster along both sides of the foot, (*see A*, Fig. 1.) This plan is very preferable to taking hold of the ends, and endeavouring to apply them, as it ensures a perfectly smooth adaptation of the plaster to the part, and also because it enables you to regulate that very important point, the amount of tightness you may wish to employ. As you

Fig. 1



proceed with the remainder, you must always remember the principle is to make one portion hold on another; you must therefore alternate them round the foot and the ankle. Your second piece should be placed in a similar manner underneath the heel, and then carried upwards, at a right angle to the last, so as to cover a portion of each malleolus, (*see B*, Fig. 1.) The third piece should be again applied to the back of the heel,

Fig. 2



overlapping the first by about one-third. The fourth piece under the foot, and carried upwards, each piece being pushed along, so as to allow it to take its own course; this must be continued until the foot and ankle are covered; the strips must then be carried in a similar manner up the leg, increasing in length as the calf increases, and extending as far as the knee, (*see* Fig. 2,) and in some few cases even above this. A calico bandage, about three inches in width and eight yards in length, varying, however, according to the size of the limb, must now be applied, in the following manner: if it is the right leg, the bandage should be held in the right hand in commencing, and vice versa. This is in order to bring the folds, which are necessary as you ascend the leg, on the flat part of the tibia. The first turn should be made round the ankle; the second round the foot, near the toes; the third round the lower part of the ankle, near to the ós calcis; the next round the foot, overlapping the second about one half; the fourth round the ankle, so as to cover the loose upper end of the fold that passes round the back part of calcis; the fifth round the foot. And now you begin to ascend the leg in spiral folds, each overlapping the last rather more than one half. As the limb enlarges, it is necessary to give a turn to each fold of the bandage; this is done by placing the thumb of one hand on the spot

where you desire to limit the extent of the fold, and give a peculiar sweep of the other in which the bandage is held, so as to leave the bandage perfectly smooth. This must be repeated until the limb no longer increases in size, when two or three folds may be carried obliquely downwards, so as to fix the remainder; the end must be secured with pins, and the limb is bandaged, and is supported in the most complete and efficient manner that human ingenuity has yet devised. None but those who have practically tested the matter can estimate the immense difference between mechanical support so obtained, and that which the most accurately applied bandage, when used alone, can accomplish; it is, in fact, far greater than mere reasoning upon the subject would lead you to expect; and whilst it accomplishes all that rest can do for the ulcer, in many cases it does a great deal more, enabling the patient to pursue his ordinary avocations, and at the same time healing the wound more rapidly, and far more lastingly, than the most complete rest would effect. In carrying out this method, we must remember that we have two objects to accomplish: the one is, to obtain a healthy circulation through the entire limb, and the other, to act upon the dilated capillaries immediately surrounding the wound. Both these objects are frequently accomplished by the general support I have just described; but it sometimes

happens, particularly in small ulcers situated in the hollow between the malleolus and the os calcis, that the diseased vessels immediately around the wound require an amount of pressure which the rest of the limb would not bear. Under these circumstances very great advantage is derived from applying, previous to the support I have just described, some pieces of strapping, about six inches in length and two inches in width, in a crucial manner, over the wound, so as to extend a few inches above and below it; these pieces, as they do not encircle the limb, may be applied with all the force and tightness the surgeon can exert. If this plan be superadded to the other in certain cases, it is of great assistance to the surgeon, enabling him to combine considerable local pressure upon the weakened and distended vessels immediately surrounding the sore, with gentle mechanical support to the entire limb. But it may be asked, is this complete support of the entire limb always necessary? I answer, certainly not. When the limb is in an otherwise healthy state, the congestion confined to the circumference of the ulcer, and the ulcer is situated tolerably high up in the limb, short strips applied so as to cover a few inches above and below the wound, will answer every purpose; but it is of the utmost importance that these pieces should not surround the entire limb, for reasons that I have before insisted upon; and I would

lay it down as a rule without exception, that in every case in which it is necessary to apply strapping entirely round a limb, it must never be partially applied, but must encompass and support every part of the leg.

Having now described to you in general terms what I believe to be the best method of obtaining mechanical support, and the principle upon which it acts, it remains for me to offer some suggestions as to the particular cases to which it is applicable and where it is injurious, with certain modifications required for special cases, and some general rules to guide you in regulating the degree of tightness required for any particular class or stage of the disease—most important points—as regards the success of your treatment. All this I must reserve for other lectures. But before I conclude, I would just briefly allude to some of the objections which have been, and may be, urged against this method. It has been said that it is suitable to a very limited number of cases —that it sometimes causes very serious mischief—and that it requires a considerable amount of labour to acquire such an amount of dexterity as shall ensure average success.

I shall endeavour to show you, that inasmuch as it involves a general principle, and works out a universal law, it is applicable to a very large majority of cases of this description, and that those cases in which it is

useless, or cannot be borne, form rare exceptions to this rule.

I grant that it is sometimes productive of mischief—and that when clumsily applied, or with too much tightness, or in unsuitable cases, it may produce serious consequences. But is not this an objection that may be raised against every useful and efficient remedy, each of which owes its curative power to the skill with which it is brought to bear upon the particular disease, and even to the particular stage of the disease to which it is exactly applicable.

With regard to the time and labour necessary for the acquisition of a fair amount of dexterity, I admit that it demands some practice and perseverance, and some courage, not to be daunted by early failures; but I can assure my young friends, from personal experience, that it is worth some pains; that practice makes each successive application more easy and rapid; and that when once they have triumphed over the difficulties, they will be most amply rewarded by the success that will attend their labours, and that, too, in a field where the "harvest is plenteous and the labourers are few."

LECTURE III.

Special objects of this and the ensuing lectures—Symptoms of acute ulcers — Treatment — Management of simple abrasions of the skin — Subacute ulcers — Characteristics and treatment — Value of water dressing — Rules for applying mechanical support in the subacute stage — Chronic ulcer — Morbid appearance of — Variety of applications and methods of treatment—Plans of treatment advocated by Messrs. Skey, Spendor, and Syme.

HAVING in my two previous lectures endeavoured to explain to you the principal predisposing and exciting causes of ulcers of the leg; having arranged them in classes, and suggested the principles upon which the treatment of such cases should be conducted; and having, in furtherance of this object, shown you the best method of accomplishing complete mechanical support of the entire limb, I will proceed to give you some general practical rules with regard to the application of this remedy to the various cases that come before your notice. I am anxious to explain to you in what cases this treatment is inadmissible, and would prove injurious; where the support must be firmly and where loosely applied,

and what are to be your guides in determining this important point; when it will alone suffice for a cure, and when it requires the aid of other applications; when you must enjoin rest, and when locomotion is not only allowable, but advantageous; what are the signs proving that the case is progressing favourably, and the contrary; glancing at the same time at some of the other methods of treatment that have been recommended for these cases. It is in explaining these various points that I cannot but feel that I enter upon the most important and difficult part of the subject—important, because your success must very much depend upon your recognition of these practical distinctions — and difficult, because it must be admitted that mere words must ever convey to the mind but a faint idea of morbid appearances, and give but very imperfect suggestions with regard to remedial appliances. I trust, however, to be able to supply you with the principal outlines, and study and observation will enable you to fill in the details. I think I shall best accomplish these objects if, adopting the classification I have already given you, I take up each form of ulcer in succession, marking the more prominent and characteristic signs that distinguish each, and suggesting such modifications of treatment as my experience has shown me to be advantageous. You will remember that I divided ulcers into simple or local, specific or constitu-

tional. The simple or local I again subdivided into the different conditions of acute, subacute, chronic, healthy, irritable, and varicose; the constitutional into strumous, syphilitic, phagedænic, menstrual, œdematous, and malignant. I am aware that this classification is open to objections: thus local or simple ulcers are in many instances modified by the constitution of the individual in whom they occur, and the specific forms present differences resulting from the condition of the limbs in which they are found, and would seem to persist in this situation as a local disease, long after the constitutional taint or defect to which they owed their origin has entirely subsided; and I may further remark, that as in the world of animated nature unity of law is found to co-exist with endless diversity of manifestation, so in the whole range of disease, and certainly in the cases I am now considering, this twofold phenomenon displays itself. Thus, though we have but one law regulating the process of ulceration, the different aspects under which it presents itself to our notice are most numerous and complicated, and can scarcely be brought within the scope of any classification, however varied and complete. I have first, then, to consider that form of ulcer to which the term acute, as indicative both of the condition of the sore itself, and of the surrounding parts, may be applied. This state of things may be said to exist at the com-

mencement of nearly every form of simple ulcer, and may be suddenly set up at any stage of its course. Some of the specific forms of ulceration would seem never to have an acute stage, as I shall hereafter explain. I will now describe the principal symptoms by which this stage of ulceration may be recognised, and the most suitable treatment to be adopted.

The acute form of ulcer is almost invariably attended with severe suffering, which is aggravated to an intolerable degree when the limb is placed in a depending position; there is a sensation of great heat and tension, and the pain is of an aching, gnawing, character. The ulcer looks uneven and glassy, the edges are irregular and undefined, sloughs varying in size are often seen on the surface; the discharge may be slight or abundant, but it is invariably thin and ichorous, sometimes mixed up, however, with the debris of the ulcer; the surrounding parts are of a bright red colour, or sometimes of a peculiar speckly red-and-white aspect, difficult to convey in words, but very characteristic of this condition; the swelling may be slight, or it may extend over a considerable portion of the limb. On making continued and firm pressure upon the parts in the neighbourhood of the sore, they pit, showing a state of local œdema, which I have almost invariably found to exist in acute ulceration of the lower limb, and which is very rarely found in the

subacute and chronic stages, except when there is general anasarca—a condition of things which does not belong to the present inquiry. Some authors speak of applying pressure to get rid of the œdema of old ulcers; I can confidently affirm that such a condition rarely, if ever, accompanies chronic sores; it is a sure indication of acute inflammation and ulceration, and becomes a very useful and unerring guide in practice, more particularly in determining the point as to whether the limb will bear mechanical support, inasmuch as wherever this state is found, support is contra-indicated. The bright red colour of the surrounding parts is another important indication; when these inflamed vessels are pressed upon and emptied, they refill with such rapidity that the interval is scarcely appreciable. It will be useful to contrast this with a similar experiment during the chronic stage, which I shall hereafter allude to. I dwell upon these diagnostic marks, because they are most important in practice. Any attempt to apply mechanical support during the acute stages of ulceration is invariably attended with most injurious effects, and has a tendency to bring a remedy that is of the utmost value when judiciously selected, into unmerited discredit. In regard, then, to treatment: the recumbent position must be constantly maintained, and is, in general, the only one that can be borne; additional benefit is sometimes

derived from the use of the inclined plane, by which the limb is elevated more or less above the rest of the body, thus facilitating still further the return of blood through the limbs. Soothing applications are the best suited for this condition; water dressing, either warm or cold, as is most agreeable to the patient. Poultices of various kinds (though it is the fashion for Young Surgery to condemn them wholesale) often afford relief when all else fails to do so, and are still, I am convinced, in some cases,—in spite of the obloquy and ridicule now cast upon them by the modern school,—by far the best method of obtaining uniform warmth and moisture to an inflamed surface. If the sore be foul and sloughy, a solution of the chloride of lime, or soda, is a useful application; the strength must be regulated by the feelings of the patient, the object being to produce a slight tingling sensation, not amounting to pain. I generally commence with half an ounce of Fincham's solution of the chloride of lime to a pint of water: in foul, angry, sloughing sores, I have met with no application so useful; it rapidly removes all unpleasant odour, and produces a healthy granulating surface. In ulcers of an acute character, with a considerable amount of surrounding inflammation, some surgeons recommend local depletion, applied to the circumference of the sore, either by means of leeches or small lancet punctures. I do not

recommend this plan of treatment. I do not deny that occasionally temporary benefit and relief from pain may result from it, but, on the other hand, I have so frequently seen cases in which these artificial wounds, slight though they seem, have become troublesome sores, and in which no improvement has been produced in the original ulcer, that I am convinced that the possible advantage is very much more than counterbalanced by the probable injury that may result from this plan.

I do not profess here to enter fully into the subject of acute ulceration, I merely offer these passing comments; it has received such complete and scientific consideration from some of our best surgeons, that it would be both presumptuous and unprofitable for me to encumber you with further remarks. My chief object has been clearly to define the leading symptoms of acute inflammation and ulceration, and to prevent you from confounding it with the subacute and chronic stages of this disease; deeming it quite as important to guard you against attempting mechanical support in those cases in which it is inadmissible and injurious, as it is clearly to point out those forms of disease to which it is applicable. Before I quit this part of the subject, I would offer a few practical observations on the management of a simple abrasion of the skin. When it occurs in other parts of the body, such an accident is quite unimportant, but on the leg it

becomes a matter of great moment to heal up the injury at once. If the abrasion occur in a part that has been previously ulcerated, it is almost sure to reproduce the ulcer exactly as it before existed, both in regard to size and shape; or if it takes place in a limb in which there are varicose veins, or a congested condition of the capillary vessels, it will generally baffle all your efforts to establish a rapid cure, and will pass into a condition of acute ulcerative inflammation. When, however, such an accident occurs in a tolerably healthy person, and in a limb in which the circulation is normally maintained, you may generally succeed, by judicious management, in preventing these ulterior disasters; and I am satisfied that at this early stage it mainly depends upon the treatment pursued whether this simple abrasion closes at once, or passes into an inflamed and troublesome sore. The grand point to aim at is to produce a dry scab; this Nature will sometimes accomplish for herself, if not prevented by meddling surgery. The process may be sometimes aided by applying, in slight cases, gold-beater's skin, or the moist lining membrane of the egg-shell, or, in more extensive abrasions, a semi-fluid solution of gum, or of gun-cotton in ether, each having the same object—viz., the production either of a natural or an artificial scab. This scab should be allowed to separate from the limb spontaneously, when the part beneath

will generally be in a sound state; if this should not be the case, the same application may be renewed. I have on several occasions known a slight injury of this kind converted into an obstinate ulcer by the application of what are commonly, but in this case, and indeed in most cases, I presume, ironically termed "healing ointments."

I pass on now to that division of the simple ulcer which I have termed subacute. It is somewhat difficult to define, presenting, as it does, every gradation, from the acute to the chronic stage. The acute stage may be said to cease when the ulcer no longer increases either in size or in depth, and the œdema has either subsided or given place to a firmer deposit. The surrounding parts present a somewhat deeper shade of red; the surface of the ulcer is still uneven, glassy, of a yellowish colour, tinged in spots with red, with no sign of granulations; the edges are uneven, and sometimes undefined; the discharge is still thin, and there is some pain and heat in the part. As this subacute stage gradually subsides into the chronic condition, the surrounding deposit becomes firmer, the circumferential redness assumes a deeper shade, and gradually merges into a blue or bluish-brown tint, and on making pressure, the vessels, which at the commencement of the subacute stage are very easily emptied, and as quickly refill, now require a firmer and more prolonged pressure to empty them, and

much more slowly resume their former colour. So that the chief practical points to attend to in this subacute stage, in order to enable you to distinguish its various phases, are the colour and temperature of the surrounding parts, and, above all, the amount of pressure required to empty the vessels, and the rapidity with which they refill. This last test has not been mentioned, so far as I am aware, by any writer; but I have found it a most valuable guide in determining the difficult points, as to whether mechanical support can be borne, and if so, with what degree of tightness it should be applied.

What, then, is the treatment to be adopted in these subacute ulcers? If the skin remains of a bright-red colour, rest must be still enjoined; and it is owing to the extreme difficulty in inducing your patient to submit to this entire rest for a sufficient length of time, that this subacute stage is often prolonged. Strips of linen may be dipped in cold water, and applied so as to give a little support, in the same way as strapping, and over this strips of oil-silk is a useful plan in the early stage. I have used this method on several occasions when the inflammation was too acute to bear strapping, and with very marked benefit; it was first suggested to me by my friend and colleague Mr. Nat. Ward, some time before Mr. Chapman's work on ulcers appeared; I have a high opinion of the plan, but I cannot accord to it all the

merit claimed for it by Mr. Chapman—in my experience it has almost invariably happened that after a certain amount of advantage, a stage arrived when no progress was made, and I have been compelled to have recourse to my usual method to complete the cure. Much has been said and written within the last few years on the subject of the "water-dressing" for wounds. I have tried it extensively; it has the advantages of cleanliness, economy, and simplicity, and is certainly an immense improvement upon the complicated unguent of former days; but it is desirable, if possible, to get at its real value. It answers remarkably well in the transition stage from the subacute to the chronic ulcer; but there comes a time when the surface of the sore is either raised and flabby, as in cases where it is combined with entire rest, or becomes dry, and makes no progress towards healing. In either case it has done its work, and some other application must be substituted. I can scarcely recall a single case of any importance, out of many in which I have fully tried this remedy, that I have been able to bring to a successful termination by this application alone.

If the surface of the sore looks glassy and irritable, an improvement is often obtained by a weak solution of the nitrate of silver, or of nitric acid, or a light sprinkling of the red precipitate powder. After a certain time the

sore presents a more defined edge, and a more healthy appearance; some granulations show themselves; the discharge becomes rather thicker, and the surrounding parts, instead of being of a bright red, assume a much deeper shade; the pain, tenderness, and heat, are all much diminished. Your patient now naturally desires to be released from his confinement, and it is, I conceive, the duty of every surgeon, not to keep a patient in the recumbent position a single day longer than is necessary for accomplishing a cure. Every consideration induces this conclusion; the patient's health improves under the influence of air and exercise; the daily avocations of life are no longer neglected; and a cure obtained under these circumstances, if not in all cases so speedy, is certainly far more likely to be permanent. Now, then, is the moment for commencing more effectual mechanical support by means of strapping; and most important it is to select the right time. If it be attempted too soon, it will bring back all the symptoms of acute inflammation, and if persevered in, may produce serious mischief; and the want of proper discrimination in the use of this, as of every other valuable remedy, may bring it into unmerited discredit. If the diagnostic marks I have dwelt upon be carefully kept in mind, this can scarcely occur; and even should the application of mechanical support be premature, but little damage is done if you at

once retrace your steps, and do not persevere when you find the case is not progressing favourably.

When you first begin to strap a case of this kind, if the ulcer is situated high up in the leg, if the surrounding redness is not extensive, and if the general circulation through the limbs is tolerably healthy, the short strips, applied as I directed in my last lecture, and not allowed to surround more than half the circumference of the limb, will sometimes be sufficient. The entire foot and leg must then be enveloped in a bandage, which may be moistened over the sore with cold water. If, however, there is not a speedy and marked improvement in the aspect of the sore after two or three dressings, and yet the case is clearly one requiring mechanical support, you must at once apply strapping to the entire limb, in the way I have before recommended; and if this is done carefully, and with very gentle uniform pressure, a marked improvement will speedily follow. It has frequently happened, that in treating a case of this kind I have commenced with the short strips, hoping to save trouble and plaster; but I have afterwards been compelled to adopt the more complete method, and have found that I thereby, in the end, saved both. Whenever the limb is swelled and puffy, the circulation through it feeble, and the parts surrounding the wound are extensively involved, as is shown by the discoloured and

dilated condition of the capillary vessels, and by the subcutaneous deposit, the short strips alone are sure to fail, and the limb must be completely supported and enveloped in strapping—still continuing the cold water, if it afford relief. At this stage the parts surrounding the ulcer will be found of a deep red colour, and on making pressure with the finger, the vessels are readily emptied, and quickly refill on omission of the pressure, —there is also some slight heat. The indication therefore is, in commencing strapping in the subacute stage of ulceration, to apply it very gently, and sometimes even loosely; for the very contact of the plaster, without any apparent circular tightness, appears to give very marked support to such a case. If all progresses favourably, you will find, when next your patient presents himself, that the strapping you applied has become still looser, owing to the swelling having diminished. The surrounding redness is now of a deeper shade, or even of a bluish colour, and the discharge is somewhat thicker. I should strongly recommend every surgeon to remove the dressings himself, as the state of the strapping and the nature of the discharge are valuable guides to him in determining the progress he is making, and the proper tightness with which to apply the next dressing; for this, as I have before said, is one of the most important elements in the success of this method of treatment. I

may add, that I have found the feelings of the patient another most useful guide in determining this point. If the swelling is much diminished, and the colour of the surrounding capillary vessels of a deeper shade, and refill more slowly when emptied by pressure, you may venture to apply the strapping more tightly, and to discontinue the cold water, and you may then promise yourself a speedy and satisfactory cure. If, on the other hand, the pain has been increased by your application, the patient complains that it has felt tight and uneasy, and the discharge is thin, you must apply it again more loosely. If still there is no improvement, it is better at once to give it up, and to return to your soothing plan, and rest: either it has been used prematurely, or too tightly, and in both cases it is useless to persevere. I have never met with an instance in which, if the first two or three dressings were not beneficial, it was possible to recover lost ground, and obtain a healthy action, without an entirely fresh start, after the limb has been brought into a favourable condition by rest and other suitable treatment.

I have now to consider the chronic form of ulcer, a condition in which it much more commonly comes before your notice, in consequence of the very inefficient methods of treatment usually adopted. In speaking of chronic ulcers, I shall at present confine myself to those that

are simple and free from any decided constitutional peculiarity. They differ in a remarkable manner in the amount of pain they occasion; in some, the pain is aggravated by moving about, in others, by rest. Night is sometimes the period of the most severe suffering, particularly in those cases that are complicated with varicose veins; and again, I have met with some few cases of many years' standing, in which the patient seemed scarcely to suffer. There is also great variety in their size, shape, and situation; they are usually oval, often of considerable dimensions and depth, and are most commonly situated about the lower third of the leg. There is no heat; the surrounding parts are of a blue or of a brownish colour, this discoloration sometimes involving a considerable part of the leg; and it is a singular circumstance that this dark brown stain never disappears, even though the limb in other respects may have become perfectly healthy; this probably depends upon some permanent change in the capillaries of the skin. There is often a considerable amount of firm, inelastic thickening and deposit around the wound, varying in extent according to the length of time the disease has existed, giving to the sore an appearance of considerable depth; the sore itself presents a flat, even surface, without any signs of granulations, but covered by ill-formed lymph; the discharge is thin, varies in

quantity, usually being slight. Ulcers may exist in this condition for an almost indefinite period, varying slightly at times, from accidental, local, or constitutional causes, but maintaining nearly the same size and appearance for many years. I have met with cases of this kind that, according to the patient's own account, have never varied materially for five-and-twenty years. The only real change that goes on is a very gradual thickening and deposit in the cellular tissue surrounding the ulcer, giving rise to those raised and callous edges, which are so characteristic of these ancient cases. The age of some of these ulcers is an unanswerable proof of the inefficiency of every attempt made for their cure, and yet this has not been in consequence of any deficiency either in the number or variety of the applications and plans recommended. Nearly every stimulating and astringent ointment and lotion in the pharmacopœia, and many not found within its extensive vocabulary, have been at one time or another enlisted in the service; other methods, both local and constitutional, have from time to time been suggested, some of the principal of which I will just briefly notice. Chelius recommends these callous edges when much raised to be shaved off with a scalpel previous to commencing other treatment—a plan I have never tried, and one that I imagine would be deemed somewhat too heroic by

English surgeons. A paper appeared in "The Lancet" some time ago, by a gentleman whose name I do not remember, announcing issues as the grand panacea in these cases. Mr. Skey is an advocate for small doses of opium. Mr. Spendor wrote a work upon this subject, the main object of which is to recommend the application of an ointment composed chiefly of lard and chalk, and careful bandaging. Electricity has been strongly recommended; and Mr. Syme has lately strongly advocated the use of blisters over old ulcers and the parts surrounding them; and there is a plan suggested within the last few months for endeavouring to dry these sores at once by forming an artificial scab, which is accomplished either by hot air or by some solution of gum, that shall, as it were, hermetically seal the wound, varnishing it over, entirely excluding all atmospheric influence, so as, if possible, to prevent the formation of pus.

I have endeavoured, as far as possible, to ascertain the value of most of these methods by direct experiment. I have tried all the most approved local stimuli, both in the form of ointment and lotion, and although I have frequently observed an improvement in the condition of the wound, it has usually been very temporary. Many cases of long standing that have come under my notice, have previously exhausted a great part of these applications, both vegetable and mineral, but

without obtaining permanent relief; and this seems to me to be only what common sense would lead us to expect. No application to the wound can get rid of the surrounding congestion and morbid deposit, upon which the ulceration depends, and to which it owes its continuance; and this is, in truth, an answer to the majority of plans proposed for the cure of these cases. I have put issues in, and kept them running for many months, but without ever being able to trace the slightest benefit; and here again I think pathology teaches us to expect such a result, for we frequently meet with two or more sores on the same limb, and yet one does not exert a favourable influence on the other, which ought to be the case if the principle of using issues were correct.

Mr. Skey's pamphlet, emanating from so high a quarter as St. Bartholomew's Hospital, promised such great things, and with so much confidence, from the use of opium in the treatment of ulcers, that I was surprised to find, after a prolonged and extensive trial, that in no one instance was I able to trace the slightest benefit from its use. I have carefully administered this drug in above forty cases of this kind, and I have been compelled to arrive at the conclusion that it is utterly valueless as a healing agent in the treatment of ulcers of the lower limb.

When Mr. Spendor first published his book, I tried his chalk ointment in five or six cases, but I found such an accumulation of discharge, and so little progress towards a cure, that I gave it up. I am willing to admit I may not have selected suitable cases for the experiment, and that I may have given it too limited a trial; certain it is, that in my hands it was very unsuccessful. Mr. Syme's plan I have tried with marked benefit. The blister acts beneficially on the surrounding induration, and rapidly alters for the better the condition of the sore. The root of the evil is here attacked, and, as might be expected, with good effect as regards the ulcer. It is, however, open to some objections; it is very painful, and patients are unwilling to submit to it —more particularly to its repetition: its good effects are sometimes only temporary, the case becoming as bad as ever again. It also seems to require the assistance of other appliances to complete the cure, being insufficient of itself, in every case in which I have tried it, to effect this object. It is apt to produce a permanent state of irritability of the skin. This last is the most serious evil resulting from it. I am glad to find that in a notice of this gentleman's essay upon the subject, in the "British and Foreign Medico-Chirurgical Review," after a fair and impartial estimate of the merits of the plan, a strong opinion is expressed that it will not bear a

comparison with mechanical support, when efficiently and scientifically applied. They meet Mr. Syme's argument respecting the greater economy of his plan by the very just observation, that mechanical support, though apparently expensive, yet inasmuch as it enables the patient to pursue his ordinary avocations, is far cheaper than any plan requiring rest. When they state the expense of each dressing to average a shilling, they very much over-estimate the matter—sixpence is a very liberal allowance, as I know by ample experience in the treatment of gratuitous patients.

The next point for consideration is the method I propose to adopt in the management of these chronic ulcers; but as this involves considerable detail, I must reserve it for my next lecture.

LECTURE IV.

Treatment of chronic ulcers—Position of the sore an important circumstance to be considered — Remarks—Peculiarities which prevent success—Hints to be attended to during the progress of the cure—Healthy ulcers—Irritable ulcers; their distinguishing peculiarities—Cases illustrating method of treatment.

I WILL now describe to you what appears to me to be the best method of managing these chronic ulcers. You will often find that when these cases first present themselves to your notice, the surface of the ulcer is foul and unhealthy; it is desirable, if possible, by means of a few days' rest and suitable applications, to obtain a healthy surface to start with, as it renders the subsequent treatment more immediately efficacious, and hastens the cure. Still, it will often be found in practice that even this short period of repose is most difficult to obtain, involving, perhaps, serious loss and inconvenience to the patient; and, though desirable, it is by no means necessary to ultimate success, as I have had abundant proof in my own practice.

In cases where rest can be thus obtained, and where the ulcer is indolent, and, at the same time, foul and

unhealthy, the red precipitate powder is very useful in producing a new and more healthy surface; it should be sprinkled on rather thickly, and allowed to come off spontaneously in a congealed cake or mass; one application is usually sufficient. The principal objection to it is, that it often occasions severe pain for many hours. In making anything like an estimate of the facility, rapidity, and certainty of your success in curing these cases by the method I am about to detail, and also in forming for yourselves rules as to the best method of applying mechanical support and the requisite amount of tightness to be employed, some important elements are to be considered, and the first is the situation of the sore; if it be placed about the middle, or above the middle of the leg, all that is usually required is a tolerably tight, complete, and uniform application of strapping to the entire limb, and the sore will rapidly heal. In such a case, a mere tyro will often be successful; but if, as is very often the case, the ulcer is situated over either malleolus, or in the space between the malleolus and the heel, the mechanical management becomes far more difficult, and the cure more tedious, and, in inexperienced hands, often impossible. The great difficulty arises from the fact, that the parts immediately surrounding the sore require a much greater amount of pressure than the rest of the limb will bear. In order

to accomplish this, it is better to commence with the application of the short strips of plaster in the way I have already described, putting the first piece some inches below the wound, and covering all that part that is discoloured and indurated; these short strips should be drawn as tightly as it is possible to pull them; after this the limb must be completely supported, and in doing this, those strips which are applied over the foot and by the side of the ankle must be drawn tightly; but when you begin to encircle the small part of the leg it must be done with less force. There are also other points to be carefully observed, and to which I have already alluded as forming useful guides in regulating the amount of tightness to be employed in the application of mechanical support—the first of these is colour; this varies in different cases, and assumes every shade, from a deep red to a dark blue or brown; this latter indicates passive congestion of the capillary vessels, and requires firm pressure; another point is the facility with which the blood can be pressed out of these parts with the finger; if this requires prolonged pressure, and the white spot thus produced is slow in returning to its habitual colour, this is a further proof of the passive nature of the inflammation, and is an additional indication that the strapping should be tightly applied—if the parts feel soft and elastic, or give to the eye and the touch

symptoms of extensive fibrinous deposit, all this still further suggests the same principle of treatment—where, however, the converse of all this is found, the colour being still red, the vessels easily and quickly emptied on pressure, and as rapidly refilling on its removal, when there is little swelling or elasticity, and the parts feel hard and unyielding—all this requires the most careful and gentle application of the support. Between these two extremes there are found every shade of difference, each requiring a corresponding modification of tightness; and I doubt not, from finding cases now yield to treatment in which I formerly failed, that if we could only arrive at the requisite amount of discrimination exactly to adapt the degree of pressure to the particular symptoms of each case, a successful result might in almost all cases be anticipated. The perfect power of thus moderating pressure in different parts of the limb, and also of forming a correct estimate of the amount of tightness each particular case requires, shows the master of this branch of mechanical surgery, and is only acquired after some considerable attention and practice. It is one of the very great advantages also that strapping possesses over any kind of bandage, that it enables you to modify the amount of tightness in different parts of the leg, whereas a bandage can only be applied with the same amount of force throughout; and practically, it is found

often to become loose where pressure is most needed, and to get tight round the small part of the leg, where it is injurious.

If, then, you carefully apply the strapping in the way I have directed, and regulate the tightness by the rules I have laid down, you will almost invariably find, when your patient again presents himself at the end of two or three days, that the strapping you applied tightly has become loose; this is not because it has in the slightest degree given way, but because the swelling and intercellular deposit have been to a certain extent removed by the effect of the pressure: this is a very favourable sign. The strapping must now be reapplied as tightly as before, and in two or three dressings the wound will assume a healthy aspect, and the discharge will become thicker and more creamy. In cases where there is a considerable amount of thickening and induration, it often happens that the ulcer will not commence healing until all this has been removed by the pressure; it is necessary to renew the application more or less frequently, according to the size of the wound and the nature of the discharge. If the wound is large, it is better to dress it at first every day; whenever, also, the discharge continues thin, it is necessary to change it frequently, but as it gets thick, every third day is sufficient; and there is a class of cases sometimes met with in which the discharge is very thick

and tenacious, and clings to the sponge, in which the wound yields rapidly, and the strapping may be allowed to remain on for a week. I should say, as a general rule, that twice a week is sufficiently often for the majority of cases. If you steadily pursue the plan I have now detailed, it matters not how considerable the deposit may be, nor how long the ulcer may have existed, (I could almost say, from my own experience, the longer the better,) you will almost invariably succeed, not only in healing the sore, which is, after all, but half a cure, but also in getting rid of all thickening and enlargement, and restoring the limb to its natural shape, and the vessels to a comparatively healthy condition, bringing out the malleoli into "relief," as artists say, though they may have long laid buried beneath a mass of morbid deposit. I will mention one or two cases that seem to me still further to illustrate and explain the foregoing observations:—

Mrs. Dowding, aged sixty, who keeps a circulating library in Cannon Street, Commercial Road, consulted me some years since, suffering from an ulcer about the size of a five shilling piece, situated over the outer malleolus; it was of considerable depth; the surface was foul and irritable; the surrounding parts were to a considerable extent of a deep red colour, firm and hard to the touch, and so much thickened and swollen, that

the ankle measured a foot and two inches in circumference, and appeared the largest part of the leg—the discharge was scanty and thin, and the pain at times very severe; this condition of things had existed for above twenty years, with very slight change or modification. I strapped this case tightly about twice a week for two months, without making any application to the wound except the strapping, and at the end of that time the ulcer was perfectly healed, and the fibrinous deposit was so far removed, that both malleoli were brought out, and the ankle was restored to its natural size and shape. This case seems a good illustration of the condition in which the lower limbs is found after long standing disease; it also shows that an ulcer may rapidly heal without the application of any local stimulus, so soon as the circulation through the limb is brought into a healthy state.

Thomas Kedzlie, aged fifty, residing 10, Paul's Alley, Cripplegate, came to me in November, 1848, with a note from my friend and former teacher, Dr. Cobb. On examination, I found four ulcers on the right leg, varying in size from a five shilling piece to a shilling, and occupying the space between the middle and lower third of the limb. There was a considerable amount of bluish discoloration around the wounds, also some induration and swelling, and just below the knee was a bunch of

varicose veins. He informed me that he had suffered in this way for twelve years; and that during the last seven years, two of the wounds had been constantly open; he also informed me that he was in severe pain more particularly at night, and that he had been compelled to give up two or three good situations in consequence of his inability to move about. He had been under the care of four medical men, and in addition to that, he had applied to three hospitals; and just previous to my seeing him, he had been constantly attending one of the largest metropolitan hospitals for nine months. During that time, poultices had formed the principal application; another method had also been adopted, which I would just allude to in order to express my opinion of its injurious effects. A compress of lint was placed over the varicose enlargement below the knee, and bound very tightly on with one or two circular strips of plaster: now, however pretty this may seem in theory, I feel convinced that its practical effect is injurious in a large majority of cases—whatever is gained by the local pressure on the enlarged veins is more than lost again by the circular constriction to the limb. In the present instance, the man told me that it increased his pain, enlarged the already existing ulcers, and produced a fresh sore. In this case the indication was to apply the strapping rather tightly; the improvement was very

rapid; all pain ceased at the end of a week; and though he never laid up a single day, and often took very long walks, I was able to send him back to Dr. Cobb perfectly well at the end of one month. Considering the time these ulcers had existed, this case was one of the most rapid cures I ever accomplished. I may add that I saw him about two months afterwards, and he remained perfectly well.

The question now arises as to the advantage of combining any local stimulating application with this method. If the principle which I laid down at the commencement of these lectures be a correct one—viz., "that the persistence of a common chronic ulcer is due to the weak and dilated condition of the vessels in its vicinity, and sometimes of the entire limb," it must follow, that mere support, uncomplicated by any stimulating application to the sore, is sufficient of itself to effect a cure, and such is very frequently the case. I always commence the treatment of a simple chronic ulcer with strapping alone, and very often succeed in healing it in this way; and I am convinced, that when this is the case, other applications rather retard success. If, however, I find the sore does not progress favourably, if it is irritable or very indolent, or the edges look ragged and uneven, I apply some stimulus previous to strapping—a solution of the nitrate of silver, from ten

grains to a scruple to the ounce, or the red precipitate ointment, or the black wash, or any other application of the same kind that is in common use. Some high authorities speak very favourably of the balsams as applications to wounds. I find it almost impossible to give you any rule to guide you in the selection of the particular stimulus suitable to the case. I have not, in general, found the black wash useful, unless there were something specific in the aspect of the wound, and I am convinced, from direct experiment, that it sometimes prevents a simple wound from healing; but as I proceed to describe other forms of ulcer, I shall have an opportunity of entering more fully upon this point. It must, I think, be admitted, that we are here compelled to be empirical, and vary our applications according as they suit the particular case in hand, changing them from time to time as each in turn ceases to act efficaciously. And here again, I may repeat, that the feelings of the patient are of great assistance in regulating the judgment as to the propriety of re-applying any topical remedy, as they also are in regulating the degree of tightness with which mechanical support is to be applied. I never remember to have been deceived, or to have had cause to regret following the suggestions of a patient in this matter, even where I should have hesitated to do so on my own judgment, so delicate and

unerring are the instincts of a suffering nervous system, surpassing often the dictates of the most matured surgical experience.

I will now proceed to inquire what are the circumstances and complications likely to interfere with the success of this plan, either retarding the cure or entirely preventing it. If you meet with a case in which the sore has spread to a very considerable extent, encircling, or nearly encircling the limb, or occupying a large portion of the lower and back part of the leg, attended, as it usually is, with profuse watery discharge, it is very doubtful whether you will be able to effect any permanent good, even by the most judicious employment of mechanical support. Rest only affords temporary relief, and should the sore heal in consequence of a prolonged adoption of the recumbent posture, which only occasionally follows its employment, the weak cicatrix soon gives way again, and the case rapidly becomes as bad as ever. In the present state of our knowledge, endurance of the evil, or amputation, seem the only alternatives; fortunately, such cases are of rare occurrence. Another circumstance that interferes with this method of treatment is, a very irritable skin: most frequently this depends upon the strapping not being pure and good, containing resin, rancid oil, or some other irritating ingredient. But occasionally it happens that

when the best plaster is used, the skin becomes so red and inflamed, and even covered with pustules, that you are compelled to abandon it. I have tried various expedients to obviate this inconvenience, substituting soap plaster for the diachylon plaster; protecting the skin with the oxide of zinc, either in the form of lotion or powder, and various other applications, but often without success. Mopping the entire surface with a weak solution of the nitrate of silver, I have found more useful in checking this condition than anything else I have tried; but in some rare cases everything fails, and the method must be abandoned. Whenever, again, there has been an extensive destruction of the soft parts from some mechanical injury, there is often great difficulty in obtaining a complete cicatrix.

There is a peculiar form of chronic ulcer that I have sometimes met with, which is very difficult to cure, by support or by any other method with which I am acquainted; it is unattended with swelling; the limb appears shrunk; the ulcer is rather large, deep, and has a cleanly-cut, well-defined edge, as if a piece had been taken out with a knife; the surrounding parts are discoloured, and feel firm and unyielding, as indeed does the entire limb; the surface of the sore is perfectly smooth, and without any sign of action, and has probably existed without any material change for a con-

siderable period; the discharge is thin and slight in quantity. I have now a patient with a sore of this kind under my care; it is situated just above the inner ankle; it has existed about four years, and measures about three inches in every direction. I have applied mechanical support, with every shade of tightness, and have exhausted every healing application, and every method with which I am acquainted; Mr. Syme's blisters have failed; everything has been useless. In the course of my practice, I have met with a few other cases of this description, and I have almost invariably failed in healing them; it is useful to know them by sight, and to give a guarded prognosis. . If the "modelling" or "drying up" process could be brought to bear successfully upon such cases, it would be a great point gained. The reason why mechanical support fails in these cases seems to me to be, that the parts are so hard, and the ulcer so close upon the bone, that all the natural elasticity of the limb is lost, and the slightest pressure, instead of aiding the return of blood, and supporting the weak vessels, acts injuriously upon both, and inflames the limb, instead of bringing it into a healthy condition. I may observe, that in all cases of chronic ulcer where there is little or no fibrinous deposit, and an entire absence of swelling in the limb, the mechanical support must be applied with great care and gentleness.

The parts, being firm and unyielding, will not bear the strapping tightly applied. Such cases are always difficult to manage. Sometimes you find, where there is very extensive discoloration of the skin, of long standing, that the cuticle undergoes some change whereby it very readily peels off in small strips and patches when the strapping is removed. This will occasionally occur, in spite of the utmost care in taking off the plaster, leaving raw surfaces, which often become inflamed, painful and very difficult to heal. When this is the case, it is useful to direct the patient to wet the plaster thoroughly with warm water, just previous to coming to you; and also I have found it a good plan to allow the patient to pull off the plaster for himself, as sensation gives him an early indication that the skin is coming away, and he stops before any mischief is done. It must also be admitted, that you occasionally meet with a case which possesses apparently all the indications that promise success, but which, from some idiosyncrasy which we cannot fathom, will not bear mechanical support in any shape. When this fortunately rare occurrence takes place, very serious aggravation of all the symptoms is the result, and the important point is, not to persevere, but to change the treatment at once. I have only met with three or four such in the course of my practice; they seem to be analogous to those singular exceptions that

occasionally appear in every department of pathology, in which the most valuable remedies seem to become transformed into poisons, and which the highest amount of professional acumen can neither foresee nor prevent.

As the healing process is going on, under the use of support, there are a few practical hints that I think likely to be useful to you, more particularly in respect to the old chronic ulcer. In the first place, you will often find, that as the thickening and induration subside, and the limb resumes its natural size and shape, an amount of tightness which was in the commencement of the treatment beneficial and agreeable, becomes injurious and painful; you must therefore moderate the tightness, aiming constantly at what feels comfortable to your patient. Then, again, if the sore has been originally large, you must expect, as the healing process advances, that the progress will be much slower than at first, and often extremely tedious just before it closes, owing to the feeble resources possessed by the newly-formed skin, for carrying on the reproductive process. I have sometimes been much embarrassed in completing the cure of a case of this kind; the wound may be reduced to the size of a split pea, and yet will not close. When you arrive at this point, and experience this difficulty, I think it is better to endeavour to obtain a scab by some of the means I have before alluded to. I have

sometimes succeeded in finishing off a case in this way, when I could not with strapping alone.

It is well to keep in your mind, and also in that of your patient, that during the progress of the case, however well all may seem to be going on, there is no safety so long as the part is not quite healed; the new skin is very tender and easily destroyed. Neglect in dressing the wound, causing an accumulation of decomposed pus, becomes a source of irritation, and retards recovery. A slight blow, too much exercise, constitutional derangement, may each set up fresh ulceration, and if this is the case, I have generally found, unfortunately, that it is impossible to stop it; in spite of every effort, the newly-formed parts become rapidly removed. The work you have contemplated from week to week with so much satisfaction, and which may have cost Nature and yourself months of labour to build up, is removed by the devouring ulcerative power in a few days, and nothing remains for you but to wait till this fresh attack has done its worst, and the parts have resumed their former state, and then to commence *de novo*. The healthy ulcer has received a place in my classification of simple sores, more for the purpose of giving completeness to the list, than on account of any practical remarks I have to offer on this form. The fact of its assuming this aspect vouches for the correct-

ness of the plan adopted for its cure. It may, however, be useful to point out the indications by which this condition may be at once recognised. A healthy sore is covered by small red granulations, which rise even with the surrounding skin; they readily bleed on being touched with a sponge, and secrete a bland, thick, inodorous, creamy matter, not very abundant, but sufficient to form a constant covering and protection to the raw surface. The margin of such a sore is almost invariably white; this is caused by the new skin in process of formation. This condition of parts has been quaintly termed the "surgeon's livery," red turned up with white; and, in truth, when he is successful in producing it, it is a badge of which he may justly feel proud. I have seldom met with perfect specimens of healthy sores which have persisted in this condition until cicatrization was complete, except under the influence of mechanical support, for even with entire rest a healing sore only presents the true, small, ruddy granulation for a short time, and usually degenerates into the large, raised, pale, flabby, condition which has received a special classification by many authors under the title of the "weak sore." This is so slight a modification of the healthy ulcer, that it does not appear to me to deserve a separate division: it may arise from general debility of the system, but it is much more commonly a

result of prolonged rest and warm relaxing applications. Local stimuli, caustics, and astringent lotions, are useful in repressing the exuberance of large flabby granulations; but by far the best mode of changing this condition is to allow moderate exercise under the protecting and salutary influence of mechanical support.

I have now a few remarks to offer you on the subject of irritable ulcers. I have given them a separate notice, because they present some marked peculiarities, and require some important modification of treatment. They are most distressing to the sufferer, and resist all the ordinary methods of treatment, and therefore deserve our best consideration. The irritable sore is usually small and superficial; it is most commonly found in females, usually situated about the ankle, and sometimes, but not invariably, complicated with varicose veins. The surrounding parts look of a somewhat deep-red colour, but the indications of inflammatory action are slight, and bear no comparison whatever with the excessive pain complained of; herein lies the grand distinguishing characteistic of this particular form of ulcer, —that the appearance and symptoms give no adequate suggestion of the extreme amount of tenderness and suffering experienced by the patient. The sore itself looks patchy, with bright-red spots mixed with yellow; the surface is glazed, and the discharge thin; the edges

are irregular and undefined. This is the more common appearance, but I have met with some sores with a tolerably healthy aspect, and yet extremely irritable. I used formerly to be much embarrassed with these cases, but experience has, I think, taught me a method by which they are to be controlled; and I shall endeavour to explain my mode of treatment by relating to you some of the particulars of a somewhat remarkable case, from which I first caught my present views respecting what I believe to be the most successful way of curing this affection. Some years ago, I was sent for to see a female between fifty and sixty years of age, residing in the neighbourhood of Spitalfields. She was the wife of a clerk at the Docks, and had been accustomed to a regular allowance of beer and spirits, though never to the extent of producing intoxication. On entering, I found her pacing the room, apparently in great agony. I have seldom seen a countenance that exhibited greater iritability and suffering, and I was told by her daughter that she spent a considerable part both of the day and night in this way. She pointed out to me, as the cause of all her anguish, a superficial ulcer, about the size of a shilling, situated on the tibia, just above the inner malleolus; it looked rather angry, and there was slight surrounding redness; there was no thickening in the vicinity, or any general swelling of the limb, though

the great saphena vein was somewhat enlarged. The ulcer had existed much in the same state for about six months, the pain occasionally remitting, and then returning with increased violence. Her general symptoms indicated great irritability of system; the pulse was weak and quick, the tongue was foul and tremulous, and there was a well-marked gouty diathesis. During this time she had applied to three or four medical men in succession, and had of course tried a great variety of local and constitutional remedies, but without obtaining any relief. She was of a very impatient temper, and positively refused to take any more medicine, but expressed her determination to lose the limb if the pain did not abate. I wished to apply the nitrate of silver, but she told me it very much increased her suffering at the time, without any subsequent benefit. I had so often healed such much more formidable wounds, that I did not anticipate much difficulty in this case, and I felt sure, if I could only close the sore, all pain would cease; I found that strapping had been applied, but it had only aggravated every symptom. This had so often occurred to me before, in practice, that I determined to support the limb in my usual way, and as all the symptoms, according to my former experience, indicated that this should be done lightly, and as the wound was so exquisitely tender that she could hardly bear me to touch

it, I proceeded to envelope the entire limb as gently as possible in strapping. I persevered in this plan for about three weeks, but without the slightest benefit; indeed, with increase of the painful symptoms. At the end of this time, finding I had been anticipated in every other remedy, I determined to give the plan that had so often stood me in good stead, in what appeared to be far worse wounds, one more trial, and at least make some impression on the case, be it for better or worse: therefore, although the sore looked angry, and was situated on the bone, although there was no perceptible swelling, and the surrounding parts were of a bright-red colour, and everything seemed to contra-indicate firm support, yet, as a *dernier ressort*, I applied the strapping as tightly as my muscular power enabled me. I may almost say, that from that hour all pain ceased, and at the end of a fortnight the sore was perfectly healed, and I have reason to believe has remained well ever since. It was remarkable in this case how much the irritability of system subsided with the relief of the local disease.

I have met with many other cases of this type, and I have uniformly succeeded in relieving them in the same way. A very well-marked case of the same kind occurred at the Hospital a few months ago: the patient was a middle-aged female; the sore was small, situated over the inner malleolus, and complicated with very

varicose veins; the pain was intense, and aggravated by rest, being always much worse during the night. I directed caustic to be applied, and the leg to be strapped as tightly as possible; this was continued for some weeks without amendment, and she begged me to try some other plan, as she was nearly worn out. I was so convinced that this was a case that was only to be relieved in this way, that I took it in hand myself, in order to give the very tight strapping a thorough trial, knowing that it is only after long practice, and under the conviction of the necessity of using great force, that a requisite amount of tightness is obtained. I strained the plaster in this way with all my strength, causing the woman to cry out as it passed over the wound. But it was her last cry of pain; her next was, that I would repeat the application; and in a very short time she was quite well. Nitrate of silver is sometimes a useful adjunct in allaying the irritability, but occasionally it cannot be borne. I have met with some of these cases in which the pain has continued in a somewhat mitigated degree until the sore was quite healed; you must therefore persevere in all cases where you find the sore diminishing, even though the pain may still remain, bearing in mind that as soon as the ulcer is cured, all suffering is at an end.

I feel, then, that I am justified, from the above cases,

and others of a similar kind that have come under my notice, in arriving at the conclusion, that whenever irritability is the leading symptom, not being attended with a proportionate amount of acute inflammation, a degree of tightness that under almost any other circumstances would be most injurious, is not only easily borne, but is absolutely required for the cure of the case.

LECTURE V.

Varicose ulcer — Reasons for making this distinction — Peculiar appearance during and after its formation; its treatment — Liability to relapse; mode of prevention — Note on Mr. Vincent's remarks on this subject — Specific ulcers; peculiarities when situated in the lower limbs — Divisions of specific ulcers — Mode of formation of the strumous sore; its appearance — Three forms of phagedænic sore — A case quoted illustrative of one form of this disease — Their several peculiarities — Case of extensive phagedæna treated by Mons. Roux by mechanical support.

THE last form of simple ulcer to which I shall direct your attention is the "varicose ulcer," and although I find that some high authorities, and, amongst others, Mr. Miller, of Edinburgh, exclude this division of ulcers, on the ground that every variety of ulcer is sometimes complicated with varicose veins, I must say that observation has convinced me that there is a peculiar and very characteristic form of ulcer that is only found in limbs where the varicose condition is very strongly marked; and as it involves some important practical points, I feel sure that I am using a scientific nomenclature, and making a useful distinction, when I employ the term

"varicose ulcer." I have already briefly alluded to this form of ulcer, when speaking upon the subject of varicose veins, in my first lecture; it is only when this dilated condition of veins has spread from the large to the smaller trunks, and given rise to that peculiar soft, yielding, elastic state of the entire limb which I have before designated the "spongy leg," that the true varicose ulcer supervenes. The limb, in the first place, presents small clusters of perfectly white specks or patches, readily distinguishable from the rest of the limb, and generally situated about the ankle, or side of the foot, and almost invariably low down in the leg.

This peculiar white appearance is sometimes in distinct patches, sometimes in one patch of a very irregular shape, apparently creeping on in different directions. This condition of threatening ulceration may remain stationary for a considerable period, or advance by slight and almost imperceptible degrees. When in this state, a slight injury, or any other exciting cause, will effect a rapid and serious change in the condition of parts, and sometimes this change appears to occur spontaneously. The following, then, is the course which these cases take: the parts immediately surrounding the white patches exhibit a bright blush; then the cuticle covering this white part becomes raised, a little clear fluid forms under it, and the slightest touch will then remove it;

underneath this, the true skin is seen quite white, and apparently deprived of its vitality. This becomes gradually removed by the ulcerative process, and thus a very irregular, uneven ulcer is formed, of which the margin is undefined, and almost undiscoverable. Different portions of the sore will be seen in different stages; here and there a single granulation; between these the ulcerative process still going on, and at some portion of the circumference the lifeless cutis vera not yet removed. The discharge from this form of ulcer is very slight; there is generally but little surrounding redness; there is swelling, and occasionally œdema, and the pain during its formation is very severe. It rarely, if ever, penetrates deeply, but it spreads over a considerable surface, and even when fully formed, has a very irregular shape; in this respect it resembles some of the specific forms of ulcer, but may be distinguished from them by its never burrowing beneath the skin. It seems to be placed in the very midst of veins; it never has any indurated deposit around it, but gives to the touch a perfectly soft and spongy sensation. After it has reached its climax, it sometimes heals rapidly, particularly the first time; but it is of all ulcers the most liable to return, and after the second or third attack, a very irritable and obstinate ulcer often remains, particularly if it is situated below the ankle. This will resist all the usual modes of

treatment, and even long-continued rest will fail in effecting a cure; and it is somewhat remarkable, that the recumbent position increases the pain in some of these cases, and patients complain that the night is the period of their severest suffering, and they often hang the limb down to obtain some ease. This apparent anomaly may, I think, be accounted for in the following way:—The dependent position causes the veins to become distended, and the surrounding skin to become tight, and this tension of the parts affords a sort of mechanical support; but whatever be the explanation, there is no doubt about the fact. The pain of this form of ulcer is very great, and owing to the diseased condition of the vessels in the midst of which it is formed, it never seems to become chronic and passive like other kinds of ulceration, although it may persist for a very considerable period. As might be supposed, this class of sore is much more frequently found in females than in males, and generally about the middle period of life, and in those who have borne several children. Although the term "varicose ulcer" frequently occurs in surgical writings, I have not as yet met with anything like a correct description of the appearance it presents; it is, however, too frequently seen, and too legibly engraved amongst Nature's morbid operations to admit of any difficulty in recognising it when it is once properly understood and sought for. What, then, is the

most scientific treatment for these cases? It must at once appear obvious to every practical surgeon, that even if a healing over of this ulcer can be accomplished, it leaves the more serious part of the disease untouched, and a speedy relapse nearly inevitable; hence bandaging is almost invariably recommended. But nothing is more difficult than to give general support to this yielding spongy texture by means of a bandage; it cuts in at one place, and gives way at another, and is totally inadequate to effect the desired object, and generally cannot be borne by the patient, owing to the very unequal pressure it affords; a laced stocking is more uniform in its effect, but it is inapplicable to the treatment of an open sore. These obvious difficulties have led many surgeons to suggest a variety of methods of obliterating these diseased veins. This subject has been most impartially and philosophically discussed by Sir B. Brodie, and to his lectures I would refer you, if you desire to enter fully into the merits of the case. I would only remark that, according to my own somewhat limited observation of cases that have been thus treated, and from what I have gathered from writings upon the subject, it seems to me that every plan yet devised is open to two rather serious objections — viz., first, the obliteration of the vein is attended with great difficulty, pain, and often even with danger; and, secondly,

even when accomplished, the smaller veins have become so extensively implicated, that, in general, no real and permanent advantage is gained. The question then naturally arises,—Is there any safe and certain method of curing this very troublesome and painful class of ulcer? In reply, I state with confidence, that experience has shown me, that if there is one form of sore more than another, over which strapping, when properly applied, achieves a signal triumph, it is that I am now considering. Having then ascertained, by the appearance of the sore and of the surrounding skin, that all spreading of the ulcer is at an end, and that there is no œdema, you must envelop the entire limb with strapping, covering the foot to the very edge of the toes, and carrying it up to the knee, and it is sometimes advantageous when the branches of the veins are very large and full around and above the knee, to cover this part also. In these spongy legs you must apply the plaster, not only in this complete and universal way, but as tightly as you possibly can; in fact, it is scarcely possible to apply it too tightly, provided it is even and equable in its pressure, for owing to the elastic nature of the materials you are endeavouring to compress, the parts will feel soft and yielding, however firmly you apply the strapping, and it will only give to the patient the sensation of comfortable support. The immediate

effect of this application is to remove all pain, and to enable your patient to move about with ease, which movement should be rather encouraged, as it hastens the cure. You must not expect in this case to find that the strapping you apply thus tightly, has become loose when your patient comes again, as there is here no adventitious deposit to remove, and the elastic tissue with which you have to deal will not become removed, as in the old indurated sore I before described, but will be rendered less resistant; and thus by degrees, and almost imperceptibly, the calibre of the leg will diminish, the wound at the same time assuming a healthy aspect, and generally healing with a rapidity and certainty far greater than any other form of ulcer with which I am acquainted. You must continue to apply the strapping with the same tightness at the close of the case as you did at the commencement. During the progress of your treatment, you often receive a curious and unmistakable evidence that extreme pressure is here required. A patient will tell you, that the only time that he feels pain in the wound is early in the morning, when the binding is loose, but that as soon as he has moved about a little, and the leg has increased so as to distend the encasement you have made for it, the sore is perfectly easy. It is a good rule, under such circumstances, to direct your patient to rest the leg, on the morning it is to be dressed,

until he comes to you, that you may in this way obtain a still further advantage over the dilated and distended veins. Still we must regard a case of this kind, even when perfectly healed, as somewhat analogous to a rupture, inasmuch as it always requires some palliative treatment to prevent a return of the sore. It is a safe plan to continue the strapping for two or three months after the ulcer is healed, and I have met with some few cases in which it was found desirable to continue this method constantly; for it must ever be borne in mind, that for accuracy of adaptation, and complete, unyielding support to every part of the limb, there is no contrivance that human ingenuity has yet suggested, at all to be compared to skilfully-applied strapping. In less severe cases, a slighter and more imperfect form of support answers the purpose. The elastic-stocking bandage is easily applied, but is apt to give way in parts where you require most pressure. What I much prefer is a well-fitting elastic stocking, where the patient can afford the money to purchase it, and the time to lace it, as it must be removed at night, and reapplied before quitting the bed in the morning. The best thing of this kind that I have yet seen, is made by Mr. Bourjeaurd, 10, Davies-street, Grosvenor-square; it is perfectly elastic, does not require lacing, but draws on, and seems to give very equal and firm support to the entire limb.

Still, in spite of every precaution, such patients will sometimes present themselves again, at the end of about two or three years, either with another ulcer, or with some ominous white patches, which are beginning to look threatening, and to feel tender and painful. It is important that you should at once recognise this state of things. Your patient having received benefit from your treatment on a former occasion, expects speedy relief; but although now and then you may succeed in stopping the disease at this point, the chances are very much against you, and it is far safer and more politic to tell your patient that in all probability the disease must become worse, and the ulcer fully established before you can cure it. It is, in general, useless to apply strapping during the stages by which the ulcer is formed. If a separation has commenced between the cuticle and the true skin, no power that I am aware of will arrest its progress, or prevent the formation of a sore; but if there is merely pain, timely support will sometimes prevent the little threatening white spot from proceeding farther, though this must be undertaken with much caution and considerable misgiving, as it frequently fails. The safest plan, doubtless, as a general rule, is, not to commence your mechanical support until the ulcer is fully established. I seldom use any application in addition to the

strapping in these cases, except when I have found the surface of the wound extremely irritable, when I generally apply a solution of the nitrate of silver previous to the pressure, and, I think, with decided advantage.

Before I take leave of this division of my subject, I would just briefly allude to a circumstance which, when it is found to exist, almost invariably, according to my experience, thwarts your utmost efforts to effect a cure: I allude to pregnancy. Whenever an ulcer forms during the time that Nature is performing this important work, it usually corresponds to the description I have given of the "varicose ulcer;" but it usually resists the influence even of the most adroitly-applied strapping, and will persist until the uterus has got rid of its contents. Whether the cause of this is to be found merely in the mechanical pressure of the gravid uterus overcoming every effort to control the dilated veins, or in any constitutional peculiarity induced by pregnancy, I am not prepared to say, but I am inclined to think both circumstances operate unfavourably, for I have seldom been able to diminish the dilated veins to any extent under these circumstances, and I have observed that other local diseases, particularly inflammation and ulceration of the cornea, are much more intractable during utero-gestation. I mention this, not that you should abandon

the case altogether, but that you should give your patient a cautious prognosis.*

* Since I delivered this lecture, I have had an opportunity of perusing Mr. Vincent's "Observations on Surgery"—a book that may be pronounced unique, both from its contents, and from the peculiar circumstances under which it was produced. It is, indeed, remarkable, that one who possessed such an immense field for practical research, combined with such powers of close observation, deep thought, and philosophical induction, should have resisted all considerations of personal ambition, and should have hived up the honey, and kept back all the treasures, of his mental laboratory, until his own career of usefulness was drawing to a close, and should have waited until no motive remained for him but the pure and lofty aim of bequeathing to the profession a valuable book.

In this work a section is devoted to the subject of ulcers of the leg, (p. 223.) The author states, that with the exception of specific ulcers, the varicose ulcer is almost the only form he has met with in hospital practice. I must say, that, according to my more limited experience, I have not found this to be the case; indeed, it seems to me that the true "varicose ulcer" which I have endeavoured to describe to you, is by no means so common as some other forms. Mr. Vincent then gives us a description of this form of ulcer, which is by far the most correct and graphic that I have met with in any book; and strengthens me in the conviction, that the division I have ventured to make, and the appearances I have endeavoured to portray, as characteristic of this form of disease, are in accordance with truth and nature. For the treatment of these cases, Mr. Vincent recommends, long-continued rest, ointment to the wound, and friction with a flesh-brush to the diseased veins, which he thinks capable of being thus permanently relieved. As regards the possibility of thus permanently curing the veins, I own I am sceptical. He then goes on to say, "that he has not seen much benefit accrue from pressure or bandaging." That Mr. Vincent, after so many years' experience at our largest metropolitan hospital, should thus

I have now completed that portion of my subject which has reference to simple or local ulcers, and I will next proceed to the consideration of specific or constitutional ulcers, as they are found in the lower limb. I make this distinction, because I do not here propose to enter into the general subject of the causes and treatment of specific ulcers, as this would open up too wide a field of inquiry for my present object; and moreover, it has received such full and scientific consideration from many authors, that my task would seem both presumptuous and uncalled for. The point that I am now anxious to insist upon is, that when these specific ulcers have become located in the lower extremity, they sometimes assume peculiar characters; and further, that when the constitutional derangement to which they owe

summarily dismiss this most valuable of all agents, in the treatment, more especially of this particular ulcer, is somewhat remarkable, and proves, to my mind, how very imperfect must have been the method of applying mechanical support in those cases which our author had an opportunity of observing. I am perfectly convinced that one month's careful watching of cases, scientifically treated by mechanical support, would have been quite sufficient to have convinced so discerning a mind of its efficacy; and if I had no other motive for publishing these Lectures, a sufficient reason might, I think, be found in the manifest duty of endeavouring to counteract the tendency of such a remark from so high an authority, embalmed, as it is, among so many valuable and philosophic truths, and therefore the more calculated to exert a powerful and a very baneful influence upon the profession at large.

their origin has so far subsided as to have ceased to produce the disease in other parts of the body, or even to exert any influence over the ulcers then existing, such ulcers will still perpetuate themselves in the lower limbs, retaining the peculiar features belonging to these specific sores, whether they be strumous, phagedænic, or syphilitic, or, as is sometimes the case, a combination of all three forms of disease. I am led to this opinion by having met with several cases of this kind, which had existed for a great length of time, in which I could clearly trace, from the previous history, a specific origin, but in which I could find no other existing remains of constitutional disease, and which have readily yielded to purely local treatment. It becomes, then, an interesting inquiry, how far we can combine local and constitutional means, in such cases, so as to expel the disease entirely; and observation has convinced me that in many cases this may be done. Although I have made the distinction into strumous, syphilitic, and phagedænic ulcers, it is often extremely difficult in practice to distinguish one from the other, the points of resemblance being numerous, and the specific peculiarities few and obscure, and the history often ambiguous and even false. Another difficulty is, that these constitutional taints are sometimes blended together in the same case, so that it is scarcely possible to say to which type it bears the

strongest resemblance; I must therefore draw my imperfect description from such cases as I have met with, noting especially such points and distinctions as seem to me to be of practical value in treatment. When either of these forms of ulceration are fully developed, it is only by the previous history, and by the general appearance, age, and constitution of the patient, that you can distinguish one from the other; but there are certain points of difference in the commencement, and in the mode of formation. We may say, as a general rule, that the strumous ulcer is developed from within outwards, whereas the phagedænic and syphilitic sores commence superficially, and spread inwards; this general statement presents some exceptions. The strumous sore is generally found in young females soon after the period of puberty; the leg is usually very white, but thick and ill-formed, the aspect being scrofulous, and the temperament lymphatic. Unlike the simple form of ulcer, these constitutional sores are generally found about the middle or upper part of the leg, and even round the knee and lower part of the thigh. In the strumous cases I am now considering, a swelling forms beneath the skin, small at first, but often gradually enlarging to the size of a hen's egg, not attended with much pain or tenderness, but having a peculiar soft, doughy feel; the parts covering this swelling by degrees become discoloured,

and finally give way, thereby discovering a large, white, unorganized mass of strumous matter, which is at first firmly adherent to the living parts beneath, but which slowly softens and breaks down, and thus a deep excavated ulcer is formed, with soft, ragged, dark-coloured, overhanging edges, and an unhealthy base, covered with ill-formed lymph. While this is filling up, other swellings of the same kind form in the vicinity; these at length break in a similar manner, disclosing the same strumous mass. In this way two or three sores often form of considerable depth, and of much greater extent beneath than on the surface, sometimes communicating with one another under the skin, being only separated by a bridge of diseased tissue. In this form of ulceration there is not much discharge, the pain is slight, and both the formative and the reparative processes are slow and indolent, and there can hardly be said to be any acute stage to this affection. I will speak of the treatment, together with that of the next forms of disease I have to notice—viz., the Syphilitic and Phagedænic Ulcer.

I have before mentioned these separately, but, practically, it is impossible to make this distinction. I have never seen a secondary syphilitic sore on the lower extremity that did not take on a phagedænic character; and, on the other hand, I have rarely met with a

phagedænic sore that could not be traced back to a syphilitic taint. It does not here come within my province to speak of the primary acute phagedænic sore, one of the most formidable and intractable diseases the surgeon has to encounter, spreading sometimes with frightful rapidity, and only aggravated by those remedies which in other forms of syphilis exert a powerful and specifically beneficial influence. I would merely remark in passing, that the indication is here to destroy completely the morbid surface, either by nitric acid, potassa fusa, or, what is best of all in very severe cases, the chloride of zinc, applied in the form of a paste. It is to the more chronic forms of syphilitic phagedæna that are found in the lower extremity, that I am now anxious to direct your attention, and of which I have met with many examples; they seem to occur in those individuals in whom syphilis has been engrafted upon an originally strumous diathesis, neglected in its primary form, and fostered by intemperance. I have met with many examples in seafaring men: the disease they contract in their first wanderings is very liable to re-appear in this secondary form I am now describing. Three varieties of this disease occur in practice sufficiently distinct from each other to merit notice; in one form a certain portion of the limb becomes inflamed and indurated, and of a deep red or bluish colour, giving to the touch the sensa-

tion as if the hardened mass penetrated to a considerable extent beneath the surface. It also frequently occupies a superficial area of four or five square inches; it is painful on pressure, and occasions slight lameness; it increases gradually for some weeks, or even months; the skin then gives way spontaneously at two or three points, and ulcers form, increasing both in size and depth with very great rapidity, not burrowing beneath the skin, but appearing as if the substance of the leg had been gnawed away by some small animal. The depth of some of these ulcers is very remarkable, and the pain severe; sometimes there is only one sore, but more commonly a cluster of three or four, of different sizes, and in different stages of formation. I have seen several well-marked cases of this kind, and very formidable and intractable they are. One of the most remarkable that I recollect was a patient at the hospital under Mr. Scott's care, during the period of my pupilage. The sufferer was a female about twenty-eight years of age, of a strumous habit, and of loose character; the sore was situated in the gluteal region, and was of such depth that fears were entertained for the gluteal artery; it had existed for many months, and continued to spread; the most powerful escharotics were applied in vain, and every variety of topical means was employed to no purpose, the constitution being, at the same time, sustained. The case

became so serious, that Mr. Scott took it in hand entirely himself, and after filling the wound with lint saturated with black-wash, supported the entire thigh and hip with strapping and a bandage, a somewhat difficult process to so painful a wound, and such as few besides himself could have efficiently performed; the effect was strikingly beneficial, and made a strong impression upon my mind; she left the hospital in about two months from the time this treatment was commenced, perfectly cured. In another modification of this disease, a small tubercle forms, which becomes bluish, soft, and then breaks; an ulcer is the result, which begins to spread chiefly beneath the skin, which presents a ragged, uneven edge, and is considerably undermined. This sore often creeps on in one direction and heals in another; it is not so painful as the last form of sore; it varies in appearance according to its vicinity to the healing or the spreading margin, granulating up at one part, and looking irritable and unhealthy at another, where a probe may sometimes be passed for an inch or more beneath the skin. This class of sore sometimes takes on a semilunar form; it seldom presents an acute stage, but spreads slowly over a considerable surface, the ulcerative usually slightly gaining ground upon the curative process. I have seen cases of this kind in the lower limbs, that have existed for a very considerable period, many months, and even years.

There is another and a very curious class of this disease, which I believe to be a mixture of the strumous and the syphilitic forms of ulceration. In these cases several small indurated masses form, break, and discharge a kind of slough; they then spread for a time, burrowing in all directions, sometimes communicating with each other beneath the surface; as these sores heal, others form in a similar manner, until at length nearly the entire limb is covered either by cicatrix or ulcer, presenting a curious misshapen, uneven appearance, bulging out at one part and contracting at another, a considerable portion feeling soft and unsound, and the numerous openings and underground workings giving the idea of a miniature rabbit warren. This condition of parts may exist in the leg for many years, sometimes nearly healing up, and then bursting out again with renewed vigour. My case-book contains some very striking cases of this description; and M. Roux, in his comparative view of English and French surgery, published in 1815, mentions a well-marked instance of this peculiar form of ulceration, treated successfully by him at the Hotel Dieu by mechanical support.

"A man, twenty-four years of age, entered the Hospital with from fifteen to twenty ulcers, some small, some larger, some invading the skin of the knee, and the greatest number occupying the superior portion of

the leg, in its anterior, exterior, and inferior part. These ulcers had been forming successively, one after the other, for three years; those of the leg itself were of the longest standing; they likewise presented the worst aspect. In the space between them, the skin was everywhere detached and worn away, so that almost all these ulcers communicated one with the other by kind of sinuses, from which, at the first dressings, a considerable quantity of matter was forced out by pressure. The leg was in a state of atrophy, and constantly bent towards the thigh, using no motion of the knee; and so much, indeed, was the patient wasted and exhausted, that, having little hope of ameliorating the condition of the leg, M. Boyer and myself were almost resolved on proposing amputation of the thigh. However, we temporised with it, wishing to see what effect the methodical treatment of the ulcers would have. Fifteen days of application of emollient cataplasms, together with tonics and good diet, and strict confinement, produced no desirable change in the appearance of the ulcers, when I decided on the use of the circular adhesive straps; these straps were only removed every two days, but in the beginning the precaution was taken to leave between them small spaces to allow of the discharge of the matter during the interval between the

dressings. In a short time there were no sinuses between the ulcers, the skin everywhere became united to the subjacent parts, the smaller ulcers cicatrized readily enough, the larger were also diminished in extent, and put on an appearance that seemed to promise their healing, at a period, however, which it was impossible to determine or foresee; the movement of the joint became more free, and the patient was allowed to get up and walk about with crutches; the cicatrization of the ulcers, which was at first very rapid, proceeded afterwards more slowly, being still under the influence of the same local treatment. Nevertheless, all those of the leg were brought to a complete consolidation; there remained only the ulcers of the knee to cicatrize, which were already reduced to very inconsiderable dimensions, and would undoubtedly have received a perfect cure, but the limb remained in a state of atrophy, while at the same time there was anchylosis of the knee, which was in a state of incomplete extension. Such was the position of affairs when, having for some time been persuaded, and with reason, that if the ulcers should be completely cured, he could never make use of an artificial leg whilst that limb remained; and that being reduced to the necessity of walking with crutches, he could no longer continue his profession of a farrier, the patient suddenly

formed the resolution of having the limb amputated at the thigh."—*Parallel of the English and French Surgery, by Roux—page* 143.

I have been induced to quote this case, because it is a good example of the third form of phagedæna which I have described, because also, coming from a remote date and place, it is a remarkable confirmation of the power of mechanical support, and especially of its curative influence, even in constitutional and specific forms of ulceration, when situated in the lower limb. In the present improved state of surgery, and with the means so well recommended by Dr. Little and others for relieving merely ligamentous anchylosis, the limb would in all probability have been preserved. I must reserve the remarks I have to offer on the treatment of specific ulcers until my next lecture.

LECTURE VI.

Treatment of specific ulcers — Advantage of local applications. Modifications in the management of strumous and phagedænic sores—Periosteal ulcers—Menstrual ulcers—Varieties—Method of treatment—Cases illustrative of one form of menstrual ulcer. Œdematous and malignant ulcers—Propriety of healing ulcers discussed—Conclusion.

With regard to the treatment of specific ulcers, the point I am anxious to insist upon, and of the truth of which I have had abundant proof in my own experience, is, that when this form of ulcer becomes located in the lower extremity, it seems to establish itself there, and to continue long after the constitutional diathesis to which it owes its origin has been removed by suitable remedies, or has at least become so feeble as not to produce any similar disease in other parts of the body, or even in the leg itself, when once it has been soundly healed, and the circulation through it brought to a normal condition. Under these circumstances, the ulcer will maintain its original form and specific character, but yet is capable of being cured by local means only. The object in these

cases is not only to heal the wound you find open at the time of treatment, but, at the same time, to induce such a healthy flow of blood through the limb as shall prevent the formation of new morbid deposit, as it is this which renders this disease so intractable. I am induced to take this view of the matter, from finding the strumous and phagedænic sores continuing in the lower limbs after every variety of constitutional treatment has been persevered in for a length of time, and after every trace of disease has left other parts of the body, and also after the usual local treatment, including prolonged rest, has been tried in vain. Moreover, it is a curious fact, that I have often observed, that rest exerts but a very slight influence over specific sores.

The strumous ulcer is the most difficult to manage. While there remains a mass of strumous deposit in the wound, of course it acts like a foreign body, and prevents the healing process from proceeding; Art may be brought to the aid of Nature in expediting its removal. Should the external opening be small in proportion to the strumous mass within, it may be enlarged with advantage. When two wounds communicate beneath, they should be laid into one; the red precipitate powder, or some strong escharotic, as the potassa fusa, will hasten the removal of the morbid deposit. This latter is, however, a very severe method, particularly in a weak

strumous patient, and one to which I have very rarely felt justified in having recourse. When the strumous enlargement is just forming beneath the skin, I have found advantage from painting it over either with the tincture of iodine or the solid nitrate of silver; a weak solution of iodine is also a very valuable application to strumous sores in the form of a lotion; other stimuli, particularly the lotio nigra, is often useful.

In that form of phagedænic ulcer which spreads in one direction and heals in another, it is sometimes advisable to destroy the peccant edge with some powerful escharotic, as nitric acid. In those cases where there is extensive burrowing in the cellular tissue, this would be a very severe method, and though recommended by a high surgical authority, I think it quite unnecessary. It is a much better plan thoroughly to saturate small strips of lint with black wash, and with a probe thrust them to the very bottom of the wound, so as to bring the black powder into contact with every part of the ulcerated surface. In these undermining phagedænic sores, I have met with no application at all comparable to the black wash, when properly used; if it is left to the patient or a nurse it invariably fails. Having then selected what I deem a suitable specific local remedy for these cases, and having got rid of any slough or strumous deposit that may exist, I always superadd mechanical

support, and my case-book and hospital experience bear ample testimony to the advantage of this combined plan, both in effecting a cure and in preventing relapses; either is insufficient of itself, but when the special character of the sore is met by a proper application, and the feeble vessels of the limb are restored to a healthy condition by strapping, a quick and lasting cure is usually established. These specific cases generally bear the support rather tightly applied, more particularly if the leg feels soft and doughy; but the same rules I have already laid down on this subject are equally applicable in these forms of the disease. Sometimes, when all seems to be progressing favourably, you will find a fresh enlargement forming beneath the skin; this will probably run through the same course as the others have done; it may even occur more than once; but you must not be discouraged by this; it is only the last expiring efforts at the re-establishment of disease in the limb, and will ultimately be completely overcome by perseverance. I have even known a few cases in which, the constitutional tendency still remaining in some force, the disease has manifested itself in some other locality, being unable to re-establish itself in a part that was protected, as it were, and kept in a healthy condition by mechanical support. I do not here enter upon the subject of the constitutional treatment of these cases, which would

involve the prolific questions of the general management of strumous disease, and of the secondary and tertiary forms of syphilis; but, of course, every judicious surgeon would combine a suitable course of medicine if he has reason to think any specific taint remains, supporting, at the same time, the powers of the system by a generous diet, this last point being, according to my observation, a most important element in success. In many of the cases that I have met with, and upon which I have founded the foregoing remarks, this constitutional treatment had been persevered in for a length of time before coming under my care, and subsequently also under my superintendence, but without success, and it has been this circumstance that has led me to rely so much upon mere local means, such as I have now recommended. I quote the following case, selected from many of a similar kind, in illustration and confirmation of the foregoing observations:—

Mrs. Newton, aged thirty, the wife of a publican who keeps the King's Arms, Laurie Terrace, Westminster Road, came to me about a year ago, with two large ulcers on the right leg, a little below the middle and inner part; they were very close together, being only separated by a narrow slip of skin; they had existed about fourteen years, having been once healed for a short time, about four years ago: they had been pre-

ceded by a considerable swelling of the leg, which had burst and discharged a quantity of strumous deposit. The surface of each sore was covered by pale unorganized lymph, the edges were raised and clearly defined; there was but slight surrounding redness, the general aspect of the leg was very white, doughy, and swollen, not, however, pitting on pressure; the swelling existed to a considerable extent both above and below the ulcers, which seemed depressed and adherent to the parts beneath. This patient was suckling at the time she came to me—she was of small stature, of a lymphatic temperament, had a feeble pulse, and a well-marked strumous diathesis—as might be supposed, she had been under the care of more than one surgeon of some eminence, but without much benefit. I ordered a liberal diet, administered tonics, and applied mechanical support in my usual way, using a considerable amount of pressure, and sponging the wounds with a solution of the nitrate of silver. The swelling was speedily reduced, and the wounds assumed a healthy aspect: I continued this plan for above three months—at the end of this time one wound was healed and the other was very small; she had never, during my treatment, rested for a day, but often attended at the bar till midnight; the sore yet remaining became as small as a split pea, but I could not completely heal it; I recommended a few days

rest, but this was neglected, and the sore once more began to spread: knowing it was useless to persevere with mechanical support, I recommended complete rest and water dressing. I now lost sight of her for nearly five months; during that time she entered an establishment, where by the payment of a certain sum, she was provided with surgical attendance and entire rest. When she came to me again she had two sores on her leg, each as large as a five-shilling piece, deep, and covered with pale unorganized lymph. I recommenced mechanical support, and at the end of about seven weeks, had the satisfaction of healing both wounds. I experienced the same difficulty at the conclusion, but overcame it by obtaining three days rest. This case seems to me strikingly to prove (as far as any one case can) the great power of mechanical support, and its superiority even to long-continued rest in many instances, and also that the strumous character of the sores formed no impediment to their healing, when this treatment was persevered in for a sufficiently lengthened period.

Occasionally these specific ulcers are complicated with disease of the bone or the periosteum. This renders the case far more serious and intractable; and it is important that you should recognise this unfavourable feature in the case, that you may not mislead yourself and your patient with hopes that are not likely to be realized.

Under these circumstances the ulcer will not heal until the periosteal disease of which it is a consequence has subsided; and affections of this structure, however rapidly they may sometimes be developed, are extremely slow in subsiding. This constitutes the "periosteal ulcer;" two or more are generally found, and in their vicinity depressed cicatrices, adherent to the bone, at once indicate the nature of the case. The sore itself is generally raised, but the surrounding parts are hard and unyielding. I have nothing to suggest, in regard to the treatment of such cases, beyond what has been recommended by previous authorities.

I proceed, in the next place, to the consideration of the menstrual ulcer, which may be defined to be any ulcer that gives evidence of sympathy, to a greater or less degree, with the menstrual function. There are two or three modifications of this disease met with in practice: thus you have a class of cases, in which, the uterine function being entirely suspended, the system finds relief in a constant discharge from the surface of a sore, which discharge is altered in quality and increased in quantity at the usual monthly period. In other cases the uterine function is performed, but the sore becomes inflamed and painful, and increases its amount of discharge at that period; thus giving evident signs of sympathy and co-operation with the uterus. There are,

again, a peculiar and very formidable class of sores, which occur either at the period when, in the natural course of things, the menstrual function is about to cease; or where, from some organic change in the menstrual organs, this discharge no longer takes place.

The first form of this disease to which I have alluded, and which may be distinguished as "the true menstrual ulcer," occurs generally in young females, soon after the age of puberty. It is often, in the first instance, of a strumous character; or it may have arisen from some external injury. The uterine function not being very fully and regularly established, by degrees it ceases, and its place is supplied by the ulcer. I have invariably found that the breaking out of the sore has preceded the suspension of the menstrual discharge, or has first occurred prior to that period of life when the function of the uterus commences. I note this especially, because it is an important element in the consideration of the treatment of these cases. The appearance of the ulcer is characteristic of its nature: it is generally rather large, its edges are ragged, its surface is irritable, dark-coloured, and exhibits specks of blood; the surrounding parts are of a deep-red colour, but not much swollen; the discharge is thin, and often mixed with blood; the pain and soreness are generally distressing, and much aggravated at the period when the

uterine function is due. When this vicarious discharge is fully established, the disease becomes most intractable. I have met with cases that have existed above three years, having resisted all the ordinary methods of treatment adopted on these occasions.

It becomes, then, an interesting inquiry, as to how we can best succeed in stemming this cruel and obstinate invasion of the young and delicate of the weaker sex. If we consult surgical authorities on this subject, we invariably find the matter rather briefly dismissed, somewhat in the following way: "Restore the healthy function of the uterus, and then the ulcer will heal." This sounds very rational and very proper, and no doubt answers exceedingly well when it can be accomplished; but according to my experience it is always difficult, and very frequently impossible. I have known cases, in which all the usual means of bringing about the healthy and regular uterine function have been carefully persevered in for a considerable period, and that, too, by very experienced and skilful practitioners, without success. Reasoning from this fact, and observing, at the same time, that the ulcer precedes the uterine derangement, I contend that it is scientifically more correct, and practically far more efficacious, to adopt a method the very converse of the one I have above stated—viz., "Heal the ulcer, and the uterine function

will speedily be restored to health and regularity." I should pause ere I ventured to put forth this axiom, so opposed to everything that has hitherto been said upon the subject, had I not repeatedly put this plan to the test of experiment, and with uniform success.

I commence, then, at once to attack the ulcer. Some stimulus is often useful in allaying the irritation; a solution of the nitrate of silver is generally the best. I then apply strapping rather tightly; for I find in all those cases in which I have, as it were, to compel a cure, in spite of the rebellion of the constitution, rather tight and very accurately-applied support is necessary, more skill being here required than in common and simple cases. Though you may feel confident of ultimate success by means of this plan, it is necessary to bring with you, in the treatment of such cases, a more than usual amount of patience, and a full share of confidence in the power of your remedy. Rest is quite useless here, even in obtaining a healthy surface to begin upon. You must therefore commence at once with your strapping, in the manner I have described. As the discharge is copious, it should be applied frequently, either alternate days, or every day. The wound will soon take on a healthy action, and begin to heal, and you will naturally suppose the cure is at hand; but as the monthly period approaches, in spite of all

your efforts, the aspect of the sore changes, the discharge again becomes thin and copious, and much of the improvement that has taken place during the previous month is lost. You must not be discouraged by this, but must start again, and each month you will find you gain more than you had previously lost, until, at last, you succeed in entirely closing the wound, and then you are safe; the ulcer being healed, the uterus spontaneously resumes its healthy and regular function—at least, such has been my experience. But even suppose such a result should not invariably occur, you have then a simple case of amenorrhœa to deal with, which is surely far more easily controlled when uncomplicated with a vicarious discharge from an ulcer in the leg.

By far the greater number of cases of this kind that I have had under my care, have pursued this chequered course, although they have always yielded ultimately to treatment. The surgeon, in managing such a case, must consider himself as placed somewhat in the same position as an angler, who, striving to capture a large fish, gets it to the very brink of the stream, when suddenly it starts off again, but each effort is more feeble than the last, and at length, by skill and perseverance, it is safely landed. In the second class of sores to which I have alluded, in which the ulcer sympathizes with the uterus, without entirely superseding its function,

the treatment is more tedious and difficult than in the merely simple form of ulcer. It is much more irritable and painful to the patient, and requires more skill and perseverance on the part of the surgeon, than those cases in which no such uterine sympathy exists; it is most commonly met with in the stout and plethoric, and about the middle period of life; it ultimately yields to the means pursued in the same way and under similar circumstances to those I have just detailed, though in such cases it may sometimes be advisable to put in an issue in the vicinity of the sore that has been healed. With regard to the third modification of menstrual ulcer, to which I have drawn your attention, it is fortunately of somewhat rare occurrence. I have only met with three or four examples in the course of my practice—they have occurred in unmarried females, either a short time previous to the cessation of the menstrual function, where it had never been very regularly or efficiently performed, or at a somewhat earlier period of life, when, from some organic change in that organ, it has become incapable of secreting the menstrual fluid. The appearance of the sore is peculiar; it is large, deep, and sloughy, and very irregular on its surface; the discharge is very foul, fœtid, and profuse, and the pain is severe; the other parts of the limb look pale and œdematous, and the general aspect of the patient is exsanguinous,

livid, and indicative of organic disease. This sore must certainly be regarded as a powerful effort of Nature to relieve the injurious constitutional effects of a suspended function, and therefore the only treatment is palliative. If any attempt is made to effect a cure, it should be preceded by a freely discharging issue, which it would be safe to continue for a considerable period, and even, in some cases, for the remainder of the patient's life. In the course of my practice, I have had two very striking cases of this form of disease. The first of these occurred to me at the very commencement of my professional career, when perhaps zeal rather preponderated over caution. The female was about thirty-five years of age; extremely pallid and unhealthy; and the menstrual function, which had never been regularly performed, had, for the last three or four years, ceased entirely. She was subject to a kind of fit, which came on at night, and during sleep, accompanied by a stertorous breathing, and complete insensibility, and which lasted from twelve to twenty-four hours: these fits varied in frequency, coming on sometimes twice in the course of a month, sometimes leaving an interval of three months, their severity being in an inverse ratio to their frequency. I never myself saw her in one of these fits, but this was what I learnt from her friends. About the middle of the left leg, and at the back part, she had one of the deepest and foulest

ulcers I have ever seen; there was very slight surrounding inflammation, but the margin of the sore was livid and ragged, with large irregular sloughs at the bottom of the wound; the discharge was very thin and abundant; the leg was white and swollen—the ulcer had existed about twelve years, but had lately become rather rapidly larger and deeper. I commenced upon this case with all the ardour of a tyro, and in all my subsequent experience I can recall no case in which the power of mechanical support has been more remarkably and signally exhibited. At the end of about six months, the sore was perfectly healed, although for some time she walked daily above two miles to my house to have the strapping applied. I saw her from time to time for many months afterwards, and she seemed improved in health and appearance; but she never menstruated, and occasionally was subject to fits. About a year and a half from the time the sore was healed, her sister informed me, that in one of her fits she had become more and more oppressed in her breathing, and in this way had died. The case made a deep, and I hope a salutary impression upon my mind. The second case occurred to me more recently. The patient was a favourite and confidential servant to a lady of wealth; she was in her forty-fifth year, and had menstruated very irregularly and imperfectly for some years; her frame was slight,

and her general health had always been delicate; she had suffered for some years from a bad leg, but had most obstinately refused to show it to a medical man, fearing she should be compelled to give up the charge of her mistress, who was an invalid, and to whom she was strongly attached. It became evident to herself and to others that she was rapidly becoming unfit for any exertion. I saw the leg, in consultation with another medical man, and we both agreed that we had never met with a more formidable case, the sore being large and sloughing, and the vital powers at a very low ebb, owing to her having denied herself proper nourishment, with a view, as she thought, of diminishing the inflammation in the leg. Under the influence of perfect rest, a good liberal diet, and a lotion of the chloride of lime, she rapidly improved; mechanical support was subsequently employed; and at the end of about five months, the leg was restored to a perfectly healthy state; the general condition of the system likewise improving in a remarkable way. As the sore was healing, I strongly urged the necessity of putting in an issue. This, in spite of every warning, she most resolutely refused to submit to. The menstrual function returned and continued with great regularity, and for about two years she seemed to enjoy, in every respect, better health than she had ever done before. At the end of that time, she was attacked

with violent mania, and in about ten days she was dead. In this case it was a choice of evils. She must have rapidly sunk from the exhausting effect of the ulcer, had it not been cured. As it was, two years of comfortable existence were added to her life, which might, perhaps, have been still further prolonged but for her obstinacy in refusing to have the issue put in. I do not offer any decided opinion as to how far the fatal result was the consequence of the healing of the sore, but I think what I have narrated is sufficient to induce very considerable caution, both in the prognosis and in the treatment of similar cases.

I have mentioned, in the classification I have given of ulcers, at the early part of these lectures, two other forms—viz., the œdematous and the malignant. This, however, was rather with a view of giving something like completeness to the arrangement, than because I had anything practical or useful to say upon these two forms of ulceration. The œdematous ulcer follows general anasarca; it usually forms by means of a large but very superficial slough. If you can succeed in pumping out the water speedily and thoroughly, this form of sore will sometimes heal with great rapidity. I have seen two or three striking instances of this, but of course the leaky vessel must ere long fill again, and the advantage you gain is very temporary. I am inclined to think that

malignant ulceration is more rare in the lower limbs than in any other part of the body. The common ulcer would seem occasionally in old age to pass into the malignant form. It is found over the malleoli, is very slow in its progress, and not very painful; its peculiar raised and indurated aspect is at once diagnostic of the disease, and does not involve remote textures. Amputation is the only method of relief with which I am acquainted.

Having now dwelt with more or less minuteness upon all the forms of ulcer with which I am acquainted, there is one other point upon which I am anxious to touch, before concluding. Having so powerful a means of cure at your disposal, how far is it desirable or safe, in reference to the general health of the patient, to heal ulcers of the leg, more particularly when of long standing? Extensive opportunities of observing cases that have been rapidly healed, and that often, after having existed for many years, have convinced me that the dangers of healing old ulcers have been very much exaggerated by surgeons. This has arisen not so much from practical observation or scientific reasoning, as from a natural tendency to shelter their want of success under this pretext. Hence it will be found that this opinion prevails extensively with the public; and but

for the powerful counter-arguments which severe suffering and inconvenience plead, many would prefer, in such cases,

> " ——————— rather to bear the ills they have
> Than fly to others that they know not of."

This is a point upon which you are very likely to be questioned by patients, and upon which it is very desirable to form some definite and well-grounded opinion. Experience is the only legitimate appeal, and perhaps that has not been as yet sufficiently extensive. With the exception of the two cases that I have just related, and some few cases of secondary sores, which, after being cured on the leg, have shown themselves elsewhere, I cannot call to mind a single case in which deleterious effects to the constitution have followed the healing of an ulcer; though I could, on the other hand, cite numerous instances of cases of very old standing, in which a cure, by removing a constant source of annoyance and irritation, has contributed most materially to the improvement of the general health.

These facts do but confirm what simple reasoning upon the subject might lead us to conclude—viz., that a disease which depends, for the most part, upon mechanical causes, both for its origin and for its continuance, and is capable of being cured by mechanical means

alone, can exert but a very slight influence upon the general system.

And now, gentlemen, it only remains for me to thank you for the patience and great attention with which you have listened to these lectures, which have been extended to a much greater length than I at first contemplated. My object has been, in the first instance, to establish a principle which is ever to be kept in mind in the treatment of ulcers of the lower limbs, and which I can scarcely too often repeat, or too strongly insist upon—viz., "that a weak and retarded circulation gives to these cases their peculiar and distinguishing features, increasing their frequency, and retarding or preventing their cure." My next object has been to suggest and explain to you in what way this weak and retarded condition of the circulation is to be brought into a healthy state. This led me to the subject of mechanical support, which I have endeavoured to show you can only be efficiently and successfully carried out by a careful application of strapping to the entire limb, so as to form a complete adhesive encasement, accurately adapted to every part of the leg. I have further explained how immeasurably superior this method is to the ordinary bandage; but I feel how impossible it is to convey this by mere words—experience alone can adequately impress this upon the mind. In order still

further to aid you in successfully carrying out this treatment in practice, I have given you a sketch of the leading symptoms by which the different forms of ulcer are marked; and such simple rules as I have found useful in determining whether mechanical support can be borne; and if so, with what amount of tightness it should be applied; and any other hints which I have thought likely to assist. I have also endeavoured to prove that specific ulcers are prone to perpetuate themselves in the lower limbs long after the constitutional taint to which they owed their origin has been removed; and that these sores yield to the same plan—requiring, however, in addition, some special local stimulant. In detailing to you the treatment I recommend for the various forms of ulcer I have described, it has perhaps seemed to you that I was but causing you to listen to so many slight variations of the same tune, and therefore that I was advocating a somewhat empirical plan; but this circumstance, so far from savouring of empiricism, seems, to my mind, still further to establish the truth of the law upon which the disease depends, and to which the treatment owes its efficiency. If mechanical support were only applicable to one form or stage of ulceration, not only would its value be materially lessened, but the principle upon which it acts might well be doubted; but experience having proved the reverse of

this to be the fact, at once establishes the power of the remedy and the truth of the law.

Experience has so often proved that the earlier advocates of any peculiar method of treatment paint its results in more glowing colours than subsequent trials warrant, that I am not vain enough to suppose I have altogether avoided this common error. Still I must add, on my own behalf, that I have too frequently and unequivocally witnessed the success of the practice indicated to allow me to doubt the soundness of the principle upon which it is founded; and further, that I have advanced no opinion with regard to its various modifications, or its applicability to the different forms of ulcerative inflammation that I have not personally tested, in numerous instances, by that least fallible of human means — experiment. That this method has never received, on the part of the bulk of the profession, a fair trial, is to my mind most clear; that it deserves such a trial is to me equally evident; and if I appeal, with some confidence, to past experience, I look with yet more assurance and hope to the future, when the principle shall be more extensively recognised, and the method more scientifically and efficiently applied than has ever yet been done. I painfully feel, also, how imperfect has been the exposition of this important subject in these lectures—and how difficult it is to convey to

others, by mere words, many of the practical points connected with the treatment of these cases—I have endeavoured to write myself empty on these points, but I am conscious I have omitted much; and if any of my professional brethren, especially the younger members, desire any further information, it will always afford me much pleasure to impart the result of my experience on this matter, either by letter or by personal communication. And if, gentlemen, in the construction of airy phantoms, and in the exercise of that rash licence which sanguine inexperience gives to its early dreams, there is any castle I have ventured to build more frequently than another, and in which I have most delighted to linger in ideal anticipation and hopefulness, it is that through my feeble instrumentality the knowledge and just appreciation of this treatment, and its scientific application, may ultimately become co-extensive with the existence of the disease, for which I must ever believe it constitutes the best and most efficient remedy yet discovered.

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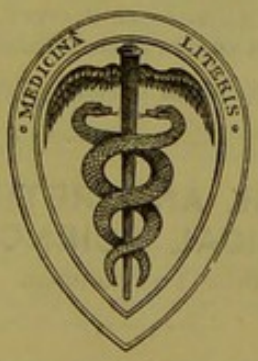

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