Address in surgery : delivered at the Annual Meeting of the British Medical Association, held at Leamington, August 3, 1865 / by James Syme.

With the Author's Compts.

ADDRESS IN SURGERY

DELIVERED AT THE

Annual Meeting of the British Medical Association,

HELD AT LEAMINGTON, AUGUST 3, 1865.

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ADDRESS.

Mr. President and Gentlemen,—

It is said, with truth, that those only can appreciate the comfort of travelling by railway who have experienced the delay and fatigue of the old coaching system; and it is no less true that surgeons of the present day can hardly imagine the facilities they enjoy in discharging their professional duties when these are compared with the difficulties experienced by their older brethren. Forty years having now elapsed since my first course of lectures on Surgery, I venture to hope that some account of the changes in practice which have taken place during this long period may not be without interest on an occasion that has afforded me the honour of addressing so many members of my profession.

But before proceeding further, I must entirely dissent from the opinion which was expressed by my respected friend who addressed you yesterday, that the progress of improvement implied a censure on those who had preceded it. On the contrary, I have always understood that there was nothing more creditable than the admission of error; and that every man, instead of being ashamed to do so, should be proud of taking a step in advance, whether he leads or follows.

Commencing with the treatment of inflammation and its consequences, I may notice a most remarkable difference between the old and present practice, in the almost entire disuse of bleeding instead of its nearly constant employment. On looking back, it is indeed difficult to realise the reckless and indiscriminate profusion with which blood was made to flow. When I was one of the dressers in the Royal Infirmary of Edinburgh, two of us went every evening, at a stated hour, to bleed the patients whose names were entered in a book with the respective quantities due from each. On one occasion I recollect of 65 oz. taken at once,

and followed by 35 next day. At present few surgeons carry a lancet, and still fewer ever employ it; so that venesection, instead of being the most frequent, has become one of the rarest operations in surgery. The reason of this is generally said to be a change in the type or condition of the human system, but may, I think, rather be attributed to the influence of more correct ideas in regard to the treatment of disease, since it is certain that operations no less bloody than those of the old time are now performed without any evidence of less ability to bear them.

Before being appointed house-surgeon of the Edinburgh Infirmary I was medical superintendent of the Fever Hospital; and there, under the direction of the attending physicians, both of whom were professors of the University, I bled men, women, and children, who were brown, emaciated, and reduced to the utmost degree of weakness. Afterwards, when house-surgeon to the Infirmary, I had under my care a boy who suffered from compound fracture of the leg, which gave rise to profuse suppuration; and about three

weeks after the injury, seeing that his strength was much exhausted, I ordered him some porter with beef-steak. But next day the surgeon, who was one of the most largely employed medical men in Edinburgh, disapproved of this, which, he said, would feed the disease, and directed me to take fourteen ounces of blood from the arm. I obeyed with great reluctance; and need hardly add, that before the end of forty-eight hours the boy was dead. Now, I would ask, could any man at present think of bleeding in such cases as these?—and if not, then I say, that whatever change there may have been in the type, there certainly has been a change in the practice.

In treating the sinuses which remain after the evacuation of abscesses, a great improvement has long been established through the substitution of effectual drainage, instead of the means formerly employed to promote a healing action. These were sponge tents, stimulating injections, and external pressure. Nothing could be more absurd than the first of these, since their alleged use was to keep the orifice open, while, on the contrary, they

effectually closed it, so that at every dressing the pent-up matter issued in a stream. The injections and pressure, though less hurtful, were equally useless and unnecessary; and there can be no doubt that if recovery is not impeded by an unhealthy state of the system, by some morbid texture, or by the presence of a foreign body, nothing more is required than an aperture sufficiently free, and so situated as to prevent any accumulation of fluid in the cavity. The principle of drainage has been applied by M. Chassaignac to the treatment of chronic abscesses, through means of perforated india-rubber tubes, and from my experience of this method I can bear testimony to the advantage that attends its adoption.

The dressing of sores tending to heal has been greatly improved by substituting moist applications instead of the ointments previously employed, and any one who can recollect the old method of treatment by means of calamine cerate spread on lint or linen, with its pledgets of carded tow and long bandages, must rejoice in the simplicity, facility, and efficiency of our present sys-

tem. Mr. Liston, to whom we are much indebted for advocating this method, had great confidence in the "red lotion," as it has been called, and for which the original receipt will be found in the Surgical Essays by Mr. Hey of Leeds; but for my own part I have long been satisfied that water alone is sufficient for the purpose.

At the time I commenced practice the callous or indolent ulcer, from which the labouring classes suffer so much, was treated by means of adhesive plaster and bandaging, not without much time, trouble, and expense. In 1829 I proposed a different plan, which was to apply a large blister over the swollen limb in order to induce absorption of the indurating effusion, and allow the healing process to accomplish cicatrisation under the ordinary treatment of a granulating surface. In Edinburgh, and by Edinburgh students scattered over the world, this method has been found invariably successful, but it is still, I have reason to believe, not generally known in the profession, and I am therefore glad to take this opportunity of recommending its adoption as being

the most speedy, easy, and lasting mode of affording relief.

The sores that result from the use of mercury were formerly very frequent, and always occupied many beds of the hospital. My recollection hardly extends to the dark period during which these cases were treated by administering the poison that had produced them, but well do I remember the shrieks of unfortunate patients who were subjected to the means deemed requisite for their remedy. When superficial, and affecting merely the integuments, their surfaces were repeatedly destroyed by caustic potass, and when more deeply seated, so as to expose the bone through opening of periosteal abscesses, they were condemned to scraping, rasping, and the actual cautery, or even amputation. Such cases are now comparatively rare, and in Scotland are hardly ever seen except through importation from the southern side of the Tweed, where the Hunterian doctrines with regard to the use of mercury struck their roots more deeply in professional confidence, but when they do present themselves are found to

yield readily under the application of blisters with small doses of the iodide of potassium. Through this simple treatment I have repeatedly known patients who had come from distant parts of the world, prepared to suffer amputation, obtain speedy and complete relief.

The sloughing sore of old people, or senile gangrene, as it has been called, used to be regarded as a disease no less hopeless than painful. Mr. Pott had pointed out the impropriety of stimulating local applications, but it was still thought proper to support the patient's strength by wine and brandy. The last case thus treated that fell under my observation was one which the late Sir George Ballingall and myself were requested to visit at some distance from Edinburgh, as no improvement had resulted from the prescriptions of Mr. Liston, which we found to be two bottles of Madeira and half a bottle of brandy daily. The patient complained that his foot felt as if enclosed in a red hot iron boot, but we had no alteration to suggest, and he died before long in great agony. It soon afterwards occurred to me

that if the disease, as it certainly did, depended on an inadequate supply of blood through ossification of the arteries, the limb must be nearly in the same state as after ligature of their trunk, when it is well known that the effect of stimulants would be the excitement of inflammatory action, and that the treatment therefore should be similar. Under this impression I tried the employment of a milk and farinaceous diet, with simple poultices and opiates to relieve pain. The result fully answered my expectation, and in 1840 I published a paper on the subject, with the view of showing that the disease might thus be rendered much less painful and fatal than it had been under the stimulating plan, and the anticipation thus expressed has since then been fully realised.

There is nothing more worthy of notice in our present inquiry than the change that has taken place with regard to the old system of dressing wounds, which is painfully impressed on my recollection by personal experience. When about fourteen years of age I was thrown from a pony, and had my knee severely lacerated, just above the

patella, from which the integuments were torn down so as to expose the bone completely. A very experienced surgeon who came to my assistance washed out some of the mud that lay in the cavity, and then brought its edges together by straps of adhesive plaster, applied so closely that they overlapped each other, lint spread with ointment, and a roller six yards in length completing the process. Intense suffering and fever followed, with urgent petitions for relief, but all in vain till the fourth day, when the dressings were taken off and reapplied, as they were every day afterwards for six weeks. The gentleman who attended me on this occasion had been house surgeon of the Edinburgh Royal Infirmary, and pursued the method then regarded as proper in all cases of wounds, whether resulting from operations or otherwise caused. In 1826 I published a paper on the treatment of incised wounds, in order to show the bad effects that necessarily proceeded from immediate closure of the aperture, since when this was done there could not fail to be such a quantity of blood or serum accumulated in the cavity as must effect-

ually prevent primary union; and in support of this position I appealed to the fact, that students passed through the whole of their hospital career without ever witnessing an instance of healing by the first intention except in wounds of the cheek or lips, where, there being two orifices, the blood could not be confined between the raw surfaces. To avoid this great evil I advised that the edges should not be brought together until the bleeding had ceased, and that then there should be no impermeable covering placed over them. The principle which I thus endeavoured to establish is now, I believe, generally recognised in practice.

There are few subjects of practical surgery that in recent times have excited so much discussion as the mode of performing amputation. When I entered the profession it was the invariable practice in Edinburgh, and I believe elsewhere, to operate by circular incision, even for removing the fingers and toes. At former periods various surgeons at home and abroad had not only proposed, but to some extent adopted the method by flap, and M. Lisfranc more than forty years ago taught it in his

operative course on the dead subject as applicable to all parts of the extremities, but so far as I saw it was never then employed in Paris on the living body. While things were in this state Mr. Liston became a very strenuous advocate of the flap operation, and by his example, as well as teaching and writing, made a strong impression in favour of this method. I also published a paper on the subject, with the view of calling attention to the advantages for which we contended, and more particularly the saving of pain by rapidity of execution, together with the provision of a good covering for the bone. The expectations thus held out were fully confirmed by experience with regard to the arm, forearm, and upper part of the thigh, but led to disappointment in operating at the lower part of the thigh, and through the leg. In the latter situation it was found difficult to prevent the flap from dragging the integuments in front, and making them adhere to the bone, so as to ulcerate or even slough, and thus occasion a sore of the most unmanageable character; while in the thigh the result was apt to be still more

distressing through retraction of the flaps, and protrusion of the bone. For my own part, therefore, I have long abandoned the flap operation in the leg, and employed in its stead the circular method, by making two semi-lunar incisions from side to side through the integuments, and reflecting them to a sufficient extent for covering the bones, without any risk of retraction. I pursued the same course with regard to the thigh until a comparatively recent period, when I felt great pleasure in adopting the important principle which has been established by Mr. Teale of Leeds and Mr. Carden of Worcester, that a long anterior flap is not liable to retraction, so that it may be safely trusted for covering the bone. Amputation below the knee is seldom required, since all the diseases and injuries which were formerly held to demand it may, with few exceptions, be remedied by removing the foot at the ankle. This operation, when properly executed without any of the complications that have been proposed for its alleged improvement, affords the most satisfactory results, by providing a perfect protection for the bones, by shortening the

limb merely enough for fitting it with a boot, and by avoiding the risk of life attendant upon dividing the tibia and fibula through their shafts. Upon the whole, then, it would appear that amputation of the arm and forearm should be performed by a double flap, of the thigh by one long anterior flap, below the knee by two semi-lunar flaps of integuments, and at the ankle by a flap from the heel.

In treating diseases of the joints there have been many and great improvements, of which perhaps the most important is the substitution of rest for counter-irritation as a means of subduing the morbid action. The advantage of this is well illustrated by the different results obtained from the old and present practice in cases of hip disease. Within my recollection they were regarded as nearly, if not entirely, hopeless of recovery ; and the caustic issues, always deemed proper for their treatment, were employed rather in compliance with established usage than with any expectation of a beneficial effect, the morbid process being expected to pursue its course until suppuration took place, and left no alternative to

the patient but death from exhaustion, or escape from this danger with a distorted, useless limb. Instead of the painful feelings with which the treatment of these cases was undertaken in those days, we now, through means of the "long splint," which, by preventing motion in any of the joints, maintains the one concerned in a state of absolute quiet, look forward with confidence to the accomplishment of recovery before the end of many weeks, unless the progress to destruction has advanced too far and already led to suppuration.

There is another form of articular disease, in which the improvement has consisted, not in the disuse, but in the greatly-increased efficiency of counter-irritation. This is that which has been denominated ulceration of the cartilages, and is characterised by intense pain, aggravated through pressure or motion, and other symptoms well known to the gentlemen whom I have the honour of addressing. In addition to the suffering experienced by the patient from this disease, there is a great risk, or, indeed, almost the certainty, of suppuration and caries being ultimately

induced by it, so that effectual means of remedy are of no small value. Bleeding, blistering, and caustic issues generally palliate the symptoms, but frequently fail to do so, and seldom, if ever, produce a decidedly curative effect. It was therefore with great satisfaction that, more than thirty years ago, having, on the authority of the late Professor Rust of Berlin, adopted the actual cautery for the treatment of this disease, I found there was thus obtained relief no less speedy than complete. The actual cautery I believe had then never been used in Great Britain for the purpose of counter-irritation, and for many years made slow progress in professional confidence, but is now, I fear, encountering a more serious difficulty from its too free and indiscriminate employment, which must tend to lessen the credit so justly merited in proper cases. In the most frequent form of articular disease, which proceeds from constitutional weakness, leading to scrofulous degeneration of the tissues—there being merely a colourless elastic swelling, without pain or other symptoms of inflammation—it seems difficult to

believe that in such a condition local treatment of an active kind should ever have been deemed proper; and yet, within my recollection, leeches, blisters, and even stronger means of counter-irritation were employed for it. The more correct ideas now entertained have, it is to be hoped, greatly lessened, if not altogether prevented, such improprieties, and rendered improvement of general health the great object of treatment, the local means being simply of a protective character.

Notwithstanding the improvements to which I have alluded, and the consequently more satisfactory results of our treatment, it still unfortunately too frequently happens that the disease of a joint terminates in suppuration and caries. But in this event also we have made an advance in many cases, by removing the affected bone instead of amputating the limb. The elbow-joint is the one that most frequently requires this procedure, is most conveniently situated for the purpose, and affords the most valuable result by preserving the arm and hand hardly if at all impaired as to either mobility or strength. The suc-

cess attending the operation on this joint has led to its employment in other articulations, with success more or less complete. In cutting out the shoulder-joint great difficulty has been experienced in removing the head of the humerus and glenoid cavity through the same incision, and I have therefore adopted a different plan, which renders the process extremely easy. This is to cut directly downwards from the coracoid process, so as to accomplish the first part of the operation, and then, if the other is found requisite, to make a second incision through the posterior side of the joint along the inferior costa of the scapula, which affords free access to the neck of the bone. I may here remark that both the scapula and clavicle admit of being treated with great freedom, and even removed completely, without materially impairing the arm in its usefulness. The wrist-joint, from the complexity of important parts lying over it, has until lately been deemed an improper subject for excision; but Professor Lister, by methodically attacking the different bones concerned, has succeeded in establishing a

procedure by which the most extensive caries in this situation may be removed without injury to any of the digital tendons, blood-vessels, or nerves, and with the effect of preserving a perfectly useful hand. In the year 1830 I cut out the knee-joint, and four years afterwards exhibited the patient in the most perfect state of recovery at a meeting of the Medical Section of the British Association for the Promotion of Science. It may be asked why I did not continue to employ this operation; and my reply would be for three reasons: since I feared, in the first place, that in adults recovery would be very tedious; secondly, that in children the limb would be stunted in its growth; and thirdly, that some small sinus or oozing of matter, so frequent after excision of the elbow, might prevent the body from having a firm and useful support. It appears that these anticipations have been only partially realised, and that in favourable cases the operation may be performed with a fair prospect of success. There still, however, remains the question as to expediency in choosing between the prospect of a

result thus obtained and that of a comfortable stump with an artificial limb; and here, I regret to say, the discussion has been characterised by a degree of fervour that savours more of personal acrimony than a simple regard for the relief of suffering. For the future I hope that the exercise of a free choice on this point will not expose any of us to unworthy imputations.

The cartilaginous bodies, which are so troublesome in the knee-joint, were formerly regarded as an unsatisfactory subject of treatment, on account of the inflammation that was apt to attend their excision; but the subcutaneous operation suggested by myself in 1841, and afterwards improved by Mr. Square of Plymouth, has afforded a means of remedy both safe and easy.

With regard to the pathology of the osseous system, instead of the vague and erroneous ideas entertained forty years ago respecting the formation of new bone, we now possess a clear understanding of the source from which it proceeds. My probationary essay on necrosis was written with the view of showing that the periosteum

had nothing to do with ossification; but ten years afterwards I was led by the observation of some facts in practice to take an entirely different view, and to perform experiments which completely removed any doubt that could have remained on the subject. By detaching the periosteum of dogs, and either removing the denuded bone or surrounding it with tinfoil, I obtained results that proved beyond all question the periosteum to be the great agent of osseous reproduction. Of late years much attention has been devoted to this subject in France, especially by M. Ollier, who came to Edinburgh with his preparations of rabbit bones, and was not a little surprised to find them anticipated by my own from dogs, which had been made and published twenty years before.

Our knowledge of the ossifying power which is possessed by the periosteum, has improved the treatment of necrosis, and led to other applications, of which the one most worthy of notice is that employed for the remedy of fissure through the hard palate, where, by detaching the periosteum and obtaining sufficient relaxation of the dense

superjacent textures by means of lateral incisions, we are enabled not only to close the gap but to do so by the formation of new bone.

In the early part of this century a large share of attention was devoted to the suppression of hemorrhage, which consequently became so perfect as hardly to admit of any improvement during the period at present under consideration. Mr. John Bell, followed by Mr. Guthrie, had established the great principle that bleeding should always be arrested by means applied at the seat of injury, and that if the access for this purpose was not sufficiently free, it should be enlarged by extension of the existing wound rather than by making a new one. Dr. Jones, by his ingeniously-devised and carefully-executed experiments, had fully explained the different steps by which the blood is spontaneously prevented from continuing to flow. The tenaculum had given place to the forceps, and small silk ligatures had been adopted instead of the bookbinders' twine previously in use. Some attempts have lately been made to throw discredit on the ligature by attributing the most

injurious effects to its action, and by proposing in its stead various contrivances of needles or wires, or a combination of both. Such proposals must be viewed with regret, as evincing an uneasy desire for innovation, and as calculated to confuse the sound principles of practice which have been established by men of experience and reputation. The truth is, that the ligature occasions no irritation, inflammation, or gangrene, as it has been said to do, and merely prevents union to the extent of its presence. Thus, when the femoral artery has been properly tied, the wound heals completely by the first intention, except at the point where the ligature lies, and from which a few drops of matter are discharged. Indeed, so far from regarding the ligatures as injurious, I believe them to be of great service, by maintaining an outlet for the discharge of fluids that might otherwise accumulate in the cavity ; and therefore, instead of cutting off one of the threads, as was formerly the custom, always preserve both with a view to this effect.

The treatment of aneurism also seemed to have

been rendered perfect by the operation of Hunter being applied to all the branches of the aorta' primary as well as secondary; but during the latter half of our forty years' period there have been symptoms of a revolutionary tendency, which has led to important alterations of practice. Of these may be first noticed a revival and improvement of the treatment by pressure as a substitute for the ligature, which we owe to our brethren of Dublin, and more especially Drs. Hutton and Bellingham. There can be no doubt that by means of properly constructed apparatus, and with sufficient endurance on the part of the patient, aneurisms, and more particularly those of the femoral artery, may usually thus be remedied without any long delay. But, on the other hand, it cannot be denied that pressure sometimes fails, and may also be attended by unpleasant consequences; while it appears that, in so far as the femoral artery is concerned, the operation, if carefully and correctly performed, is nearly, if not absolutely, free from danger. I have done it in thirty-five cases, and never met with any bad

result, except on one occasion when an attempt had been made, without success, to accomplish the object by pressure, and where the sac suppurated without any blame being imputable to the ligature. The method by pressure therefore, while justly regarded as a valuable addition to the resources of surgery, should hardly be considered as a substitute completely superseding the operation. The treatment of popliteal aneurism, by simply bending the knee, has frequently been successful, and seems the perfection of simplicity, but is by no means certain in its effect, and as I have had occasion to see, may prove injurious by rupturing the sac. Various attempts have been made to induce coagulation by introducing foreign matters into the cavity, and of these the injection of perchloride of iron by M. Nelaton has been most successful. This plan seems most suitable for aneurisms affecting arterial branches of secondary size, and even here would appear to be not altogether free from serious danger, through its effect upon the circulating system. In another way I have endeavoured

to improve the treatment of aneurism by showing that the artery at the seat of rupture is not necessarily unable to bear a ligature, and that, therefore, in cases where the Hunterian operation is either impracticable or beset with peculiar difficulty and danger, it may be better to open the sac and secure the bleeding orifices.

Passing from general to more particular considerations, we may begin with the head, where much has been done in the way of improvement. The eye-ball, instead of being roughly scooped out along with the contents of the orbit, is now delicately detached from its conjunctival covering and muscular attachments, so as to be removed with little disturbance of the neighbouring parts, which quickly heal, and before the end of many days may be able to receive an artificial substitute, except for the office of vision, in every respect perfect. Fistula lacrymalis, which was formerly with justice regarded as an opprobrium of surgery, and admitted of treatment only by the clumsy expedients of tubes or styles permanently retained in the duct, is now, through the ingenious sugges-

tion of Mr. Bowman, no less easily than effectually remedied by slitting open the canal from the inferior punctum, so as to obtain room for the passage of probes sufficiently large for removing the obstruction. The distressing deformity of squinting, also, which was formerly deemed incurable, is now subject to an operation that, when properly performed, leaves nothing to be desired. Then the different sorts of nasal polypus are accurately discriminated, and when proper for extraction, instead of being nibbled away by the repeated application of clumsy forceps, are attacked by instruments sufficiently small for being insinuated to the point of attachment, and thus removed entire. Enlarged tonsils, too, no longer permitted to torment the patient by frequent sore throat, impeded respiration, and husky voice, are readily removed by the simple means of a hook and knife, which are infinitely better than any of the complicated apparatus that has been contrived for this purpose.

But the most remarkable evidence of progress in this situation is afforded by tumours of the jaw-

bones, which were formerly dug out from the centre towards the circumference without the slightest prospect of any better result than frightful deformity and increased activity of the morbid growth. It was, therefore, a great improvement which accomplished removal by dividing the bone beyond the part affected, where it was known to be sound. My attention was early directed to this subject by my respected friend the late Mr. Cusack of Dublin, who adopted the new method before it was employed in either England or Scotland; I had thus an opportunity of performing the operation upon a very remarkable case, after it had been dismissed from the Royal Infirmary of Edinburgh, and also by Mr. Liston, as incurable. Some years afterwards, on the 15th of May 1829, I removed the superior maxillary bone, for the first time in Great Britain, upon the same principle of cutting through the sound bone beyond the confines of the disease. It would be difficult to estimate the number of lives that have been saved by these operations; and I beg to express my hope that no love of change or desire to act the

part of an improver may ever resuscitate the old system of operating, with its chisels and gouges, and abortive efforts to accomplish what can be done effectually only in another way.

Descending from the head we come to the neck, where the first difference between old and present practice that presents itself is in regard to the operation for admitting air into the lungs. Within my recollection it was rarely performed, and still more rarely, if ever, with success, the reason of which was twofold. For, in the first place, the tube employed was so narrow that, independently of obstruction from mucus in its cavity, there was not space sufficient for the passage of air; and secondly, instead of being introduced into the trachea, it was thrust between the cartilages of the larynx, too near the seat of disease for rendering any service. It is needless to say how different the case is now, and how frequently life is saved by the timely performance of tracheotomy. But as it may not be generally known that we are indebted to Mr. Liston for the wide, conical, and slightly-curved tube so

generally in use, the circumstance which suggested its contrivance seems not unworthy of notice. This was the case of a gentleman nearly related to myself, who suddenly suffered from obstructed respiration, which, having resisted the ordinary means of treatment, urgently required an opening into the air-passage. Mr. Liston, finding that the tubes in his possession were quite useless, cut off a portion from the extremity of his largest catheter and inserted it into the trachea. Soon afterwards a case of œdema-glottidis occurred and afforded time for making the requisite preparation, when tubes of the present form were contrived, and found to answer the purpose perfectly.

Cancer of the tongue has always been regarded as a very unsatisfactory subject for surgical treatment, on account of the extreme tendency which the disease has to a rapid return; but complete removal of the organ has been found productive of more lasting benefit than a partial operation, and, if supported by further experience, may perhaps be available for the relief of a condition otherwise so hopeless and distressing.

The treatment of wry-neck has been greatly improved by the introduction of tenotomy, which was employed for this purpose long before its application to club-foot. On the 2d of November 1832, in the Edinburgh Surgical Hospital, I operated by subcutaneous incision on a boy suffering from wry-neck with complete success, and the case so treated stands first in the records of British surgery. This I mention to account for the interest which I have taken in tenotomy, and the regret which I feel in seeing so excellent a means of affording relief to a large extent withdrawn from the ordinary practice of surgery by specialists, who, through the use of complicated and expensive mechanism, alleged to be requisite for the purpose, have been allowed, in no small measure, to appropriate its employment. But the members of our profession who tacitly sanction such an arrangement, and decline to practise tenotomy, may be assured that they must frequently withhold the assistance required when it would prove most useful, and by allowing the evil to gain strength through delay, afford occasion for the

requirement of apparatus beyond the reach of those who suffer from poverty as well as deformity.

The thoracic region presents no more remarkable evidence of progress than that afforded by the method of treating serous cysts in the mamma, for which we are indebted to the late Sir Benjamin Brodie. Within my recollection there was hardly any attempt to discriminate tumours of the breast, and all of them passing, as they did, under the title of schirrus, were equally supposed to require removal of the whole gland. But even after the distinction had been drawn between those that were malignant and those that, being of a simple or local nature, did not require the knife to go beyond the confines of their own extent, the cysts containing serous fluid were still believed to demand excision, until the late distinguished surgeon showed that mere evacuation of the contents, followed by a rubefacient applied to the surface, constituted an effectual remedy I can bear ample testimony to the success of this treatment, and would only suggest that, instead of the lancet and embrocation employed by its

author, a small trocar and blistering plaster will be found to facilitate the procedure.

The radical cure of hernia, so long an object of desire in the practice of surgery, has at length been to some extent attained by the method which Professor Wutzer of Bonn proposed some years ago; and the complicated apparatus originally employed having given way to more simple means calculated to produce the same effect, the procedure is now within reach of any one who chooses to execute it.

We now come to ovariotomy, which has of late been the subject of so much attention; and it will here perhaps be supposed that a claim for the honour of priority may be advanced on the part of Edinburgh, where the operation was first performed. But, to confess the truth, I fear that the Northern Metropolis, so far from deserving any credit on this account, should rather plead guilty to having invested the procedure with an aspect so repulsive as to impede rather than promote its adoption. It was brought forward by the same person who had proposed to remedy

hypertrophy of the heart by blowing air into the pericardium, to puncture the brain in acute hydrocephalus, and to treat enlargement of the prostate by cutting out the entire gland; so that the profession in Edinburgh were not either disposed to adopt the excision of ovarian tumours or at all surprised by the results of its attempted performance. From these it appeared that one woman was laid open from sternum to pubes without any tumour being found; that another so treated presented a mass of disease entirely beyond the reach of removal; and that a third, after having what was supposed to be an ovarian tumour extracted, was found on dissection a few days afterwards to retain both ovaries in a healthy state. These, and similar cases so ludicrous if they had not been so shocking, led surgical teachers to conclude that the operation laboured under three serious objections—1st, The uncertainty of prognosis; 2d, The difficulty of diagnosis; and 3d, The danger of execution; whence it happened, that notwithstanding more favourable reports that after a time reached us from Manchester, with the exception of

a few cases, all of which proved fatal, no further attempt was made in Scotland to establish the procedure until a recent period, when the successful experience of some gentlemen in London, and more especially Mr. Spencer Wells, gave the matter an entirely new position. The objections originally entertained with regard to both prognosis and diagnosis have been in a great measure removed through the careful discrimination of cases, while the operative procedure has acquired a corresponding degree of perfection ; and the results are so satisfactory that the proportion of deaths does not exceed from 30 to 35 per cent. The most successful operator in Scotland is my friend and former house-surgeon, Dr. Thomas Keith, who has operated in thirty-two cases, and lost only nine of his patients.

Descending to the pelvis we find a great improvement in the treatment of hydrocele through the substitution of iodine for port wine, which very frequently failed, and when unfortunately allowed to enter the cellular texture produced the most violent disturbance, constitutional as well as local,

or even proved fatal. When there was no better alternative than this, it is not surprising that many surgeons clung to the method of incision, which even now in some parts of the world is still deemed the most expedient means of remedy, but every one who has witnessed the certain success and freedom from unpleasant effects which result from the injection of iodine, cannot hesitate in preferring it to any other mode of treatment. In order to obtain the good effect in full perfection, it is necessary that the tincture of iodine should be of proper strength, such as that of the Edinburgh Pharmacopœia, that the contents of the sac should be completely evacuated, and that the fluid injected, which need not exceed two drachms, should be diffused over the surface by a rough shake. The advantage of this treatment is not limited to hydrocele, since it is equally efficacious for the remedy of all cysts containing albuminous fluid, such as those of the thyroid gland or other part of the neck, and also those met with on the trunk or extremities.

Forty years ago diseases of the rectum, be-

ing very imperfectly understood, were regarded with no less horror by patients than apprehension by surgeons. Fistula in ano was believed to require division of the septum to its summit, however high up the bowel this might be, whence followed profuse bleeding, protracted dressing, and frequent failure, from the internal aperture not having been included. Internal hemorrhoids, under the title of prolapsus, were viewed with especial dread, on account of the hemorrhage resulting from excision, and the inflammation apt to be caused by partial or imperfect ligature. Fissures and ulcers, when recognised, which was seldom the case, were held to require a complete division of the sphincter; while an ample field for quackery was afforded by the belief that curable strictures existed high up in the colon. The state of practice is very different now, when fistula is easily and effectually remedied by an incision extending merely to the internal opening, and therefore so slight as not to require any dressing or hardly any confinement; when internal hemorrhoids, and all the discomfort of prolapsus, are

removed no less safely than certainly by ligatures comprehending the whole disease, and tightly drawn; when fissures and ulcers are known to require merely an incision no deeper than their base; and strictures, whether malignant or simple, are ascertained to exist only within reach of the finger.

For removing stones from the bladder many attempts have been made to improve the process by cutting, though with little success, since I believe most surgeons are satisfied that the operation as performed by Cheselden is still the best for the purpose. But during the period under consideration another method of affording relief has been devised, improved, and I may almost say perfected, so as to render the knife of comparatively little value in the treatment of calculous complaints. Sir Astley Cooper's plan of extracting small concretions by means of curved forceps was soon followed by the introduction of straight tubes containing branches that expanded, and held the stone while it was acted upon by a central drill. This lithotrity, in its turn, gave

way to the safer and more efficient procedure of lithotripsy, by which the calculus, instead of being attacked from the centre, was broken into fragments by external compression, at first through the force of a hammer, and afterwards through that of screws differently applied. From the improvements which have taken place in these instruments, and the mode of using them, there seems reason to hope that patients who apply for assistance before the disease has advanced too far, may, in general, obtain relief without submitting to lithotomy, which, however well performed, must always be regarded in adults as much more formidable than crushing, while in children the absence of a developed prostate renders cutting perfectly safe.

During the last forty years few surgical derangements have attracted more attention, or been the subject of more keen discussion, than stricture of the urethra. It would be no less tedious than unprofitable to review the controversies that have hence arisen, and it will be sufficient for my present purpose to consider the various modes of

treatment under some general heads, to which they may be referred. These are—1st, Caustic; 2d, Dilatation; 3d, Internal Incision and Rupture; 4th, External Incision. But before inquiring into the merits of particular remedial measures, it may be proper to remark that two pathological facts, ascertained in recent times, have had an important bearing on their application. It was formerly supposed that strictures were frequently impermeable, and consequently limited with regard to the means of relief, but they are now known always to admit the introduction of instruments, if sufficiently small and properly guided. It was also supposed that the seat of contraction lay most frequently in the membranous part of the urethra, while we now know that it is almost always anterior to the bulb.

The treatment by caustic has been so generally abandoned, and labours under so many objections, that it need not detain us at present. The process of dilatation may be conducted in three different ways, each of which has its respective advocates, and which may be distinguished

as the gradual, speedy, and sudden methods. The first is effected by the gentle passage of bougies at considerable intervals of time, so as to induce absorption of the thickened texture that causes contraction; the second is accomplished by keeping a succession of gradually enlarged catheters in the bladder; and the third is completed at once by a sufficient amount of mechanical stretching. By the first of these methods, in the great majority of cases, perfect and more or less permanent relief may be obtained, while the two latter are apt to produce only a temporary advantage by leaving the texture in its original state, and ready to contract when relieved from distension.

The plan of remedying strictures by internal incision or rupture has called forth an infinite variety of ingenious contrivances for accomplishing the object in view. Of these, the instrument brought into use by Mr. Holt appears to be the most efficient and safe when properly employed, but, like others of a similar kind, labours under the objection of requiring, previous to its use, such a degree of dilatation as in general yields readily to

the simple bougie. It also cannot ensure complete division of the contracted texture, as I have seen in a stricture at the orifice, where the largest instrument produced merely stretching of the part, and my experience would lead me to believe that a similar condition may exist at other parts of the canal.

The remedy of strictures by external incision has long seemed to me the best way of affording relief in cases not amenable to simple dilatation. It met with strenuous, I might almost say intemperate, opposition, but has kept its ground, and will, I believe, continue to prove useful in cases of peculiar obstinacy. In cases anterior to the scrotum it is best executed by sub-cutaneous incision, and whether here or elsewhere, may be performed upon a director of the smallest possible size, which greatly adds to its value.

With regard to the female organs, the most remarkable change that has taken place in the way of improvement is in the treatment of vesico-vaginal fistula, which was formerly held to be nearly, if not altogether, incurable, and is now

remedied no less easily than certainly through means of silver sutures, for the introduction of which we are indebted to Dr. Marion Sims. But our American brethren have laid us under a still more important obligation by the grand discovery of etherisation, or the induction of insensibility by respiration of an ethereal vapour. To Drs. Morton and Jackson of Boston we owe this procedure, which has so wonderfully facilitated the practice of surgery and divested it of its most painful features.

In conclusion, Mr. President and Gentlemen, I beg to express my hope, that from what has been said, surgery will not appear to have stood still or pursued a retrograde course during the last forty years, but, on the contrary, to have been improved in many important points of practice, and to hold out the prospect of further advance; so that when forty years hence some senior member of the Association shall take a similar retrospect, he will find no lack of materials for illustrating the march of progress.

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