ORIGINAL COMMUNICATIONS.

OBSERVATIONS ON THE RECENT PROGRESS OF SURGERY.

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A RETROSPECT of the advance of surgery during the past thirty years may be attempted in two ways; first, by entering upon the details, *seriatim*, of what may seem the most prominent and important improvements in its practice; or, secondly, by classing these improvements into groups; and so taking a more general and comprehensive, and probably safer view of the subject. While the latter plan is preferable, it will, nevertheless, be necessary to adopt both methods, briefly, in the present instance. And first, as to the *catalogue raisonnée*.

1. INJURIES OF THE HEAD. Within the last thirty years, these have become better understood in their nature and risks, and are more successfully treated. The use of the trephine has been limited in ordinary fracture, even with depression; and extended in the case of punctured fractures, even without head symptoms. Both are improvements; operation is withheld, when not absolutely required; operation is performed, when, without it, formidable and fatal evil is inevitable. The use of the instrument is also better understood in cases of compression by blood or pus; and the whole subject has been cleared of some, at least, of the uncertainty and difficulty with which it is almost necessarily connected.

2. AFFECTIONS OF THE EYE. The anatomy, pathology, and therapeutics of the eye, as improved, might well occupy a paper by themselves; and amply testify how what have been termed the specialties of surgical practice should not, and need not, ever give rise to anything in the slightest degree inconsistent with the highest honour and strictest integrity in the conduct of those who practise them. Had not the eye and the ear been carefully and successfully investigated, as they have been, in their disease and cure, by men of science and skill (as Travers, Lawrence, Mackenzie, Dalrymple, and Tynbee) devoting special attention to them, we should have been at this day deprived of much valuable knowledge; not only as affecting diseases of these parts in particular, but intimately connected with the nature and treatment of disease in general. We should have neither seen nor heard much that concerns us, both as patients and practitioners, to see and hear. It is only when the specialties of surgery are cultivated—or rather laid waste—by occupants of unhallowed motive and sinister design, seeking only their own gain, and careless of all other interests beside—it is only then that humanity and our art suffer injury; it is then, and then only, that the stain of quackery, in its most offensive form, attaches to the self-degraded practitioner—whether the specialty be in the eye or in the ear; in the skin or in the spine; in the bladder or in the blood; in the uvula or in the uterus.

The diagnosis and treatment of all the ophthalmiæ, the dealings with cataract, the management of orbital abscess and orbital tumours, might all be dwelt upon. But I content myself with but one example of safe and suitable

extension of the operative department of surgery, in the application of myotomy for the cure of strabismus—proposed by Stromeyer, first practised by Dieffenbach—an operation liable to abuse when performed either imperfectly or unnecessarily; but nevertheless, in good hands, a decided boon, if not to suffering, at least to squinting humanity.

3. The subject of MYOTOMY is an extensive one. The application of its principle ranges from the orbit to the toe; and, when united with the principle of *subcutaneous wound*, embraces the whole body; constituting a most decided improvement in practical surgery; affording relief at the cost of little pain, less blood, and no permanent injury. In this department the great mass of modern surgeons have been all at work; but the names of those just mentioned probably deserve a special pre-eminence.

4. RHINOPLASTICS have undergone a decided advance; not so much, perhaps, in restoration of the whole organ, as in those partial repairs, of which the part so often stands in need. The best of such operations, for obvious reasons, are those which, by simple incision, subcutaneous or direct, effect the desired repair with little or no detraction from neighbouring parts. One of these deserves special notice—restoration of the *columna nasi*, as invented and practised by Mr. Liston; effectively restoring the lost portion of the nose, and at the same time decidedly improving the upper lip. The names of Liston and Dieffenbach rank high in rhinoplasty.

5. AUTOPLASTY. Almost the whole of this subject, in its better aspect, is new; including, as already stated, repair by simple incision, as well as by transplantation; the former the higher art of the two. It were endless to particularise its many applications. It may be enough to mention its connexion with loss of the lip. In the practice of the incisional variety, the names of Blasius (1836), Dieffenbach (1838), Serre (1842), and Syme (1847), may warrant special notice.

6 AFFECTIONS OF THE WINDPIPE. Here is a vast store of improvement in pathology, diagnosis, and therapeutics. The more successful application of tracheotomy to oedema glottidis and the extraction of foreign bodies; the proof of its general preferability to laryngotomy, especially in the case of disease; the withholding of all operation in hopeless croup; its occasional use in otherwise fatal laryngismus; and perhaps its palliative power in certain cases of aneurism, are instances. But above all, the true surgical reformer is delighted by the *prevention* of this operation, by means of the simple application of remedial agents to the affected parts; for example, that which has been specially practised and pointed out by Mr. Green. The “swabbing of the windpipe”—liable to miscarry, from either imperfect or excessive introduction of the instrument—is, in skilful and judicious hands, one of the decided improvements of our art: it exhibits simplicity, science, and skill, *versus* bistoury and blood.

7. The JAWS. Here operative surgery has been extended with good effect, in the case of tumour, more especially of the non-malignant kind. Mr. Lizars first proposed excision of the upper jaw; Messrs. Liston and Syme practised bold and successful operations on both the upper and lower jaws; and the Edinburgh school thus occupies a good place in connexion with this operative advance of the art.

8. STAPHYLOGRAPHY. This, at all times a difficult and uncertain operation, has been rendered more simple and sure by Mr. Fergusson; observing what muscles, in their action, strain and separate the parts, and paralyzing these by previous section.

9. The TONSILS, too, have benefited in the matter of evacuation of their abscesses, and removal of their obstinate projecting hypertrophies by simple ablation. Besides, they have been rescued from certain specialists who enjoyed an exclusive reign in that department, as brief as it was undeserved.

10. SPINAL AFFECTIONS have also been delivered, in a great measure, from the hands of some specialists, who, in seeking to do themselves alone good, did others much harm; and these affections are now—thanks to the common sense

* This paper was read in answer to a somewhat similar paper by Mr. Syme, discussion of which had been aborted at the previous meeting of the Society. The author, in his public capacity, felt it to be his duty to comment on that paper, on two grounds:—1. That the Edinburgh Surgical School might not seem to claim for itself almost the entire mass of alleged improvement, introduced into the practice of surgery during the last thirty years. 2. That the mind of the profession, more especially of its junior part, might not be led away, without warning, into the belief that surgery mainly consists of operative or other mechanical details; and that in this direction its main improvement lies. The paper is necessarily fragmentary and otherwise imperfect; and does not pretend to be anything like a full exposition of the entire advance of modern surgery. The same feeling which constrained the author to read this paper, lays an obligation on him to publish it.

of modern surgeons—as well understood and as well treated as any other disease.

11. **MAMMA.** In chronic affections of the female breast, not of a malignant kind, pressure has proved a most valuable agent of cure; more particularly as applied by means of the hydrostatic or aerostatic system of Dr. Arnott.

12. **HYDROTHORAX.** Relief, at least temporary, and it may be a powerful adjuvant to final cure, is obtained by surgical treatment formerly too much neglected. By means of a small trocar and canula, employed with great care so as to avoid the casualty of atmospheric entrance, the fluid is safely withdrawn: respiration is at once freed, and remedial measures have a much better prospect of action in the future. For this useful application of simple surgery we are indebted mainly to Messrs. Cock and Hughes; not forgetting one whom we all esteem and love, Dr. Alison of this city.

13. **GASTROTOMY** includes a great deal of the heroic in modern operative surgery. In the case of ovarian or other tumours, which are slowly enlarging, causing little inconvenience, and not immediately endangering life, it will probably be argued by most prudent men, that to these the extension of surgical operation on the vast scale of the sterno-pubal incision, or even by smaller wound, has been no improvement. But in those cases of complete intestinal obstruction, where the crisis is urgent, death at hand, and agony great; and when by operation it is possible by exposing the seat of obstruction* to afford relief, to protract existence, and perhaps even to obtain a cure—not arriving at such conclusions by mere theory, but by the aid of recorded experience already obtained—then it seems a serious responsibility, under such circumstances, to withhold our surgical aid, difficult, and doubtful, and dangerous though it be. It is a practising of the lowest part of our art, but little removed from the mechanical trade of butcherism, no doubt; but, according to our present gifts, it is all that is in our power; and ought it to be withheld? The casual reputation of the surgeon, or even of surgery, must not find a place among the elements for consideration; the question simply is, can life be preserved or protracted, or suffering saved? To attempt relief is a plain but painful duty; the crisis may be neither sought nor shunned. The addition of living and intelligent hours—much more, of days and months—may prove of countless value to a fellow-being.

14. **HERNIA.** The revival of Petit's method of extra-peritoneal section, in many cases of strangulated hernia, has been established mainly by Mr. Luke and others of the London school; rendering the operation at once more simple and more safe. But, better still, in opium and chloroform we have obtained important and additional assistance in the taxis; often preventing resort to operation altogether.

15. **URINARY DISEASE.** It were superfluous to dilate on the vast strides which have been made here in the science of surgery. By the aid of the microscope, and by the advance of pathology, great power is now given to detect the origin of disease, and prevent its cumulative establishment; more especially in the case of urinary concretions. Prevention is better than cure, at any time: and more especially is it better than that peculiar kind of cure which comes by resort to the knife. And here, among many other examples, is found a striking illustration of the great benefit which accrues from the maintenance of an "*entente cordiale*" between the friendly, not rival, powers of surgery and medicine; powers which have but one aim and one science; powers which cannot thrive under estrangement and separation, and whose true prosperity must ever depend on mutual support and incorporation. To tell the truth, were there ever to be a final and complete divorce—a result we cannot contemplate even imaginatively without dismay—it is very plain that surgery must prove the greater sufferer.

16. **LITHOTRIPSY.** Since the first labours of Civiale, in

1823, just thirty years ago, this mechanical department of surgery has not ceased to make progress. And little doubt remains, in the impartial mind of any one, that such a degree of perfection has been at length obtained in the construction and use of lithotriptic instruments, as to render this operation decidedly preferable to lithotomy, in regard to safety of performance, in not a few cases of stone in the bladder. In the list of operations it certainly stands *minor* to lithotomy; and of two evils we are bound to choose the least. Were this operation, however, or indeed any other, to be practised as a mere specialty, and had recourse to in all cases applying for relief, much harm must inevitably accrue. The surgeon here must be in one sense ambidextrous: equally qualified to cut or to crush; and ready to apply to each case the treatment which to him seems the more suitable.

17. **LITHOTOMY.** Perhaps the principal advance in this has consisted in the operation having been saved from certain innovations which were no improvements, but the contrary; such as, the invention of curious staffs, and the revival of the gorget, or the use of knives simulating the gorget. At the same time, the rules of practice in the received lateral operation have been established and confirmed; for external, limited internal wound; dilatation rather than incision, but incision rather than laceration or bruise; in the prostatic wound, mere notching and thorough division alike reprehensible; the necessity for cutting the inelastic tendinous texture near the prostatic base; the avoidance of bruise and tear in the bladder, as well as in the wound; especial regard to prevent, by all means, infiltration of urine; and last, not least, due preparation of the patient, more especially in regard to his urinary secretion, before the operation is performed. In this good work all surgeons have been labouring; but if one deserves mention over his fellows, it is Liston.*

18. **THE VENEREAL DISEASE.** More than thirty years ago, the venereal disease was treated by mercury with much and melancholy excess. Under the pressure of the many evils which accrued from this, a reaction took place; and, like most other movements of this kind, went too fast and too far. From treating invariably and copiously with mercury, the reactionists came to treat always with none; and evils, though of a lesser kind, emerged in the form of imperfect and protracted cures. In progress of time, the wise and prudent have come to believe in and to seek for that happy medium which is presumed to exist between all extremes, and in which "*tutissimus ibis*". No doubt there are some extremists still, unmoved by experience, and undeterred by ill-success; some out-and-out mercurialists, some non-mercurialists to a grain. But the received practice undoubtedly is—to give no mercury in any form or shape, when experience has shown that the disease can be cured without it—and such cases happily constitute a majority; but at the same time to give mercury, yet with a cautious and economical hand, in those cases in which experience has shown that a cure cannot be obtained satisfactorily, if at all, without it; and such cases do most certainly exist. But, better than all, thanks to the exertions of Ricord and others, the disease may be aborted in its infancy, and "punched out", without any constitutional treatment whatever; again constituting that prevention which is better than all cure. Let me state, however, that the only mention which one mode of prevention of foreign growth deserves here—namely, that by cold-blooded inoculation†—is to enter it into that category which by Mr. Carlyle is somewhat emphatically termed "scoundrelism".

19. **HYDROCELE** has been simplified in its cure by the use of tincture of iodine as an injection; an improvement due to Mr. Ranald Martin, of Indian celebrity.

20. **CIRSOCELE** too, in its radical cure, has been shorn of

* This eminent surgeon was, at one time, too neglectful of the due preparation of his patient.

† Not the test of a suspected venereal sore already existing; not the notion of curing advanced and chronic syphilis by the addition of a new and fresh poison; but the attempt, by introducing modified syphilis into the healthy human frame, to render men, women, and children, subsequently proof against that contagion.

* The profession will doubtless agree with Mr. Phillips, that operation is warrantable only when there is something like an accurate diagnosis of the site of the obstruction.

some of its risk; experience having shown that instead of dangerously interfering directly with, and obliterating the veins, by means of needle, or ligature, or cautery, it is enough in some instances to apply gentle but equally adjusted pressure at the groin. This improvement is mainly due to Mr. Curling.

21. **FUNGUS TESTIS.** Modern surgery has done a good work of reclamation here. Sir Benjamin Brodie (1834) had shown that the fungus was part of the testicle, and that instead of being shaved off or dissected out, it ought to be reduced and recovered by cicatrization of the sore. Mr. Curling, (1843) having more plainly demonstrated the projection to consist of the tubular structure, changed by abnormal deposit of a simple inflammatory kind, strongly reprobated excision, and advised that the part should be treated by pressure applied by means of adhesive strap over dossils of lint—with the double view of repressing the fungus under absorption, and at the same time drawing the integument over it towards approximation; thus obtaining cicatrization of the wound, while the testicle gradually regained both its normal bulk, and its normal position in the scrotum.

Mr. Syme (1845) has proposed and practised repression in another way, by cutting off the callous margins which sometimes edge the sore, separating by dissection the integument around, and bringing the line of wound at once into apposition by suture. Should anything like primary union occur, the period of cure will thus be abbreviated; but otherwise, the method by compression of the fungus, with traction of the integument, seems preferable, because obviously more consistent with the general principles of surgery.* And it would seem that advance in this direction, rather than with the knife, is the more sure way to reach perfection in this item of our practical art.

22. **AFFECTIONS OF THE BLADDER** are greatly better understood and better treated within the last thirty years; thanks to the labours of surgeon and physician alike—Brodie, Prout, and a host of others. Among them, Lallemand has certainly done service, by directing attention to the remedial application of nitrate of silver to the posterior part of the urethra, the neck of the bladder, and the bladder itself; as well as by elucidating the nature of a peculiar ailment of undoubted existence and sad importance, but not wholly indicated in the phrase *spermatorrhœa*; and rescuing it from the heretofore almost exclusive grasp of the most false, fœtid, and foul, of all quackeries.

23. **STRICTURE OF THE URETHRA.** The use of caustic has been abandoned, as a destructive agent; it is used only, and that very seldom, as a sedative and alterative, in parts specially affected by irritable excitement. The simple use of the bougie, both by perforation and pressure, has become better understood and more highly appreciated. The medical treatment of the urine and its organs, greatly advanced in perspicuity and precision, has proved a most powerful auxiliary to surgical manipulation. For the worst class of strictures, which will not yield to aught else, the knife is still reserved as a last resort; and in those which are at all permeable, though it may be with much difficulty, Mr. Syme has established an improved principle of operation; dividing the stricture throughout its whole extent, on a grooved staff, by direct incision; the cure to be afterwards completed by use of the bougie in the ordinary way. In these several ways, the treatment of this disease has made good progress; but, alas! we cannot yet say that its cure is perfect. Surgery will not rest satisfied, we trust, till the knife has been banished, almost if not altogether, from this portion of its practice; and even the bougie restrained within narrower limits than it is. To medicine and surgery conjoined, the obstacles surely cannot prove insuperable, which stand in the way of removal by absorption of the redundant non-malignant deposits, and consequent changes

of structure, which occur in the course of this mucous canal.*

24. **ANEURISM.** The Hunterian operation has been simplified and improved, by freeing the incision from all tear or bruise; by isolating the arterial coats thoroughly, but only at the point of deligation; and by carefully avoiding all injury to the vein, and every other contiguous texture whatever. But from the Dublin school has emanated a scientific and successful revival of pressure, applied to aneurisms which are external and accessible, founded on the principles of the Hunterian operation, and carrying out those principles more thoroughly than even did the ligature. With this—the ligature—intromission with a sound portion of the artery could not always be secured, even in the case of popliteal tumour; but modern pressure escapes this difficulty by proving successful to cure the aneurism, while it is so slight in its application as not to be likely to injure the arterial or venous coats. The theory is beyond cavil; its successful practice has been demonstrated. The authentic records of surgery now show that such pressure, well applied, cures certain external aneurisms, on the average, as rapidly, as easily, much more safely, and at least as permanently, as does the ligature.† Under such circumstances, the conclusion seems inevitable, that the surgeon who shuts his eyes to this improvement

* It is not meant that the use of instruments may be expected altogether to cease; but only that in the management of this disease the surgeon shall become less exclusively dependent on them than he is at present; deriving more and more deobstruent power from non-mechanical means.

† That compression is an *efficient* cure for aneurism, is proved by the fact that, during eight years, the ligature has only been used three times in Dublin, either in hospital or private practice, in two of these cases the aneurism being traumatic. During this period, compression has been employed in 39 cases. In 30 of them, a perfect and complete cure was the result. In 1, compression was discontinued, and the tumour did not increase in size. In 2, the ligature was used successfully. In 3, amputation was necessary, the patient surviving in each instance. Three patients died; 1 from erysipelas, and 2 from disease of the heart. It is quite clear, from the details of the cases in which amputation became necessary, that the ligature would not have lessened the necessity for removal of the limb; but, on the other hand, would have almost certainly induced gangrene, and thus lessened the probability of saving the patient's life. The death from erysipelas occurred during a prevalence of this disease in the hospital, galvanic-puncture having been employed, and the patient himself having unduly increased the amount of pressure.

The average duration of treatment in these cases, was twenty-five days. The average of the eight most favourable cases was only twenty-eight hours. In one case, seven hours and a half only were required for total solidification of the contents of the sac. There can be no doubt that, from the admission of a patient to the time he leaves the hospital, after the employment of the ligature, a longer average stay than twenty-five days takes place, and that a very speedy cure cannot be hoped for.

Statistical returns of the success of the ligature give the following results:

“In Dr. Crisp's work (*Diseases of the Blood-vessels*, p. 235 et seq. 9) are detailed the particulars of 188 cases, where the vessel was secured for popliteal or femoral aneurism. Of these—

Died from the effects of the operation	35
Recovered after suffering subsequent amputation	11
Recovered after sloughing of the sac	2
Recovered after mortification of the toes	1
Recovered after sloughing of the integuments	1
	50

So that more than the fourth of these cases either terminated fatally, or were maimed for the rest of life.

“Mr. Phillips's experience and researches are the next to be considered. They are thus quoted by Mr. Storks (*Lancet*, May 1846):—“Mr. Phillips collected 171 cases of aneurism affecting the lower arteries, which were submitted to the Hunterian operation. Of these cases, 57 (or exactly 1 in 3) were unsuccessful, in which all the patients except 2 died, not of the disease, but of the operation. Amongst the successful cases, secondary hæmorrhage took place 15 times. 59 of these cases required ligature of the femoral artery, 39 of which were unsuccessful; thus giving a mortality of 2 in 3 in the artery most frequently subjected to the operation.”

“Mr. Norris (*American Journal of Medical Science*, October 1849) gives a fuller report, his table embracing 177 instances (155 of popliteal and 22 of femoral aneurism) where the operation was performed. He gives the surgeon's name, the sex and age, situation of disease, its duration, periods when each operation was performed, when the ligature came away (if fatal), the date and cause of death, with reference as to where the particulars of each case are recorded. There is, then, no getting behind this collection, no stating, in general terms, that statistics are wrong, and cannot be relied on. If truth is spoken in the first published details, it is re-echoed in Mr. Norris's table.

“He gives, I say, 177 cases, of which—

Died from the effects of the operation	38
Recovered after subsequent amputation	6
Recovered after suppurating of the sac	10
Recovered after gangrene of the foot	2
	56

So that nearly one out of every 3 cases operated upon, either terminated fatally, or were, to a certain extent, maimed for the remainder of their lives.” (pp. 148-50).—*British and Foreign Medico-Chirurgical Review*, October 1851, pages 470-471.

* A wound inflamed and suppurating, having failed to *adhere*, tends to gape, and should be allowed to do so—stitches, with this object, being cut away. Here, however, under such circumstances, the stitches must be maintained, on account of their *mechanical* effect alone; otherwise the fungus would again protrude, and the parts resume the *status quo*.

alike of his science and art, and refuses to practise it, incurs a serious responsibility each time he applies his knife and ligature for the cure of an external aneurism to whose treatment a more gentle, more scientific, and safer means, is proved to be applicable; the more so, when it is further observed, that, should compression fail, the way is still left open to the treatment by deligation on at least as favourable terms as if compression had not been employed. The liberal and enlightened surgeon will at all times cheerfully acknowledge that the science which saves resort to the knife is ever a true improvement; and that when, in the successful cure of aneurism, he compares Hunterian pressure with Hunterian ligature, the former is the higher art of the two.*

25. THE AFFECTIONS OF THE RECTUM, at one time the almost undisputed domain of quackery and imposture, have been restored to science and common sense—a good work due to many good surgeons; among others, to Boyer, Brodie, Dupuytren, Ribes, and Syme. It is enough to mention the detection of the internal aperture in fistula, and the simplifying of the operation in that disease; the pathology and treatment of hæmorrhoids, external and internal; the detection and management of fissure and ulcer; the dilatation of simple stricture; the introduction of O'Beirne's defæcating tube, capable of affording great relief in many cases of peril and distress; and the ignoring of all long bougies adapted for the removal of the promontory of the sacrum, or at least intended only for the benefit of the miserable specialist, whether unprincipled or uninformed, who certainly (whatever his poor, deluded, hypochondriac patient might do) could never lay claim, in any sense, to the "*mens conscia recti*".

But it were alike ungenerous and unjust to withhold due meed of praise from the sister art of medicine, in the improved treatment of affections of the rectum. She has taught us that congestions occur here, as elsewhere, from causes situated remotely from the parts affected, and are to be treated accordingly; that irritable ulcers, abrasions, and fissures, are invariably connected with, and almost always dependent on, disorder of the general system, and that, when they occur in the rectum, they are to be treated in conformity with that general law; that spasms of muscles here, as in other mucous canals, are often dependent solely on irritation in some other and perhaps distant part, and that such spasms are often best removed by removal of this irritation, irrespective of all local treatment whatever; that in all cases the most successful local treatment will prove but temporary and deceptive, if not associated with careful attention to the *prime vie* and general health; and that it is a limited *half-surgery*, worthy not of modern, but of ancient times, which rests content, here or anywhere else in man's living frame, with the mere work of the hands.†

26. FRACTURES. The nature of the process of reunion has certainly become better understood; and the restless ingenuity of man has not been idle in inventing mechanical means to assist it. Of the many varieties of modern splints, however, we need not speak, save to felicitate ourselves that, among so many, there must be surely some improvements. But the system of M. Seutin—the immobile apparatus, or starch bandaging—may be safely set down as a step taken in the right direction; such apparatus, when applied in the proper time and way, saving the practitioner much trouble, the patient much annoyance, and certainly contributing to rapidity and certainty and perfection of cure. Ununited fracture has had a more definite treatment assigned to it: in the recent and slighter cases, the starch and immobile apparatus; failing that, subcutaneous puncture; that failing, the seton, or Dieffenbach's pegs.

* Of course, no one supposes that pressure is ever to supersede ligature altogether in aneurism; but only in certain cases. As in some cases lithotripsy is preferable to lithotomy, resection to amputation, etc.

† Fissure and ulcer of the anus often require the use of the knife, along with and notwithstanding constitutional treatment. In not a few cases of these affections, and in many more of anal spasm, ordinary treatment will wholly supersede operation. In no case whatever can immunity from return be expected, unless constitutional and local treatment have been conjoined. To cut the sphincter ani merely because it is affected by spasm, is as irrational as to open the windpipe in every case of laryngismus.

27. DISLOCATIONS. In the examination of injury, what surgeon has not constant cause of thankfulness to anaesthesia for facility and accuracy of diagnosis, as well as for vast facility and safety in effecting reduction? The best auxiliary in this task is on all hands admitted to be chloroform.

28. LOOSE CARTILAGES IN JOINTS. By applying the principle of subcutaneous section, at the instance of Messrs. Syme and Goyrand, these and other foreign matters have found a safer mode of exit than was wont to be; and the knee-joint profits specially by this. The operation, as first practised, has been subsequently improved; and it is likely that in not a few cases even this improved operation may be superseded by a yet simpler procedure—fixing the cartilage at a safe part of the joint, with a view to its being first incorporated, and perhaps afterwards absorbed, in the permanent locality. This latter principle of treatment was first proposed by a writer on systematic surgery, in 1844; and has lately been adopted and modified by Mr. Syme.

29. AMPUTATION is a necessary evil in surgery; it can never be wholly superseded; but its practice has of late years been much improved in many ways, as regards the hæmostatic compression, the formation of the incisions, deligation of the vessels, and dressing of the wound. In this good work, the name of Mr. Liston stands pre-eminent.

Revival of amputation at the ankle, and the making of a much better cushion there for the ends of the bones, is a decided and important improvement, due to Mr. Syme.

30. RESECTION OF JOINTS. To the same surgeon we are indebted for the revival of this operation, more especially in connexion with the elbow and shoulder joints. Resection, when successful, is greatly preferable to amputation, as it entails less risk to life, and leaves the limb but little impaired in function.

31. DISEASES OF JOINTS AND BONES. Infinitely superior to either resection or amputation, is that improved knowledge and treatment of joints and bones which averts or arrests disease, and obtains a cure without recourse to operative surgery at all, whether of the conservative or destructive kind. Many a limb which, thirty years ago, would have been doomed to amputation, is saved by resection of its joint; and many a limb which, ten or twenty years ago, would have been saved only by resection, is now saved by the combined appliances of medicine and surgery, without resort to any knife work whatever. Conspicuous in this good work—because its founder—must ever remain the name of Brodie. (1818, 1st ed.)

32. TREATMENT OF WOUNDS AND SORES. Here very decided advance has taken place, in greater simplicity and efficiency of management; superseding cumbrous greasy poultices by simple water-dressing—ointments by lotions—sutures by attention to position, and the use of tenacious, non-irritating straps; discarding sponges as fomites of evil; limiting greatly the use of cauteries, more especially the actual; never treating a disease merely by its name, nor employing any general panacea;* and by constant care of the system, both as to medicine and hygiene, averting or mitigating those many inflammatory evils which prove such sworn foes to safety and speed of cure. In the Edinburgh school, it need not be said that Liston's name stands foremost in this practical reform.

33. TUMOURS. The pathology of these growths has been wholly recast; thanks not to surgery alone. Alas! however, the cure has not kept pace with the knowledge of the disease. The majority of all tumours are remediable only by the knife; and the majority of malignant tumours refuse to obey even this stern power. It will be true improvement when excision proves more effectual than it is; it will be a better improvement still, should the knife be superseded by simple discussion. In that direction lies the true advancement of surgery.

* A sore is liable to shift its character suddenly and often; and the treatment requires to be altered accordingly. Further, the "varicose ulcer" may and does include every kind of sore—healthy, weak, indolent, irritable, etc. And the assertion that for the "varicose ulcer," any form of lotion, ointment, or other application, is an invariable cure, is calculated to retard surgery.

Even now, it is something to know, better than we did, what tumours admit of discussion under our present gifts, and what do not; what tumours are curable in any way, and what are in all ways incurable. To attempt the impossible in either class of cases, must ever prove fertile of unmitigated evil.

34. *GANGRENA SENILIS* is better managed than in the days of Pott. He saw the evil of stimulant constitutional treatment, yet scarcely avoided it. Marjolin, more alarmed, flew to decided antiphlogistics (1824); Broussais (1827) adopted that extreme still more thoroughly; and Dupuytren (1833) still, for a time at least, was over-antiphlogistic. Then, however, the oscillations between the two extremes of heroic stimulants and heroic antiphlogistics settled down; and the pendulum has for some time rested at or near the *juste milieu*. In 1835, the principles and practice of the modern day in this disease were publicly taught and recorded by Mr. Liston.* In 1841, the same subject was contributed to by Mr. Syme, but with probably too near an approach to the antiphlogistic stringency.† The difficulty obviously is, to feed the patient and yet starve the disease (*inflammatio debilis*); to cure the disease, and yet not kill the patient.

Such are some only of the improvements introduced into surgery of late years, considered in detail. In connexion with these, but few names have been specially mentioned, simply because it is most difficult for an impartial inquirer to determine to what individual men the improvements are really due. Surgeons are one vast company, all travelling over the same wide field, at different times, with different strength and speed, and, it may be, sometimes by somewhat different ways. Some men there are, each specially bent on discovery, with downward head and limited vision, thinking little either of their present neighbours or of those who have gone before, and with mind and eye intent only on their own limited track; and some of these may often cry "Eureka!" little knowing that the same thing had already been discovered by a previous traveller on the self-same path: or, perhaps, that while they lit on it, other eyes and hands had at the same time also found it. The truth is, the hunters are in packs, whether they will or no. There is no room, in the present day, for an exclusive and solitary following. Discovery, improvement, advance, in the main, are due to surgery rather than to schools; to surgeons rather than to any surgeon.

Time permits me to touch but briefly on the second and more important part of the subject: viz., to classify the modern improvements, and embrace them in a more general view.

I. MEDICAL TREATMENT OF SURGICAL DISEASE. I would venture to state, as the greatest improvement, that which has united the sister sciences of surgery and medicine more closely and inseparably than ever they were before; the two combined constituting the best specimen of "rational medicine" that humanity has ever known. As already observed, their science is one and the same; it is their practice only that differs. The constitutional, or *medical*, treatment of wounds and sores, of bones and joints, of urinary affections, of spasms and pains, etc., has done more to advance true surgery in our day than any other agency whatever. Disease is more accurately and easily detected, and is more speedily subdued; texture is better saved, function is more speedily and thoroughly restored; a more complete victory is won, while the frame is less shaken in the struggle; and the opprobria of our art—its operations—are in consequence being limited within an ever narrowing circle.

With this may be classed a better knowledge of, and a more confiding trust in the reparative powers inherent to the frame—the *vis medicatrix nature*: the surgeon having come to know, better than ever he did before, that it is often his cue to stand by, and see the part or system evolve its own cure.

II. THE INTRODUCTION OF ANÆSTHESIA has revolutionized our operative department, and given a bright page to the history of modern surgery. For anæsthesia we stand indebted to our transatlantic brethren; and it needs not to be stated here to whom we owe the use of chloroform, as yet the best anæsthetic. The detection of injuries; the reduction of fractures, dislocations, and herniæ, the absence of pain, and the increased power of endurance during operations—these words all call up a host of thoughts and experiences in the minds of practical men, testifying to the great value of this discovery. It has been a progress in the right direction; often preventing operation, and mitigating its horrors when inevitable.

III. THE TREATMENT OF ANEURISM BY COMPRESSION, with all efforts of a similar kind, constitutes also a sound step in advance; doing, by means of science, and in comparative safety, what the rough art of the knife does more rudely, and with comparative risk.

IV. MYOTOMY, and SUBCUTANEOUS SECTION in general, have contributed much to the relief of suffering and deformity, at the cost of little pain or danger. Inflammation, hæmorrhage, and the other risks of open wounds, having been avoided, joints have been supplied, eyes liberated, necks straightened, foreign bodies extruded, noxious fluids drained away, feet and legs restored to form and function; and all without danger or loss.

V. RESECTION OF JOINTS, as already stated, has saved many a limb, and perhaps not a few lives also, which otherwise must have yielded to amputation.

VI. THE MAINTAINING OPERATIONS, such as amputations, dissections of tumours, and excision of bones, have been simplified in their performance, and, to some extent, made more safe. Besides, they have been extended to the remedy of some forms of disease previously rated incurable; and this, though the least of modern improvements, and hanging on the very outskirts of true advance, is still to be gratefully acknowledged. *Remedium anceps et durum, melius tamen quam nullum.*

To sum up in more general terms:—

1. The greatest improvement has undoubtedly been that application of the general principles of science common to the healing art, whereby all operative interference has been averted.

2. The use of anæsthesia, when operation has become inevitable, deprives it of all immediate pain, as well as of much of its formidable shock.

3. Minor operations have been successfully substituted for major ones; a very capital improvement. And

4. The greater operations, while performed more seldom, are done better.

In conclusion, may I be permitted to state wherein true surgical improvement and advance seem to consist, and wherein they do not? Not in extending the field of operation (save only in those extreme cases which, according to our present gifts of healing, are otherwise incurable); not in devoting the sole energies of surgery to its handicraft and mechanical details, an art in some respects but little removed from that of the mere tradesman; not in seeking to do with the knife what can be at least as well done without it. But in cultivating Surgery's head rather than her hands; in prosecuting, more and more successfully, that general knowledge, common to surgery and medicine, whereby the diseased part is to be cured, and not cut, far less cut out or cut away; in fulfilling the great mission given to our god-like profession—"Assuage suffering, heal injury, remove deformity, but with the slightest possible cost of flesh, and blood, and life; and, by every reasonable and available means which ingenuity can invent, and experience warrant, avert death." This last duty, while humanity lasts, must no doubt entail a certain amount of knife-work, and that even of the baser sort, as in removal of hopelessly crushed and mangled limbs. But let us ever remember that, in general, rather than cut the worse than Gordian knot of disease, it is better patiently to unravel the tangled cord,

* Lancet, March 14th, 1835, p. 850.

† "Enforcing a strictly vegetable diet".... "This starving plan may appear rather startling".—Syme, *Contributions, etc., to Surgery*, p. 4.

leaving its several strands entire. That diplomacy which, though perhaps prolonged and fluctuating, yet terminates in peace, is better far, and shows a higher skill, than that which, hot and gusty, at once takes up the sword. Let us remember that there is much truth in the quaint Hindoo apothegm—"He that knows herbs, is a man; he who knows mercury, is a god; but he who knows the knife alone, is a demon." Let us seek to acquire the utmost dexterity and tact in all operative and other mechanical details of surgery; let us be ready at a moment's warning, when stern necessity demands, to undertake the most fearful and formidable knife-work, in that calmness which sense of duty, mingled with sense of power, can alone bestow. But let there be no ground for any one pointing to surgery as some Shylock, ever whetting her weapon, and demanding "the pound of flesh" which is "written in the bond". Let her show rather Portia's spirit, seeking mercy, and, by some easier way, saving the victim from all claims of the stern creditor Disease. Let no one have ground to say that surgery is again to become a thing of mere handicraft in its peculiar and special phase, and that it may once more be annexed to physic as little other than a menial serving-man. Let us draw more close the bonds—not servile, but friendly—which unite the two branches of our common profession, and arm in arm, with kindred spirit and kindred aim, go forth as brethren, and dwell together in unity.

Edinburgh, April 1853.

CLINICAL NOTES ON RHEUMATISM.

By JOSEPH BULLAR, M.D., Physician to the Royal South Hants Infirmary.

THE most severe acute disease admitted into the wards of this Infirmary, during the winter, is rheumatic fever, and its usual serious complication is the inflammation of the pericardium or internal lining of the heart. During the winter of 1851-2 the heart was affected in most of the cases admitted; but this winter (1852-3) the lungs, and not the heart, have been affected, and in a sufficient number of cases to shew the epidemic constitution of the season.

CASE I. December 30th. Ann B., aged 27, a domestic servant, had been indisposed for two months with cold, cough, and pains in her legs, but was not laid up from work until two days before admission, when she was seized with rheumatic fever. On admission she had severe pain, swelling, and redness of the joints of the elbows, wrists, knees, and ankles; she had a rapid full pulse; a loaded tongue, dry, and brown in the centre; profuse acid sweats; and cough, with quickness of breathing. There were fine crepitating *râles* over the posterior surface of the left lung, the lower lobe of which was dull on percussion, and did not expand fully; this passed on to complete hepatization. The expectoration, which was at first scanty and rusty, became copious, muco-purulent, and greenish, as if tinged with bile. The secretions from the bowels were drab-coloured and offensive.

At first she was freely purged with saline purgatives with some relief. On the sixth day of the disease she was ordered two grains of calomel, with one grain of opium, at bedtime, and two drachms of Rochelle salts in the morning; and to be repeated, if necessary, so as to insure at least two liquid stools daily. On the tenth day, the dose of calomel and opium was diminished one half, which she continued for twelve nights, with her saline purgative in the morning. This gave her quiet nights; and the symptoms gradually improved; but although the joints were well, yet, as the tongue was still coated, the lower lobe of the left lung not pervious to air, and the secretions still light and offensive, a pill, containing one grain of hydrargyrum cum cretâ, with a grain of Dover's powder, and three grains of rhubarb, was ordered to be taken every night. It was continued for ten nights; when, as the tongue became clean, the secretions natural, and the lung permeable to air, it was discontinued; and in a week she was discharged well.

Although the whole of the left lung was inflamed, and the lower lobe completely hepatized, she was convalescent in a month. She was strong, rather plethoric, but of a good constitution. The state of the tongue, and the offensive light-coloured stools, indicated the necessity of unloading the liver; and as the general symptoms improved under this treatment, no specific remedies were employed for the pulmonary complication.

CASE II. Samuel D., aged 32, a carpenter, had had rheumatic fever twice previously; once when 18, when he was confined six months; and a second time, for two months, six years ago. He was admitted on January 18th. He had been ill a fortnight before admission, and confined to his bed five days. He looked pallid and debilitated; he was helpless, as all his large joints were swollen and painful. His pulse was rapid; his tongue dry and brown; and he had no sleep. The day after admission, cough came on, with shortness of breath and rusty expectoration; and on examination, the right lung was found inflamed. In the upper lobes, crepitating *râles* were heard posteriorly, and there was dullness on percussion over the lower lobe, which soon became hepatized. The treatment consisted in two grains of calomel and one grain of opium at night; which, after a few doses, was diminished to half the quantity; and a draught with two drachms of sulphate of magnesia and half a drachm of carbonate of magnesia in the morning, repeated in the afternoon, if necessary, to secure a free evacuation of the bowels. The stools were at first lumpy, light-coloured, and offensive; but the medicine brought away copious bilious stools, and the tongue became moist.

He found much relief from his harassing cough from this mixture:—

R. Vini antimonii tartaratis 3j.

— ipecacuanhæ 3j.

Syrupi papaveris 3iij.

Oxymellis scillæ 3iij.

Liquor ammoniæ acetatis 3ij.

Misturæ camphoræ ad 3viij. M.

Fiat mistura, ejus sumat partem sextam ter quotidie.

The calomel and opium at night, and the saline purgative, were continued for three weeks, with gradual improvement of all his symptoms. In a month he was convalescent, but was weak, with a tendency to pain and swelling of his hands. He improved under quinine, and five weeks after admission was discharged. The hepatized lung was quite permeable to air, expanding fully; but he still had some cough.

CASE III. February 3rd. Thomas H., a strong, vigorous young man, aged 23, was admitted under Dr. Oke. Three weeks before, he had caught cold from exposure to wet, with cough, hoarseness, and loss of voice; followed in a week by rheumatic inflammation of his knees, ankles, and elbows, pain in the back, great dullness, and no sleep. On admission, besides the usual symptoms of acute rheumatic fever, he had pneumonia of his left lung with complete hepatization of the lower lobe. The following pills were ordered:—

R. Hydrargyri chloridi gr. j.

Extracti aloës aquosi gr. j.

Extracti colchici acetici gr. ½

Pulveris opii gr. ¼. M.

Fiat pilula ter die sumenda.

He continued this for a week; and it was then taken twice a-day for another week, and then once for a few days. It acted freely on his bowels, with marked and gradual improvement both of the rheumatic and lung symptoms. On the 14th he left his bed. The lower lobe was still impermeable to air, but it was gradually restored to a healthy state, and on February 21st he was discharged.

In the following case the only internal organ affected was the lungs, though it did not run into hepatization.

CASE IV. Jan. 29th. James P., aged 33, a waiter, had been confined to his bed with rheumatic fever a fortnight before admission. It came on with severe shivering and much pain in the larger joints, so that he could not bear the bedclothes to touch him; he had sleepless nights, and some cough. On admission, he was so weak and helpless as