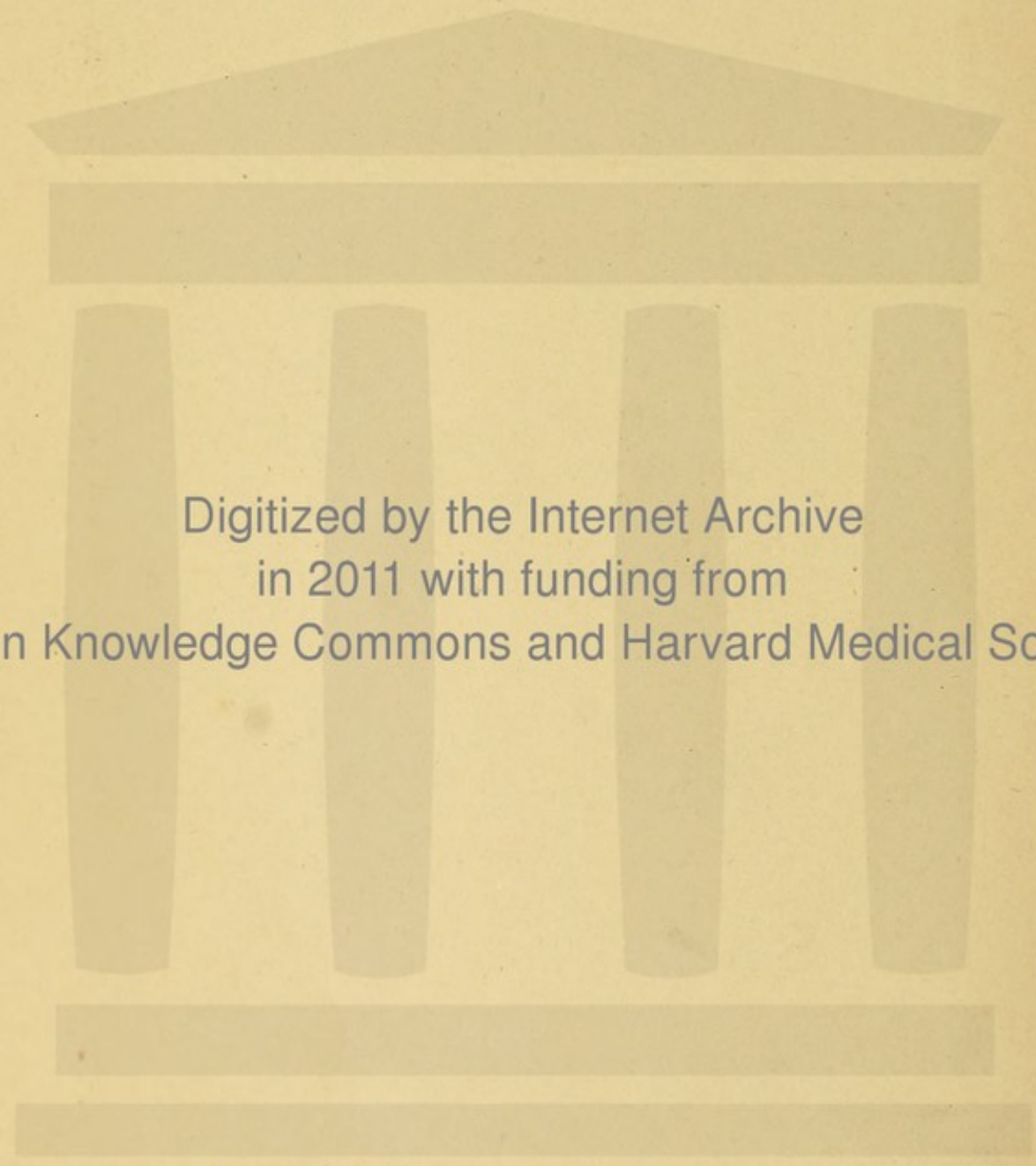
The history and progress of surgery : an address, delivered to the medical students of the Melbourne Hospital, on the occasion of the presentation of the prizes in the class of operative surgery / by James George Beaney.

History and Progress of Surgery.

J. G. BEANEY, F.R.C.S.E.



THE

HISTORY AND PROGRESS OF SURGERY:

AN ADDRESS,

DELIVERED TO THE MEDICAL STUDENTS OF THE MELBOURNE HOSPITAL,
ON THE OCCASION OF THE PRESENTATION OF THE PRIZES IN
THE CLASS OF OPERATIVE SURGERY,

BY

JAMES GEORGE BEANEY, F.R.C.S.E.,

SENIOR SURGEON TO THE HOSPITAL.

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NOTE.

THIS Lecture was delivered on Friday, 14th December, 1877, in the Operating Theatre of the Melbourne Hospital, by Mr. JAMES GEORGE BEANEY, F.R.C.S.E., Senior Surgeon, on the occasion of the presentation of the gold and silver medals for proficiency in operative surgery, adjudged to certain of the students who attended his Lectures during the past session.

The presentations were made by Sir JOHN O'SHANASSY, K.C.M.G., as follows :—

GOLD MEDAL	... ...	CHARLES JOHN TROOD.
FIRST SILVER MEDAL	...	S. E. A. Z. WOINARSKI.
SECOND SILVER MEDAL	...	THOS. R. LEWERS.
THIRD SILVER MEDAL	...	E. G. OCHILTREE.

In presenting the medals, Sir JOHN said—I have much pleasure in presenting you with these very valuable, and, no doubt, well-merited prizes from Dr. Beaney. I need not say that, as an old Victorian colonist, and one who stood upon the site of the Melbourne Hospital before the erection of the building was commenced, it affords me the greatest possible pleasure to be here on this occasion, and present the prizes which have been awarded by Dr. Beaney to the successful students, during the past year, in his class of operative surgery in connection with this institution. I think that scarcely anything can be regarded as more remarkable in the progress of the colony than the interesting event which has called us together to-day. You have before you a noble profession, and I have no doubt that you will be greatly encouraged in the pursuit of the studies necessary to thoroughly qualify you for that profession, by the fact of receiving these gold and silver medals from so eminent a surgeon as Dr.

Beaney, who has delighted us by the address which he has just read on "The History and Progress of Surgery."

In responding to a vote of thanks proposed by Dr. Beaney for his having acted as chairman, Sir JOHN said—Gentlemen, I thank you very much. I know no event in the past history of Victoria, the remembrance of which affords me greater gratification than the laying of the foundation-stone of the Melbourne Hospital. That took place in 1841, now thirty-six years ago. The year before the first stone of the Hospital was laid, the necessity for the establishment in this city of an institution for the relief of poor persons requiring surgical and medical aid became so apparent that a private house in Elizabeth-street was used for the purpose, under the management of a committee of benevolent gentlemen. The result of that small beginning is the Melbourne Hospital, a charitable institution of which the colony may well be proud, and the crowning glory of which,

I may say, is the Medical School that has been established in connection with it, where lectures on operative surgery are given by such competent men as Dr. Beaney and others on the honorary staff of the Hospital. I am very proud to have lived to see this day. To be present to-day has been one of the greatest pleasures that could possibly be afforded to me. I again thank you, Gentlemen, for the cordial vote of thanks which you have given me for presiding on this occasion.

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Senior Surgeon to the Hospital.

GENTLEMEN,

The science we study, the profession we pursue, is without contradiction one of the noblest and most beneficent that can occupy the attention of the human mind; and while in a mercantile and mercenary age it would be unwise to assert that we are indifferent to its substantial rewards, or that we despise the reputation which accompanies success, still I can confidently assert that every surgeon who is devoted to his calling finds in it a higher delight than one altogether independent of that which its emoluments and distinctions are capable of affording

him. Viewed as a science, surgery presents itself to us in a twofold aspect: first, as subjecting to our scrutiny the structure of the most complex piece of living mechanism—the human body—to be met with in animated nature; and, secondly, by the minute and careful scrutiny of that body and each of its organs, both in health and disease, as furnishing us with the means of combating disease, of repairing injury, af assuaging pain, of remedying defect, of rectifying deformity, and of co-operating with nature in her restorative and conservative functions.

In so doing the surgeon may claim to be a public and private benefactor; and never more so than at the present time, when the wonderful discoveries of science have armed him with admirable instruments and with invaluable anæsthetics, which enable him to perform the most critical operations under circumstances calculated to inspire him with confidence and to exempt the patient to be operated upon from all suffering. When we look back upon the surgeons of only fifty years ago it must be candidly confessed that in spite of the highest skill, and the truest humanity, the operating-room *did* sometimes resemble a shamble, and that the reproach of butchery

did occasionally apply to those who wielded the knife. But this was unavoidable; while there can be no doubt that it had the effect of stimulating experiment, of quickening invention, and of inducing the best surgeons of the day in all parts of the world to cast about for the means of pursuing their labours with improved appliances, so as to lessen the sum of individual suffering.

In reviewing the progress of surgical science during the last half century, precedence must be given to those anæsthetics, such as æther, chloroform, and the æther spray, which may be said to have revolutionized the practice of our art. By the discovery of these agents we are enabled to abolish the pain we should otherwise be compelled to inflict. It is said of Cheselden, the distinguished surgeon of the past, that on operating days he suffered great mental anguish at the thought of the awful amount of pain he was about to inflict on his fellow-creatures; but what a privilege is now entrusted to us—to be enabled to lay our patient for a time as if in death while he is undergoing some great surgical operation undertaken for the purpose of removing some dire disease or in reparation of the mutilations of injury.

Many of the operators of bygone days, unskilled in anatomy and pathology, are described as "agitated, trembling, miserable, hesitating in the midst of difficulties, turning round to their friends for that support which should come from within, feeling in the wound for things which they did not understand, holding consultations amid the cries of the patient, or even retiring to consult about his case, while he lay bleeding, in great pain and awful expectation." Now-a-days the operator is braced up with courage and calm composure as he gazes on his patient after the chloroform has "caused a deep sleep to fall upon him."

There is a common but exceedingly expressive phrase which has frequently been made use of, not merely with respect to great inventions, but to important reformatory improvements. People assert "the change was in the air," and this may be said with respect to the employment of æther as an anæsthetic, for the idea occurred, if not simultaneously, at any rate independently to many minds. It was foreshadowed upwards of 300 years ago by that illustrious French surgeon, Ambrose Paré, who must be regarded as the father of our modern

science, and who was saved from the massacre of St. Bartholomew by the King himself, who sent for him into his own bedroom, and told him not to stir out, as he did not consider it to be right to murder a man who was so useful to the world. Paré, you know, put a stop to the barbarous practice of curing—or professing to cure—gunshot wounds by pouring boiling oil into them; and he also abolished the atrocious usage of cauterizing a limb to stop the hæmorrhage after amputation. An essentially humane operator, he was accustomed to produce local insensibility to pain by sustained pressure upon the nervous trunks leading to the part to be treated.

As far back as 1832 the young people of Athens, in the State of Georgia, were addicted to the inhalation of ether as a stimulant, but its first production of complete anæsthesia was the result of a practical joke. At a "quilting party" at Athens, in 1839, some boys and girls insisted upon a little "nigger" taking it "just for the fun of the thing." He fought furiously, then succumbed, and lay passive, breathing stertorously. They tried to arouse him, but could not. Becoming alarmed, a mounted messenger was

sent for a doctor; and, strange to say, although nearly two hours must have elapsed before his arrival, the boy was found to be in a profound state of anæsthesia. Dr. Long, of Athens, frequently inhaled ether in the presence of his pupils; and noticed that afterwards he found bruises on his person; although at the time he must have received them, he was unconscious of any pain. This set him thinking, and he resolved to ascertain if surgical operations could not be performed while the patient was in a condition of insensibility thus induced. In 1842 he amputated the toe of a negro boy, to whom he had administered ether. In the following year he extracted three cystic tumours from the head of Mrs. Mary Vincent, without pain; and performed several operations subsequently with the assistance of ether. In 1844 Dr. Wells, of Hartford, Connecticut, produced anæsthesia with the same object; and so did Dr. Morton, of Boston, in 1846. This was in the Massachusetts General Hospital; and thenceforth it came into general use in the United States. It was not until 1847 that the subject of anæsthesia was first broached in England at the meeting of the British Medical Association at Derby, and it required

no small courage on the part of the late Sir James Simpson to advocate the use of anæsthetics in obstetrical cases. All the old hostility of religion to science was vehemently aroused; and a perfect storm of objurgation roared around his devoted head from pulpits innumerable. The Bible was ransacked for texts to prove that he was flying in the face of Providence.

Fiercely denunciatory sermons were preached against him, and he was told that to use chloroform was "to evade the primæval curse on women." But he was witty as he was brave and persevering, and he retorted on the clerical bigots thus:—"My opponents forget the 21st verse of the 2nd chapter of Genesis. That, said he, is the record of the first surgical operation ever performed, and that text proves that the Maker of the universe, before he took the rib from Adam's side, for the creation of Eve, caused a deep sleep to fall on Adam." It is said that when some of his clerical assailants read this brilliant retort in one of his pamphlets, they literally foamed at the mouth, and danced with rage. I do not wonder at it. They were blown to pieces by their own guns. After all, however, I am afraid we

cannot call anæsthesia a modern invention. Most of you are tolerably familiar with Iago's maliciously triumphant exclamation with respect to Othello's mental misery:—

> "Not poppy, nor mandragora,
> Nor all the drowsy syrups of the world,
> Shall ever medicine thee to that sweet sleep
> Which thou ow'dst yesterday."

Well, Pliny tells us in the 94th chapter of his "Natural History," that mandragora was administered just as we administer chloroform. His words are very remarkable. He says:—"It is given for injuries inflicted by serpents, and before incisions or punctures are made in the body, in order to insure insensibility to the pain. *Indeed, for this last purpose, with some persons*, the odour is quite sufficient to induce sleep." Apuleius tells us that "by drinking mandrake with wine, a limb may be cut off without any sense of pain." An anæsthetic agent for producing insensibility to pain was in use among the Chinese 1600 years ago; a preparation of Indian hemp for throwing the patient into a profound stupor was the agent employed. The anæsthetic properties of this plant were also known to the ancient Scythians.

Mesdric, a surgeon who flourished in the latter half of the thirteenth century, and who has left a curious work on surgery, alludes to what he calls "a flavour for performing surgical operations," composed of the following ingredients—"Opium, mulberry, henbane, mandrake, and lettuce, to be boiled until concentrated in a sponge, which when wanted was to be warmed, and applied to the nostrils of him who is to be operated on until he has fallen asleep, and so let the surgery be performed." Taking such facts as these into account, we can scarcely help acknowledging the fact of Solomon's deduction that "there is no new thing under the sun." Let us next glance at the invaluable instruments which the progress of scientific inquiry and of mechanical invention has placed in our hands of late years. In the discovery of the precise local seat of disease, or of the suspected accumulation of morbid matter, the use of the exploring needle is almost equivalent to the acquisition of another sense by the operative surgeon, as it penetrates beyond the range of his vision, and the reach of his touch; while it is so constructed as to admit of its being thrust with safety into the most vital parts of the body. Then,

again, we have Carte's apparatus for the treatment of aneurism by compression. Less than a hundred years ago, when Dr. Wilmer published his "Cases in Surgery," there was not an instance of the successful performance of the operation for popliteal aneurism in the mother-country. Then came John Hunter's happy suggestion of tying the artery considerably above the tumour; then in case of femoral aneurism Abernethy's bold experiment of applying a ligature to the external iliac artery; then in cases of carotid aneurism, Dr. Mott's heroic method of tying the *arteria innominata*; and then the proceeding introduced by John Bell, of Edinburgh—that of tying the common carotid. Finally, if finality can be predicated of anything in surgery, we have the application of such a continuous compression of the trunk of an artery as either entirely interrupts the circulation, or diminishes it so materially, as to enable a sufficiency of blood clot to be deposited to occupy the entire sac. And it is interesting to observe how often distinguished writers of science have a kind of presentiment that certain discoveries will be made. Thus, Professor Porter, of Dublin, some years before the treatment of aneurism by compression was employed,

remarked that "if there could be any other means devised for removing the impulse of the heart during the required period, a ligature never need be applied for the cure of aneurism." And when that means was hit upon, its simplicity was as remarkable as its efficacy; while the method of application cannot be better expressed than in the pithy advice of Professor Tufnell:—"Make your command over the circulation complete, but do so with the minimum amount of pressure by which this object can be gained."

No better attestation of the efficacy of compression as a cure for aneurism need be cited than the fact recorded in the *British and Foreign Medico-Chirurgical Review*, that in Dublin, during a period of eight years, compression was employed in thirty-nine cases, and in thirty out of them a complete cure was the gratifying result; whereas it is established on the best testimony, both at home and abroad, that one case out of three treated by ligature terminates fatally. Not only so, but the hospital records show that the average duration of a patient's stay in the hospital who is subjected to the treatment by ligature is twenty-five days longer than

that of the inmate whose malady is dealt with by compression. The Edinburgh School of Surgery has been doing good service to suffering humanity of late by its successful treatment of aneurism by compression, and in England several cases of popliteal aneurism have been reported as *cured* by the simple application of Professor Esmarch's bloodless bandage.

Let me now call your attention, also, to what would have appeared in former ages the miraculous powers of the galvanic battery in restoring suspended animation, as well as for the treatment of muscular wasting and local paralysis; by its aid we can heat the cautery instantaneously—a matter of no ordinary importance in certain grave emergencies. It is fortunate that we are not living in the days of Pope Innocent III., who looked upon surgical operations as something diabolical; or in those of the Rev. Edward Massay, a Church of England clergyman, who in 1722 preached a sermon condemnatory of inoculation, and solemnly assured his awe-stricken hearers that Job's distemper was probably confluent small-pox, and that he had been doubtless inoculated by the devil. What would the great theologians

who persecuted Albertus Magnus, who imprisoned Roger Bacon for seven years, who excommunicated Arnold de Villa Nova, who hunted to death the illustrious Vesalius, say—if they were now living and were still powerful—if they saw us with the galvanic battery apparently "creating a soul under the ribs of death?" Why, gentlemen, we should be in imminent risk of being burnt to death as sorcerers!

Dieulafoy's aspirator for drawing off purulent, serous, and other fluids without the introduction of air into the wound on the retraction of the perforating stilet is another inestimable boon to suffering humanity. We all know how, under the method introduced by Abernethy, in the case of chronic abscesses, for example, a part of the contents used to be drawn off by a trocar and canula, when the wound was allowed to heal by the first intention, when the puncture was repeated at fortnightly or longer intervals until the collection was so reduced in size as to admit of the cavity being laid open and healed from the bottom, like an ordinary abscess. We also know how great was the risk of inflammation under such circumstances, and that if any air

was incautiously admitted into the wound it was apt to cause the putrefaction of the remaining matter, and thus set up a violent disturbance in the system. But now, with this aspirator in our hands, we can empty an abscess with the utmost facility and security, and give prompt and permanent relief to the patient.

Within the limits of a brief lecture it is impossible to do more than glance at Esmarch's bandage for bloodless operations; the spirometer, by which we measure the capacity of the chest; the urinometer, which enables us to test the specific gravity of the urine; Holt's urethral dilator, for the rapid cure of stricture of the urethra; and Weiss's instrument of a like character for cognate operations. By the former we accomplish, when skilfully handled, the forcible and instantaneous rupture of the contracted portion of the urethra; and experience justifies the assertion made by Sir Henry Thompson, that "by far the greater number of strictures, even of the most troublesome and obstinate forms, are quite amenable to carefully managed dilatation, either simple or continuous, and that it is very rarely incumbent on us to resort to operative procedures of any kind." And we

all know the relief which this implies to the sufferers who come under our hands for treatment, and whom it is so desirable to exempt from unnecessary pain and inconvenience. Then there is that charming little instrument, the lithotrite, by the aid of which we can crush into fragments small stones within the bladder.

In speaking of instruments, however, I have perhaps been guilty of an oversight in not giving priority to the microscope; our very familiarity tends, I am afraid, to cause us to forget our enormous obligations to it. Without it, what should we have known of the mysteries of living structure, and of its marvellous functions? How could we have divined the primitive organisation of our vital tissues? The microscope does not enable us, and never can enable us, to fathom the mystery of mysteries—the origin of life—the invisible principle which animates the "monad" of Leibnitz, and the atom of Lucretius; but it shows us the earliest apparition of life as enveloped in visible form. It reveals to us in the blood vessels of our own bodies, the living substance out of which every particle of them is progressively built up and pulled

to pieces again; while the uses of this instrument in disease are so innumerable, that to attempt to specify and illustrate them, would necessitate not merely an independent lecture, but a lengthy series of discourses. How the surgeons, anatomists, physiologists, and pathologists, of early days could have worked without it, is just as perplexing a problem as how the astronomers of primitive time could have explored the stellar universe without the aid of the telescope.

Optical science has also enriched that of surgery with the laryngoscope, which enables us to explore the recesses of the larynx, and to determine the exact position of small tumours, ulcers, and other morbid growths; to diagnose them with a precision and accuracy previously unattainable; to treat them by local application with a well grounded confidence of a successful result. It has also given us the ophthalmoscope, for which we are indebted to one of the greatest of living scientists, Professor Helmholtz, of Heidelberg, whose researches into the laws of sound, stamp him as one of the most brilliant experimentalists and investigators of the present age. By means of his admirable invention, we can minutely examine the optic nerve, retina, and

choroid, either for observation or clinical demonstration; and note their appearance in health, and the morbid changes they undergo when subject to disease. And if I pass over the speculum, it is because we cannot claim it as a modern, much less as a recent invention, inasmuch as it was in use upwards of 1800 years ago, and some very good specimens of the instrument have been disentombed from the ruins of Pompeii. That beautiful little instrument the sphygmograph, for measuring the character and capacity of the pulse at the wrist and imprinting the same on paper is now extensively employed by the clinical physician, and by medical referees to insurance companies. The spirometer is also an invaluable instrument for testing the capacity of the pulmonary organs, and is much used by medical men both in public and private professional life.

Passing on to speak of new operations, one is oppressed by the magnitude of the field of invention and improvement which opens out before us as we review the scientific achievements of the last half century. If, in consequence of the artificial habits of society incidental to our complex civilization, the ease and luxury of modern life, the aggregation of

vast masses of people in large cities, the increase of sedentary occupations, the growth of sensuality, and the morbid excitement and unhealthy stimulus which some or all of these cases communicate to the nervous system of men and women—but of women more particularly; if, I say, these circumstances have operated to multiply the number of organic diseases which afflict civilized mankind, surgical science, ever on the alert, ever active in the prosecution of its beneficent mission, has enabled us to grapple with these maladies, and thus to stem, if not to beat back, the advancing tide of human suffering. Twenty-seven years ago, the illustrious Lawrence asked whether the operation of ovariotomy could be "encouraged and continued without danger to the character of the profession?" But at this present time hundreds of lives are being annually saved by what has been justly pronounced to be "one of the greatest achievements of surgery in the nineteenth century;" and one which has also made its influence beneficially felt in every department of surgery. It was publicly stated a few years ago by the then Lord Chancellor, that by the first 500 operations for ovariotomy performed by Mr. Spencer Wells he had

added something like 10,000 years to the lives of European women; and is is a gratifying fact, as mentioned by that gentleman in the address which he delivered before the British Medical Association at Manchester in August last, that out of 241 operations performed by his friend Dr. Thomas Keith, that skilful surgeon had succeeded in saving 206 lives. And if science is capable of effecting such brilliant results in regard to ovarian tumours, may we not confidently anticipate that it will be no less successful with respect to uterine tumours, especially in view of the fact that fibroid and fibro-cystic tumours of the uterus have already yielded to the hand of the surgeon?

The radical cure of reducible hernia by Wutzer, and which has been improved upon by Professor Wood, of King's College, London, is another remarkable gain for surgery. The method of drawing together the hernial apertures, so as to re-establish the valuable action of the inguinal canal, will, I doubt not, supersede earlier modes of treatment, and I share in the hope expressed by Mr. Spencer Wells, that we may yet succeed in obliterating the hernial sac, closing its abdominal orifice, and strengthening

the abdominal walls by the use of insulated needles connected with the positive pole of a galvanic battery, causing shrinking and occlusion of the sac.

Of the various procedures for the cure of stricture by internal or external urethrotomy, it is almost unnecessary to speak; modern practice tends more and more to the substitution of carefully managed dilatation for the operative measures which were formerly resorted to, often at the cost of so much suffering to the patient, attended with serious risk of lacerating the organs, and bringing on hæmorrhage or local disturbance by the absorption of urine and pyæmia; and it is satisfactory to add, on the authority of Sir Henry Thompson, that in 219 cases of urethrotomy, carefully collected by himself from numerous operations, the deaths from all causes scarcely exceeded six per cent.

In the department of conservative surgery it would be difficult to over-estimate the value and importance of the operation of excising a diseased joint in preference to the amputation of the limb. How often in modern practice does it become our happy privilege to save a limb by resection of its joint, where half a century ago its sacrifice would

have been rendered imperative? Not only so, but any resort to the knife is now frequently obviated by a judicious combination of the appliances of medicine and surgery; for, as I need scarcely remind you, gentlemen, these sister sciences are more intimately united at the present time than ever they were. To quote the words of an eminent member of our profession, James Miller, Professor of Surgery in the University of Edinburgh, "the constitutional or medical treatment of wounds and sores, of bones and joints, of urinary affections, or spasms and pains, &c., 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, and more 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." These, gentlemen, are the triumphs not merely of science but of humanity; our skill becomes a benefaction; our experience a boon to our fellow-men; and the surgeon, instead of being regarded, as he was formerly, with something

of the awe and dread investing one who carried about with him in great emergencies the whole armoury of formidable instruments of torture and mutilation, is now welcomed more frequently as the kindly and potent enemy of pain, and the invincible enemy of deformity and suffering.

For obvious reasons I refrain from doing more than making a passing allusion to new operations in surgery with which I have myself been identified; but I might be accused of mock modesty if I were to be altogether silent concerning the removal of the tongue by the wire cautery, and my operation for the radical cure of varicocele, which many of you have seen me do repeatedly and successfully. The application of tracheotomy to the extraction of foreign bodies from the windpipe and its use in dangerous cases of laryngismus; the relief of chronic affections of the female breast by hydrostatic or ærostatic pressure; the evacuation of abscesses from the tonsils by simple ablation; the feeding of patients through the nose and per anum, when they are unable to take sustenance by the ordinary channel; the reparation or restoration of the nose by the methods introduced by Liston and Diefenbach; the twisting

of arteries instead of tying them; the reduction of dislocations by simple manipulation in lieu of pullies; the immense improvements which have taken place in lithotomy; the simplified cure of hydrocele by the injection of iodine; the cure of fungoid testicle without the use of the knife; the removal of hæmorrhoids by excision and cautery; the application of the principle of subcutaneous section to the elimination of loose cartilages in joints; the reformed treatment of wounds and sores by simple water dressing; carbolic acid, and other valuable and economical antiseptics; by better attention to position, and by the use of plaster of Paris and dextrine bandages.

These, gentlemen, are a few only of the improvements in the practice of surgery, which have been effected during the last half century. I should only weary your patience if I entered into fuller details concerning them. But ours is a science in which we are ever learning; and in which the progress of discovery is virtually unlimited. It is with surgery, as with one of the athletic pastimes of classical antiquity, each generation transmits to the next the light it has acquired from observation, from

study, from experiment and practice—

> "As though a torch-race, where from hand to hand,
> The flying youths transmit their shining brand."

A new surgical operation may be the means of saving the life of a great warrior, statesman, orator, artist, author, or man of science, whose loss would be an irreparable calamity to his own nation, and possibly to mankind, while professional ignorance, and a blind adherence to the superstitious errors of the past, may on the other hand, send to an early grave one who—

> "Became on fortune's crowning slope,
> The pillar of a people's hope,
> The centre of a world's desire."

Nay more, the safety of a nation may depend upon something so simple, and apparently so insignificant as the prompt use of a commonplace surgical instrument, of which we have a curious illustration in an incident which occurred shortly after the foundation of the colony at New Plymouth in North America:—Edward Winslow, one of the first settlers, heard that Massasut, an Indian chief, was sick and like to die; he found him with a houseful of people about him; women

rubbing his arms and legs, and friends making such a hellish noise as they probably thought would scare away the devil of sickness. Winslow gave him some conserve, washed his mouth, scraped his tongue, which was in a horrid state; got down some drink, made him some broth, dosed him with an infusion of strawberry leaves and sassafras root, and had the satisfaction of seeing him recover. Massasut, full of gratitude, revealed the plot that had been formed to destroy the colonists, whereupon the Governor ordered Captain Miles Standish to see to them, who thereupon stabbed Picksnot with his own knife, broke up the plot, saved the colony; and thus—as Dr. Holmes says, who related the story, "rendered Massachusetts and the Massachusetts Medical Society a possibility, as they now are a fact before us."

In conclusion, suffer me to remind you that ours is both an art and a science! an art in so far as it involves the performance of the various manual duties required, or the employment of the means invented for us by the skilful mechanist, and a science in relation to the choice and application of such means. Both the art and science must

be cultivated *pari passu*. The firm, delicate, and dexterous hand, must co-operate and become the apt and docile instrument of the well-stored mind, which should be fertile in resources, prompt in their employment, and prepared in the instant for any emergency. Where this is the case, capital operations may be ventured on with confidence, and their success—humanly speaking—assured. For my part I have always acted on the excellent advice which Mr. Samuel Solly gave to his pupils and dressers in the clinical lectures delivered at St. Thomas's Hospital, London, when speaking of lithotomy:—"Remember this," said he, "that no surgeon can pick his cases, he must take them as they come, he must take the bad with the good. It is his duty to relieve suffering humanity, even at the risk of his reputation—you cannot tell for certain beforehand the amount of existing disease, either in the bladder or kidney, and as on the one hand, you will sometimes find your honest endeavours to save human life successful, when you had least reason to expect it, so on the other hand, you will find your patient sink into the grave when you thought you had a fair prospect of success.

I have now operated," he adds, "twenty-seven times, and have lost five cases; I have taken every case that has presented itself without shrinking." Brave words these, gentlemen, and worthy to be borne in remembrance by all of us in the practice of a profession where each may lay to heart the sound advice offered to Laertes by Polonius:—

> "To thine own self be true:
> And it must follow, as the night the day,
> Thou canst not then be false to any man.
> Farewell; my blessing season this in thee."

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