ADDRESS IN SURGERY

BY

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ON PREVENTIVE SURGERY.

I AM deeply sensible of the honour conferred on me in being asked to address you to-day, an honour which is accentuated and enhanced by the fact that the request is at the initiative of my friends of the Border Counties Branch of the Association. When I look back on the distinguished men who have in past times addressed you in Surgery, it is with satisfaction tempered by fear that I have agreed to attempt the fulfilling of this office.

The subject on which I propose to address you is Preventive Surgery, that is to say, a surgery in which treatment or operation is entered upon or undertaken for some risk or sequence which we expect to result from an existing condition, and not on account of what is actually present at the time.

We may fairly claim for preventive surgery that it is a product of modern times, the outcome of recent advances in the knowledge of the intimate causes of disease, of the introduction of anæsthetics, and of perfected methods of wound treatment. It has been claimed for the ancient rite of circumcision that it had a hygienic purpose, that it was primarily designed to allow of absolute cleanness and to remove a frequent cause of disease, and that it subsequently acquired the position of a religious observance, but an examination of the question by Herbert Spencer has shown that this view is untenable. He gives good reasons for asserting that circumcision originated as a mark of subjugation to a conqueror, that it subsequently acquired the significance of submission to a god, and presently of initiation into and membership of a tribe. He points out that mutilation has been a frequent mark of subjugation, that circumcision has been practised by peoples neither distinguished for enlightenment nor cleanliness and living in parts of the world very distant from each other and in which the conditions of life vary much (in Tahiti, in Tonga, in Madagascar, in New Caledonia and Fiji, among African peoples from Abyssinia to Kaffirland, in America among some Mexican tribes and in Yucatan, in Australia, and as we all know among the Jews). I may add also that the peoples who practise it as a religious rite do not anywhere allege that it serves the purpose of preventing disease. Another old operation might be regarded as an exception—the radical cure of hernia, which has been attempted in a variety of ways at different times and in various countries. But it was never established as a justifiable operation till within recent years, so that at the best we can only regard it as an evidence of what was in the minds of thinking surgeons and as a mere foreshadowing of what is now an established practice.

THE OLD DICTA AS TO OPERATIONS OF EXPEDIENCY.

So recent is preventive operation that thirty years ago the recognised teaching was "Beware of operations of convenience." It was alleged by men of great capacity and intellect that such were attended by a greater mortality than operations of necessity; Nature was endowed by them with the power of accommodating itself to the inevitable, but of resenting mere expediency. Of course these ideas were wrong, and probably arose because death or ill-doing was most striking when occurring in instances where operation was not a necessity. A patient with some disease or malformation which did not much hamper his daily life, or which was only going to do so at some future time, was operated on and died. The mind of the surgeon would be certainly more impressed by the horror of such a result than if the same occurred for some disabling or dangerous disease; but really the avoidance of preventive operation was a wise and logical outcome of the then general state of surgery. The action was right, but the reasoning wrong.

Before the days of anæsthetics the possibilities of such

operations were limited in the extreme. They nearly all require prolonged dissections, such as pass the limits of human endurance; they need moreover an absolutely passive patient. Till general anæsthesia as a practice for all operations gave us these, surgeons could not have induced their patients either to remain passive during the infliction of the inevitable pain, or even to endure it at all.

THE CONDITIONS WHICH RENDER PREVENTIVE OPERATIONS JUSTIFIABLE.

I look on preventive surgery as the highest development of our special occupation. Consider for a moment what it necessitates; such a knowledge of the state or disease as enables us to predict its course at some probably distant time. We must be able to say to a patient, If you allow what now exists to continue you will experience certain definite consequences, or you run risks which can be expressed in figures. Then we must be such masters of our pathology that we foresee all the states we may encounter; we must be fit to form an estimate of the local condition, and must have present in our minds all the possible deviations from it. Our *technique* ought to be perfect, for though mistakes and oversights may sometimes be excusable in operations of emergency, in preventive operations they should have no place. In addition to perfect knowledge and highly organised and developed skill, there is need in a pre-eminent degree for what has been named surgical instinct, but which is truly nothing but the capacity for taking a rapid and exhaustive mental survey of the patient and his surroundings, summing him up inside and out, and judging of his capacity for standing shock and for repair.

A preventive operation should be devoid of risk to life both at the time and during the healing stage. It seems to me that this work is only justifiable under this limitation. I do not think that we ought to suggest to anyone that for the sake of a future good he should undergo what may kill him at once. In proposing such an operation we ought to be prepared to say that it is devoid of risk—that is, of course, of risk additional to that of the original disease. If we understand and perform our work well, we are at the present day in a position to do this. We know what we shall interfere with, that not any organ essential to life will be totally disabled. Where cavities are opened we know what is necessary to close them securely and safely. And our present methods enable us (with just such possibility of failure as is inseparable from human frailty and human error) to ensure primary healing of our wounds and the absence of those local and general infective diseases which were in times past the curse of surgery. Not only should a preventive operation be safe, but it should not involve much suffering. It has been said that no one makes a good physician who has not himself been ill; till he has experienced in his own person the varying phases of anxiety, of depression, of hope, it may be of fear, in his patient; nor can he estimate the value attached to his every word, action, and expression, till he has gone through the process himself. Believe me there is a horror of operation in most minds, an anxiety which I think we can hardly justly appreciate till it comes as a personal experience, and which we are apt to underestimate. Much of this is due to a dread of the unknown quantity, pain. If preventive surgery is to take its true position, we should recognise this, and by acting so that pain is absent or nearly so remove this natural objection from the minds of men to have their bodies interfered with. Of course, we no longer inflict pain during any operation. This has been a solved question for fifty years; and in this, the jubilee year of anæsthesia, I have thought it not inappropriate to call your attention to a development of surgery which hangs entirely on its use. We still, however, have longings after the perfect anæsthetic, which should be as portable, manageable, and pleasant to take as chloroform; as capable of long use as either chloroform or ether, and yet as safe and free from after-effects as nitrous oxide.

For minimising after-pain, much rests with the individual surgeon. If he avoids by direction of incisions all unnecessary injury to nerves, if he makes all his manipulations as gently as possible, if he leaves his wound free from tension either by tight sutures or contained blood clot, if he secures the most restful position, and above all things if he ensures for

his wounds a normal healing, he may do extensive operations with exceedingly little after-pain. Indeed, under those conditions, the patient's usual answer to the question "Have you any pain?" is "No; I just feel the place a little sore." It should so be.

DISEASES OF THE THROAT AND NASO-PHARYNX.

A large amount of preventive operative surgery has a causal connection with the throat and naso-pharynx; diseased conditions, to which we give different names, branch in various directions from this locality as a common centre. They are conditioned by the various tissues and regions they subsequently affect, by their rate of spread and by their surroundings, and they give rise to appearances entirely different and which often seem to be separate diseases till we go back to their essential nature and cause. Under ordinary circumstances the inspired air entering the body is free from organisms by the time it reaches the back of the nose. But when highly charged with impurities this is altered, and as the air there turns at an angle and meets with a moist surface organisms and their spores are deposited. There are crypts, gland openings, and channels in which they find a home and follow out their life-history. If their nature be infective only a delicate and easily-injured epithelium separates them from lymphatics and veins, ready to carry them to new fields. Even if this region remains their home they may cause tissue growth in the form of enlarged tonsils and adenoids, which may mechanically obstruct the entrance of air. The inflammatory swelling set up by organisms may hinder the exit of natural secretions from cavities, as, for instance, from the Eustachian tubes, giving rise to their distension with fluid and admirably fitting them to promote the further growth of micro-organisms. These find abundant nourishment and a suitable temperature, and they start a chain of changes which has often grave consequences. With the preventive surgery of this region there is no small risk of overlooking the original cause. Hypertrophied tonsils, adenoid growths, suppurating ears and glands are all so obvious that further investigation is apt to stop, leaving out of consideration the behind cause; though it should be removed as well as the visible lesions attended to.

Enlarged tonsils and adenoid growths produce some slight local discomfort, but the chief evil which they do is in checking growth and nutrition. Children who are affected with them are generally small for their age, anæmic, and ill-developed; their chests are contracted and drawn in along the line of the rib cartilages. If you tell them to take a full breath, the interspaces and the supra- and infracostal hollows may retract. There is an impediment to the free entrance of air to the lungs. Frequently the children stoop from bending of the spine. It is often very striking to see the growth and development which follow the removal of large tonsils and the scraping away of adenoids. The guillotine operation for tonsils is not as a rule satisfactory. It is wanting in precision, and very given to miss the lower portion of the tonsil, which may be much hypertrophied just out of sight. It fails, moreover, in those cases in which the enlarged tonsil is contained and hidden between the pillars of the fauces. The imperfect results which it so often gives have brought the operation into a certain degree of undeserved discredit from the frequency with which the portion left increases again. It is much more satisfactory to give the patient a deep anæsthetic and deliberately cut out—or, still better, with a blunt director tease out—the whole structure, doing an operation of precision. The bleeding is not formidable, and, if a broad-bladed vulsellum be used which will not readily tear through the friable tissue, the difficulties are not great. The guillotine operation should be reserved for cases in which the tonsil is attached by a distinct neck.

Adenoid growths in the naso-pharynx produce similar remote effects to those of enlarged tonsils; their nature is presumably the same, and most commonly they exist together. So the removal of tonsils is not a complete operation without a scraping away of all growths. Few operations give so good results with so little risk or trouble.

EAR DISEASE.

In the throat we have the common origin of another set of conditions in which preventive surgery has given

assured and brilliant results. From diseased and swollen mucous membrane, from secretions bottled up and cultivating organisms powerful for evil, a train of sequences is started which may ultimately result in brain abscess or purulent meningitis. The middle ear may be converted by the blocking of the Eustachian tube into a full cavity with complicated recesses and chambers. These become the dwelling of many organisms, which set up suppuration and destruction of tissue, the ear drum gives way, and opens a new channel of contamination, or it may be an independent opening to the surface is formed behind the ear, and pus escapes there. The acute cases are rarely attended by intracranial abscess, and if carefully treated often get rapidly well. The surrounding tissues are healthy and resistive; but many lapse into a chronic state, and then comes the great liability to intracranial disease, either from direct extension to within the skull or from conduction through the veins and sinuses. I do not assert that every case of suppurating ear should be made the subject of operation, for many are amenable to treatment and are permanently cured. With many, however, treatment fails, and this I do say that everybody who has a chronic suppurating ear goes about in deadly peril. I am certain that it should be a rule to operate on every discharging ear which does not get right by treatment. The mastoid cavities should be laid open and converted into hollow cones; all diseased bone should be removed, all unwholesome structures scraped away, and everything made suitable for speedy healing, not for the sake of the ear as an organ, not even for the sole purpose of removing the local trouble, but for the avoidance of the grave secondary risks which are always present. It has been alleged as a reason against operating that cure does not follow in a considerable proportion of cases, that suppuration does not cease; but to my mind this points to an imperfection of our methods, and is not an objection to operation. The vital proclivities of the tissues of and about the ear do not differ from those of the rest of the body, and they will heal if we make everything fit for them to do so.

CERVICAL ADENITIS.

From a diseased throat morbid influences may be conveyed in other directions than to the ear. The most common of these is to the cervical glands. In most instances, if the diseased throat is treated early and well, the inflamed gland subsides, but very often the early stages are overlooked, and the suppurating or tuberculous glands become themselves a source of further remote disease, and require treatment for the avoidance of this. At no stage, however, should the surgeon fail to look for the original seat of trouble. Given an enlarged neck gland, the ulcerated throat or mouth, the suppurating ear, the diseased tooth, or the eczema of the scalp should be looked for and treated. If diseased glands be left alone they commonly cause years of ill-health, with constant risk of consecutive development of disease elsewhere. It has, therefore, been the practice of recent years to get them away as soon as it became apparent that the enlargement was more than a mere passing state. This removes the first line where infection has halted, with the result that, in many instances, it ends the disease, and allows the patient to pick up general health. In speaking of glands, I am classing together those that are tuberculous with those that are suppurating for the reason that both call for the same treatment. But the results are much better with the latter than with the former. Even after a free and careful removal a considerable proportion of tuberculous glands are followed by further developments of tubercle. On the other hand, if we treat suppurating glands early, when they can be removed intact, primary union may be counted on with small liability to return. Even when the glands have been long enlarged, and have contracted adhesions to all the structures round them, when they are friable and break down during removal, and when the wound is a deep and complicated one, with thorough removal of diseased tissue and free douching before closing the wound, primary union still occurs in a large proportion. If it does not, however, tardy healing, repeated gland abscesses and operations are apt to make slow the progress of the case to final cure. But the result on an average is better than that of the unchecked course of the original disease. The operations are usually troublesome,

much more so than many with high-sounding titles and described as capital. The glands are placed deep and wide among important structures. When the conspicuous gland or glands are removed others previously undetectable come into view, till often the dissection leads far from the original incision. The best course is to face these difficulties and get the glands out whole if possible; this I find much better than incising and emptying the capsule. With all deep glands it is a good plan to tie the attachment before dividing it, thus saving a tedious search for some bleeding vessel with its mouth buried in cellular tissue. I have had the opportunity of watching for years the after-history of many of these cases, for suppurating glands are common here. The results on the whole are very satisfactory; a great many get well at once. No other gland takes on diseased action, and the cure is permanent. Another set of cases make slow recoveries, but yet get quite well in the course of a few months; a third small class get fresh involvement of glands long after the original operation, they require repeated operations, but eventually end in cure if their health conditions are fairly satisfactory. The story is somewhat different with tuberculous glands. The amount of success is much less. A few even seem to get harm from operation, general tuberculosis occurring presumably from infection during operation; others again develop it generally or locally elsewhere at some distant period, as they might have done without interference, but in spite of these mischances the operation has a sufficient success to justify its practice. In a large matter like this, involving cure or death, health or invalidism, the appearance of a scar is but a small matter, but still it is worth noting that a well-placed linear cicatrix is after a few months almost invisible, contrasting favourably with the puckered and depressed scars resulting from natural cure, and associated in the public mind with scrofula and constitutional taint.

RADICAL CURE OF HERNIA.

Hernia is so manifest, so much under the sufferer's notice, so great an inconvenience in the ordinary affairs of life, and when unreduced involves so great risks from strangulation and small injuries, that we need not be surprised to find, as I have just mentioned, that its permanent cure was one of the earliest efforts of preventive operative surgery. From the time of Celsus, if not further back, many and diverse procedures have been employed. For long the testicle and hernial sac were both removed. The wound thus left was variously treated; it was seared with the actual cautery or with caustic agents. Many kinds of pads and sutures were used with the purpose of getting a firm cicatrix. The skin and sac have been invaginated without incision and sutured or clamped so as to produce occlusive adhesion. These operations and others of the same kind have been the sources of alternate waves of enthusiasm and despondence—enthusiasm by the inventor of some new operation, despondence by his imitators. There have been periods of somewhat active disagreement in regard to priority or about non-essential details, and finally a common agreement as to principles, and a recognition of considerable latitude as possible within the limits of these.

I believe I am expressing the view generally held by surgeons when I say that so long as a hernia can be steadily kept up by a truss, which does not much incommode nor prevent the patient following his occupation, there is no necessity for operative interference. But if trusses fail for any reason to keep up the intestine; if the truss is painful to wear and excites, as sometimes happens, repeated inflammations of the sac; or if the patient's occupation requires exceptional activity, the time has come to operate. By the operations of the present day, whether done as deliberate procedures for the purpose of cure or as the winding up of an operation for strangulation, we are able to leave a state of parts differing but little from the normal. The operation as now performed is an almost absolutely safe one, and some surgeons have sufficient confidence in their results to advise the non-resumption of truss wearing; but the more general idea is that a light external support is desirable, and that we do well if we enable a man to keep his hernia up with the small inconvenience of a well-fitting truss. We have changed his condition from one of hourly risk, in

which an accidental knock from the corner of a table or a child's head (I am speaking of actual instances) may be followed by death, to one of normal safety. I believe that perfect results can be got from almost all the present so-called operations. Whatever secures good closure of the rings effects the cure. The peritoneum is of hardly any value as aiding the integrity of the abdominal wall. If left in the ring it is undoubtedly a source of weakness by keeping open a channel and preventing union of the stronger structures, but in itself it is a mere slack distensible membrane with little resistant capacity. It is on the union of the aponeurotic and tendinous structures, oblique, that we rely for real strength, and the more thoroughly we get these together, and the more they form a uniform sheet, the less likely is the rupture to recur.

I take oblique inguinal hernia as a type of all varieties. The plan of dissecting out the sac, cutting it across at the neck, separating the peritoneum for an inch or so round the internal ring, twisting the neck into a cord, bringing it through one or other pillar of the ring by an artificial opening just large enough to let it pass, suturing it there, then stitching together the pillars of the ring behind the cord with two or three silk sutures, and closing it as thoroughly as possible, gives a result which leaves nothing to be desired. The same may be said of other herniæ, local peculiarities, however, necessitating slight modifications.

ENLARGED PROSTATE.

Among the miseries which may make long life a burden to its possessor there are none greater than those resulting from an enlarged prostate. The constant pain, the unrest, the ever present desire to pass urine, the inability to do this, the sleep-disturbed nights, and the frequent need for catheterism, cause a concentration of wretchedness such as makes strong, clear-minded sensible men long for death. You all know the average story: first a little delay in beginning, and some slowness in micturition, with a sense of imperfect emptying of the bladder, some day almost a block, but this overcome by time and straining, then perhaps a dribbling stage, when the overfull bladder leaks, but does not empty. Next, one day an absolute block relieved only by the catheter, then a spell of catheterism three or four times a day, this followed in very many cases by a period of restored power of emptying the bladder, but also almost inevitably by other attacks of retention. The urine, at first normal and clear, presently becomes turbid, alkaline, and full of ropy pus; coincidently with this the bladder walls inflame, and the most pitiful stage follows. The ureters become largely dilated, and mix with the urine a specially foul irritating purulent secretion. Most of these cases die from this septic condition extending up the ureters to the kidneys. They die from septic and uræmic poisoning. One man in every three above 60 years of age has an enlarged prostate, and of these one in ten suffers more or less inconvenience from it.

It is not, however, every case of enlarged prostate with retention which follows this course. The urine may remain clear, and inconvenience be limited to the trouble of passing an instrument. Most surgeons have seen instances in which this has gone on indefinitely. They are, however a minority. It is, therefore, our business to endeavour to forecast the progress of each case of prostatic retention when it first comes to us. It is not good surgery to wait for a septic bladder before removing an obstruction. We must rather consider whether or not sepsis will occur. If we have a thin hard man who has led an active healthful life, whose catheter goes in easily and smoothly, who has a clean home, and who is either sufficiently intelligent to keep his catheter and the orifice of his urethra absolutely clean, or has someone who can do this, we have every condition which justifies being content with catheter life. Ease of introduction of an instrument has much to do with the absence of sepsis, for difficulty is followed by bleeding. Not only may blood in the urethra form a canal for organisms to reach the bladder, but bleeding implies an irritated urethra containing an excessive amount of secretion which readily goes wrong. Even the most favourable cases should be watched or cautioned, and the first appearance of bladder trouble detected, for not later than this is the time to operate successfully.

When the urine has become very putrid, when the bladder

is acutely inflamed, when the ureters are infected, operation is bound to be very fatal, but not so when done in a more normal condition. If we are sure from the sort of patient we are dealing with and from his surroundings that he will follow the unfavourable course, it is much better to advise early operation than to wait for a desperate state of matters, and infinitely better than to allow the case to run its unchecked course. We have a certain latitude of choice in operations. Suprapubic cystotomy allows us to reach the obstruction, feel or see it, and then remove it. Then suprapubic cystotomy may be combined with perineal removal of portions of the prostate, or with perineal drainage; and finally we have castration.

Suprapubic cystostomy with removal of enlarged prostate, whether central or lateral, and the establishment of a clean low-level canal into the urethra, is at present the operation to be first considered, though every surgeon should be prepared to deviate from it should local circumstances show that this would be of advantage. The resulting mortality is small, perhaps not more than 1 in 10, and it must be kept in mind that the condition itself is a very fatal one. The mechanical result is that in at least 40 per cent. the bladder recovers its function, and in the remainder suprapubic drainage establishes a state of greatly increased comfort. Within the last three years a new operation has been introduced for enlarged prostate. Relying on the observed fact that atrophy of the organ follows removal of the testes, surgeons have performed castration. The operation is too new and the cases too few to allow of any decided opinion of its merits; the results, however, have been sufficiently good to justify its further employment. Cases in which the urine was offensive and loaded with mucus and requiring removal at frequent intervals are reported as, after operation, passing a healthy urine spontaneously, and as having no detectable enlargement of the prostate. In other cases, though complete cure has not followed, a large improvement has. From one or other method we have the possibility of preventing one of the most prominent terrors of old age.

PERITONITIS AND APPENDICITIS.

Twenty or thirty years ago a physician or surgeon attending a patient with an acute condition of distended tympanitic and painful abdomen, a quick and small pulse, and drawn-up legs thought that he had fulfilled the whole duty of man when he had diagnosed peritonitis and excluded perforation of the stomach and obstruction. Who is content with such a diagnosis now? It has gradually become apparent to our minds that peritonitis has almost always its cause in some other lesion, and that our investigation is not complete till we have localised that cause. We know also that the origin is very often indeed situated in the appendix vermiformis, that this tube is subject to several morbid states; it may be strictured, and the part distant from the bowel may distend with septic contents; it may ulcerate through; it may be the seat of tuberculous disease; foreign bodies may lie in it or concretions form; the whole thing may go gangrenous. As consequences of these we may have at one end of the scale a mere local disturbance passing away after a few days' discomfort or at the other a general rapid peritonitis followed by death. Between these extremes we find many degrees of severity of attack. Thus if a slow perforation occurs we have an abscess in the peritoneum, but shut off from the general cavity by adhesions. We probably hardly yet know the whole pathology of the appendix, but we know enough to form a good clinical idea in most cases of the essential state of matters.

A little consideration will show that many of the above do not come within the scope of my address. A general peritonitis following perforation or a local abscess round the appendix demands immediate surgical interference; the stage is past when prevention can come in. The class of case which falls within the domain of preventive surgery is that in which the appendix has not perforated, but in which it is subject to repeated attacks of distension, in which it inflames from retained concretions; indeed, when from any cause it is the subject of one or more inflammatory attacks of a severity short of immediate danger to life. Three views of surgical duty prevail. Some surgeons hold that the appendix should never be removed; that the probability of a putrid infection

of the peritoneum during the necessary manipulations makes it an operation of unjustifiable risk, and that the prospect of natural cure is a more hopeful outlook. I believe this view is held by an ever-narrowing circle.

Another opinion strongly held both here and in America by men whose surgical work entitles their views to the highest possible respect, is, that every appendix which has given rise to morbid symptoms should be cut down on and removed when in a quiescent state. The third view is that only after a repeated appendicitis and the failure of careful dieting does there exist the necessity for a preventive operation. The following arguments are adduced in favour of this view: The great majority of attacks are not repeated; after one all clears up, and no further disturbance occurs. Most instances of perforation are first attacks; an evidence that one seizure does not increase the probability of perforation in the case of recurrence, and, lastly, that a milk and farinaceous diet and mild aperients are often successful in preventing return.

I think this last view may be looked on as that most generally accepted by English surgeons, and consequently that the time for preventive operation comes after a relapse, not after a first attack. When the operation is done during the quiescent stage, and with every possible care and precaution which human ingenuity can devise and human knowledge direct it is devoid of risk and absolutely effective, for the source of trouble is entirely taken away.

CARCINOMA.

Another disease holds out the prospect of a wide field for the extension of the preventive principle—namely, carcinoma. It is as yet an almost undeveloped region except in the face, but the results there give us an idea of what may be done elsewhere in the future. Carcinoma of the lip is soon seen; it is disfiguring and a persistent annoyance, consequently it is brought early to the surgeon, and is removed generally when young and small; distant infection is consequently rare, and recurrence in other localities infrequent.

We have much to learn about the nature of carcinoma. In the absence of knowledge we may use our reasoning faculties, and make some effort to infer the unknown from the known. In cancer of the lip and in Paget's nipple we have two instances in which the life-history is well made out. Each commences by a small skin irritation, one by a fissure or small ulcer of the lip, the other by what is apparently an eczema, a chronic inflammation of the nipple. Both are of slow local growth, both long in infecting glands, but both inevitably and unvaryingly doing so if permitted to remain. When we enumerate the other localities in which carcinoma occurs we find that they also are all subject to local surface irritation, or in close connection with places which are. Take the tongue; we know that it is very frequently the seat of simple ulcers from diseased teeth, injuries by food or smoking. Then how often is the stomach the seat of simple ulcer. The place where epithelioma low down in the bowel most usually occurs is just where hard irritating faeces lodge in the region of the sigmoid flexure. The cervix uteri is throughout life, but specially during the child-bearing period, the frequent seat of local irritation. The breast may seem an exception, but a slight eczema of the nipple is more common than is generally believed; it is somewhat difficult to see, it causes no trouble, and is easily overlooked. The only signs may be a slight desquamation of the nipple end, and a little redness round the openings of the milk ducts. Since I have given attention to this it has surprised me to find how many nipples are thus affected in proportion to the number which are perfectly healthy. We may correlate these facts with the other fact, that cancer may be for long a latent condition. For instance, I have seen a carcinomatous tumour develop in the direct lymphatic chain of glands from the lip thirteen years after the removal of an epithelioma from it. I have seen it return in cicatrices five and eleven years after the removal of the primary disease; and these are not isolated facts, but a frequent experience. As cases of this kind are those in which the life-history is best observed, we are warranted in the deduction that some such life-story is that of all cases. We may expect some point of inception, a latent period, often long, and then development of the disease, either at the point of inception,

or not far from it, though in direct tissue or channel communication with it. Whether we take the older theory, that some change excites into activity potentialities already existing from a cancerous diathesis, or the newer one, that some organism (a coccidium) is introduced which stirs up those tissues to undue growth, followed by destruction of function, we must equally admit a local change which stimulates a tissue growing normally after its kind to become possessed of demoniac energy.

The bearing of this on surgery is: Let us investigate the small and early changes. If we can find out the antecedent or even the first symptoms of carcinoma, we may then know how to prevent it. The recent developments of surgery in cancer have been in the direction of extensive operations and wide-reaching removal of tissue—wider than we dreamed of some years ago; for we are now aware that the visible disease is but a fraction of the total, and if we have far-spreading disease we must have sweeping removal. But I think and hope that there is in the future a preventive surgery founded on fuller knowledge, which will anticipate these great operations by small ones, or, it may be, by such preventive measures as will do for cancer what we are steadily doing for so many other diseases—compress it within narrowing limits.

THE SURGERY OF ACCIDENT.

The preventive principle comes in only to a very limited extent in the surgery of accident. The oldest and best established application of it for the prevention of consecutive disease is in enucleation of an injured eyeball to obviate the risk of sympathetic ophthalmia. Since the early part of this century it has been recognised that certain lesions to one eyeball are frequently followed by an ophthalmitis of the other, resulting in absolute blindness. Wounds in the ciliary region, foreign bodies in the eyeball, and such traumatic perforations as are followed by deep-seated inflammation and shrinking involve this risk to the highest degree. The sympathising eye frequently within a few weeks begins to show signs of irritation of undue sensitiveness to light, and to be the seat of lachrymation and pain. So long as it remains as this stage removal of the exciting eyeball arrests further advance; but frequently progress is much more insidious. There may be at first no pain, merely a loss of accommodative power, followed in sequence by turbid aqueous, ciliary tenderness, vitreous opacity, detached retina, and permanent loss of sight. Whence the good practice of removing every eyeball so injured that it may likely set up this state in the other. When an eyeball is hopelessly damaged, when it contains any considerable or presumably unclean foreign body, no surgeon hesitates about its removal. But difficult and anxious questions arise with such injuries as only damage but do not destroy sight, and in some instances it is justifiable to watch and wait. A considerably injured eyeball which heals rapidly and well may yet be useful and safe.

Ablation and evisceration of the contents of the eyeball are said to be equally certain with removal, and to leave better stumps; but the direction of recent investigation does not favour this view. It is very probable that the infection of the sympathising eye is through the communicating lymph spaces of the optic nerves, and consequently the further back the removal of the exciting organ the better is the prospect of prevention.

We now recognise this principle in the treatment of depressed fracture of the skull with or without external wound. Our knowledge of the subsequent influence on the brain of irregularities of the vault leads us to operate whenever this injury occurs, and we prevent the cortical irritation or inhibition which we anticipate may follow leaving matters alone.

In fractures of the patella many surgeons at once suture the fragments together to ensure bony union and a rapid recovery. Divided nerves and tendons are constantly sutured when divided by accident, to prevent the loss of power which follows the separation of their ends.

When considerable portions of bones, nerves, or tendons have been lost by accident, they may be successfully replaced by the implantation of similar structures taken from other human beings or animals. This (the implantation) is perhaps the most highly-finished example of applied surgical knowledge and skill, and bears somewhat of the same relation

to ordinary surgery as the masterpiece of the artist does to the everyday work of the artisan.

THE PREVENTION OF SURGICAL DISEASES.

I do not think that we should look upon our work in regard to preventive surgery as finished when we have suggested treatment or performed operations. I think rather we ought to be the teachers of the public; that we should show them, as far as our knowledge goes, what are the antecedent evils and errors which produce surgical disease, and the methods of preventing such. We have still, and ever shall have, much to learn ourselves. For instance, I strongly believe that at present we do not sufficiently appreciate the harm of slight persistent contamination of the air we breathe. Very often adenoid growths in the pharynx, enlarged tonsils, and consecutive middle-ear disease, which are so common as a clinical sequence, occur in houses which are to all appearance hygienically good. They occur here among the well-off in a larger proportion than among the working classes or poor, among those occupying modern roomy houses which apparently do not expose their inmates to the breathing of poisoned air more than among those whose circumstances oblige them to live in overcrowded little rooms.

But modern houses have their waterclosets, their waste pipes, and their various—often complicated—sanitary appliances inside them; the old and small houses have them outside. I have been in the habit for many years of urging an examination by a skilled inspector of every house in which my attention was called to repeated sore-throats or such disease as I have just mentioned, and in no instance has there been failure to find such fault as allowed air contamination; sometimes direct communication with the main sewer, but more frequently such a state of matters as allowed a portion only of the house system to be for ever breeding and discharging into the air the products of putrefactive change.¹ While it is true preventive surgery to remove adenoids or clean out and drain the recesses of a suppurating ear and prevent a brain abscess, it is unquestionably a higher art, a nobler science, which stops the original cause of all. We alone who see the whole chain of linked causes and effects, can show how such evils may be avoided.

As another example, in the case of teeth I am certain that it is not sufficiently known how dangerous they are when dead and putrid. Few things exist which are more septic. I have never taken cultures from one—others have and put on record the various organisms which have been found; but I have often seen the culture experiment in the living body, an experiment convincing enough on the score of activity. I have seen rapid death from general infective disease or putrid thrombosis, with abscesses in the chest or cranium, originating in a dead fang. Extensive neck abscesses are no uncommon result from the same source; and in slower forms with feeble infective powers there may be a continuous slight constitutional poisoning with occasional rises of temperature, presenting a singular resemblance to phthisis. In cases of gastric ulcer I have made a practice for some years of examining the teeth, and in every instance have found decayed teeth or stumps in bad condition or a story of their recent removal. Whether this coincidence amounts to cause and effect I know not. I think, however, it may. It seems a reasonable explanation of the occurrence of ulcer that any accidental abrasion of the epithelial lining of the stomach (and doubtless such are common from food, fish bones, seeds, etc.) is kept in contact with food or saliva containing septic organisms derived from the mouth. Our daily experience tells us what occurs when a raw surface is in contact with unclean discharges. I might multiply examples, but I have said enough to illustrate in what directions our work may go.

Perhaps the besetting sin of surgery is that it has a narrowing tendency. We need to put into our work all our thought and knowledge. Whatsoever our hands find to do that must we do with all our might. Superficiality means failure. The human interest of all we do is intensely absorbing, consequently there is just the risk

¹ I have before me a return of 95 houses in which the drains were examined by the same inspector, who has been so good as to give me his figures. The inspections were all in consequence of illness among the inmates. In 68 the throat was affected. The whole 95 were found to be contaminated by sewer drain or waste-pipe air.

of looking upon surgery as a thing by itself, and of losing our sense of its true place and proportion, and confining our thoughts within a groove of little breadth. In preventive surgery we have a tendency in an opposite direction. This tendency not only brings us into immediate contact with what the physician and general practitioner is thinking and doing, making our life and work a portion of the vast organisation for the prolongation of existence, the diminution of suffering, and the prevention of disease, which we are proud to consider as the reason of our existence; but it still further associates us with the great mass of scientific and intellectual advancement which lies outside the limits of any profession of any nation and of any time.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF MEDICINE

At the Annual Meeting of the British Medical Association held in Carlisle, July, 1896.

By GEORGE F. DUFFEY, M.D.DUBL.,
Physician to the City of Dublin Hospital.

SOME HISTORICAL NOTES.

IN taking the chair at the Section of Medicine at this the sixty-fourth annual meeting of our Association, permit me to say that at no previous annual meeting (with the exception of three of the four successful meetings that have been held in Ireland) has the presidency of this Section been filled by a physician practising in the sister island. In having been appointed to this honourable post on the present occasion, I feel, therefore, that a compliment has been paid in the first place to the Irish School of Medicine, which I hasten to acknowledge; and I have also to thank the Council of the Association and the officers of the Border Counties Branch, for having selected me as the person through whom this honour has been conveyed, when many a senior and abler representative might have been chosen.

Considering the amount of work before us, I believe that I shall both meet your inclination, and at the same time best defer to the hint that has been given to Presidents of Sections, by not occupying your time by the delivery of a formal address. My prefatory remarks shall, therefore, be very brief. But, having already referred to the meetings of the Association in Ireland, it may not be amiss to mention that it was at the first of these, namely, the thirty-fifth annual meeting that was held in Dublin in 1867 under the presidency of that distinguished physician and teacher, William Stokes, of whom Englishmen as well as Irishmen are so justly proud, that the scientific work of the annual meetings was for the first time arranged in Sections. The *Daily Journal* had its origin at the same meeting, and that important and useful Committee which owes its initiative to the Metropolitan Counties Branch, namely, the Parliamentary Bills Committee, and to which the Association and the profession is so largely indebted, was then also constituted on its present basis.

In this connection it would be an omission on my part if I did not remind you that in the same year (1867) the present able Editor of our JOURNAL first took charge of it. Except for a brief interval in 1869-70, Mr. Ernest Hart has since occupied the editorial chair; and what he has done for the Association, the profession, and for the public generally, by his management of the JOURNAL, is too well known and too widely recognised for any words of mine to add to his deserts. At the date of the first Dublin meeting the number of members on the books of the Association was 3,082. At the present time, the number, according to the Report of Council, is 16,332. The JOURNAL, too, has increased proportionately. From being, as it was in 1867, an issue of 1,398 pages, I find that the two volumes for last year, exclusive of the periscope, consisted of no less than 3,080 pages. Notwithstanding this addition the demands upon the space of the JOURNAL are constantly increasing.

When the Association, in 1887, met for the second time in Dublin, innovations were again made at the instance of the

Local Executive Committee in the conduct of the business of that annual meeting. Among these changes were having the general meetings in the afternoons and the sectional meetings in the forenoons. This procedure was found satisfactory, and has since, as you are aware, been followed.

In making the foregoing remarks, I trust that it will be understood that I do so solely with the object of showing that the members of the Association in Ireland take as warm an interest in its work and organisation as their fellow members in England, in Scotland, and in the Colonies do; and that, like them, we are proud to belong to a body which has done, and is capable of doing, so much for the benefit of our profession and for the advancement of medical science.

Discussions on subjects connected with scientific medicine at the annual meetings date from the thirty-fourth annual meeting, which was held at Leamington in 1865. These discussions then took place at the general meetings. It is interesting to note that the first subject thus discussed was introduced by Dr. (now Sir) B. W. Richardson, on the question, "Is there any Foundation for the Hypothesis of the Origination of Disease by Zymosis or Ferment?" The subject of cancer and its origin, and the measures that should be adopted by the Association for securing an improved position to medical scientific witnesses in courts of law, were then also discussed.

It would appear that the selection of special subjects for discussion in the different sections at the annual meetings first came into force at the forty-sixth annual meeting of the Association, which was held in Manchester in 1877. The discernment shown by the suggestion and adoption of such a course has been evidenced by its success. It is patent that at our annual gatherings, when a large number of members from all parts of the kingdom and from abroad meet with each other and with many welcome foreign guests, a subject of general interest introduced by someone who has specially studied it, is likely to be more attractive and of more scientific importance than an elaborate report of a rare case, or even a learned essay on some particular subject of a more or less personal interest to the writer. I by no means undervalue such contributions, but would merely suggest that experience has shown that such topics are perhaps more suited for discussion at the Branch meetings, or at one or other of the numerous metropolitan or provincial societies, than at our annual meetings.

On the present occasion I think our Section may be congratulated on the subjects that have been selected for discussion, and may well feel gratified by the fact that each subject is to be introduced by a leading representative of the Edinburgh, London, and Dublin School of Medicine. To apply to the chief work of this Section words recently used by an eminent surgeon in another connection,¹ it may be said, with equal truth, that discussions of the kind now about to be opened "afford an opportunity not so much of presenting original work as of reviewing the present standpoint of medical science in some particular department, of criticising the advances that have been made, of seeing what of these advances are good and what of doubtful value, and thus of furnishing a basis for further work."

On a wall in the medical department of the Oxford Museum—a unique erection, for the conception and carrying out of which the University is indebted to one of our most esteemed Vice-Presidents, Sir Henry Acland, Bart.—there is the following inscription: Τρόφιλος ἰατρός ἐρωτᾷ, τίς ἂν γένοιτο τέλειος ἰατρός. Ὁ τὰ δυνατόν ἔφη καὶ τὰ μὴ δυνατόν δυνάμενος διαγιγνώσκειν.

In our discussions upon the three important subjects we are now about to consider, may it happen that while we calmly criticise theories we may elicit fresh information and make additions to our knowledge, and so come to realise with Trophilus that the "perfect" physician is indeed he who is able to distinguish between what can and what cannot be done.

¹ Watson Cheyne, Lettsomian Lectures, BRITISH MEDICAL JOURNAL, i, 1896, p. 385.

DR. FLETCHER BEACH has resigned the Secretaryship of the Medico-Psychological Association after seven years' service. He is succeeded in the office by Dr. Percy Smith.

BOSTON, U.S.A., is to have a magnificent new hospital to cost £76,000.