I have elsewhere commented more fully than it is possible to do here upon these peculiarities of the distribution of certain causes of deaths in the United States.³ In fact, my only object in calling your attention to the subject is to indicate the direction in which we may hope for good work hereafter, which indication is the chief, if not the only valuable, result of the work already done. In the brief comments which I have made upon these maps, you will have noticed the stress which I have made upon race peculiarities. These race problems are simply problems of heredity taken in mass, and there is no need to urge upon an assemblage of medical practitioners the importance of considering family peculiarities in diagnosis, prognosis, and therapeutics. That the questions involved are difficult and complicated is true, but we are already possessed of more knowledge with regard to them than is commonly supposed.

In a lecture on "Life," delivered a few months ago, Professor Brookes, of the Johns Hopkins University, illustrated this as follows: "If I am placed, with my eyes bandaged, before a stone lying free on the surface, and am told to kick it, and if I know at the same time the size, shape, and weight of the stone, and the character of the surface, I can form a pretty accurate idea as to what the result upon the stone will be; while, if the object to be kicked is a dog, and I am given precisely the same data, I cannot tell what will be the effect. But if I can see the dog, I can, in many cases, predict pretty accurately. If he is a bull-dog, he will do one thing; if he is a Gordon setter, he will do another." And, in like manner, the old family doctor knows that when a particular disease appears in his neighbourhood, he may expect to see it produce in one family convulsions, in another collapse, and, in a third, little or no danger or inconvenience.

This kind of knowledge is, however, at present mainly confined to individuals; it has not become a part of the world's knowledge; it is not defined; in other words, it is not scientific. To make it so is the work of the future, and in this work I hope that we shall be able to help you.

I have spoken to little purpose if I have failed to show you that there is a great deal of human nature in American physicians, and that it is a kind of human nature with which you are tolerably familiar. It should be so, for we are of the same race—a race which, perhaps, as Emerson says, "sets a higher value on wealth, victory, and material superiority than other men, has less tranquillity, is less easily contented." Our ancestors were restless, fighters, freebooters and from these ancestors we have the common inheritance of energy of what we call "firmness," and our opponents unreasonable, pig-headed, stubbornness; of liking to manage our own affairs, and, at the same time, to exercise a little judicious supervision over those of our neighbours; of hatred of humbug and lying; and, in spite of our discontent, of a firm belief that our wives and children, habits, houses, modes of business, and of treating disease are, on the whole, better than those of any other people under the sun.

Privately, and between ourselves, we grumble and declare that the country and profession are going to the dogs—nay, we must do so, or we should not be of true English blood; but there is no need for me to tell you that these are only "growing pains," and not symptoms of progressive ataxy.

While we must consider the difficulties in the way of the improvement of the science and art of medicine, difficulties due to ignorance, to indolence, to conflict of interests, and to the eternal fitness of things, the existence of such difficulties is not a matter to be bemoaned and lamented over. These obstacles are the spice of life, the incentives to action, the source of some of the greatest pleasures which it is given to man to experience.

The child, spending a happy hour with its new puzzle, is a type of the scientific investigator. The naturalist who objected to the statement that this is a miserable world which it is well to be soon done with, on the ground that there are still many species of rhizopods which he had not examined and classified, is another type. On the ethical and sociological side, the matter is summed up in Ruskin's aphorism, that "Fools were made that wise men may take care of them."

It is surely not without cause that there has been given to us this restless spirit of inquisitiveness, this desire to compass the heavens and the earth, this raging infinite thirst for knowledge: it is the outcome of brain-training and natural selection for thousands and tens of thousands of years.

We are in a period of the world's history characterised by material prosperity, by increase of populations, by tendencies to uniformity, to the making of individuals of small account. According to the Swiss

philosopher, Alphonse de Candolle, this is to last a thousand years or so, after which the pendulum will swing the other way, and there will follow a long period of diminution and separation of peoples, and of decadence.

Against that decay of nations we know of but one remedy, and that is increase of knowledge and of wisdom. And this increase must be in our knowledge, in the world's wisdom, and not merely in that of John, or Fritz, or Claude.

As each man has special opportunities and duties, if he can only recognise them, so it is with guilds, with professions, and with nations.

I have tried to indicate to you some of these opportunities which are presenting themselves to my colleagues, your brothers, in the lands beyond the sea, and I hope that I shall not be considered rash or vainglorious in saying that I believe they will so use those opportunities as to return compound interest for what they have received from the storehouse of our common inheritance. Force changes form and place, the stored energy of the soil of our plains and valleys has been coming here in the form of meat and grain, has appeared in muscle and brain, and in a hundred other shapes, but none has been destroyed; our loss has been your gain, and in our turn we have received full and fair exchange.

It is our part now to remember that there are not two springs in the year, there are not two periods of youth abounding in energy and desire, or of manhood's strength and self-poise, in the life of any man or of any nation, and for us, as for those who have been before us, the Kanuri proverb holds true, "*Kabu datsia, kargum bago*"—The days being finished, there is no more medicine.

ADDRESS IN SURGERY,

BY

FREDERICK ABELL HUMPHRY, F.R.C.S.,

Surgeon to the Sussex County Hospital.

THE MEDICAL ASPECT OF SURGERY.

MR. PRESIDENT AND GENTLEMEN,—First let me thank you for the honourable position in which I stand with regard to this Association to-day. I assure you it was with great diffidence, and after much consideration, that I accepted the offer of your President to deliver this address, especially when I remembered that we should meet here under the shade of the metropolis, and that my audience would comprise some of the brightest ornaments of our profession assembled not only from London, but also from the provinces, and even from abroad.

In former years, your visits have been made to great centres of industry, and great centres of intellectual and professional activity and vigour. Your visit this year is to a town probably quite as large as many at which you have held your meetings, but it is a town of a peculiar character. Having no special manufacture, no definite industry of its own, it is wanting in many causes of those great surgical injuries and surgical disease that form the fruitful subject of such a paper as this. In fact, it is a town where not disease, but recovery from disease is, medically speaking, its great characteristic. And so, in the wards of our hospital, the numbers of serious and acute diseases do not hold the ordinary proportion to the chronic and strumous cases; hip-joint disease, necrosis, and similar affections that abound in the surrounding country districts.

In casting about, then, for a fit subject for these remarks, I have not chosen to bring before you any group of cases from my own experience, or any special form of treatment for any special disease, but rather to take a wider, and, I trust, as interesting, a subject for consideration.

Looking back over the last half century, I suppose the greatest change that has occurred in the practice of surgery, has been the development of the so-called specialities. This development is cause and consequence, too, of the enormous increase in the knowledge of the art and science of surgery that has occurred during that period; with that increased knowledge have come increased facilities for investigation of disease, and much improved methods of treatment. But, while fully recognising and valuing these great and rapid advances in different directions, it may be worth while to pause—as it were, to take breath—and even look back on the ground already covered,

³ See report on Mortality and Vital Statistics of the United States, as returned to the tenth census, 2 vols. 4to., Washington, 1885-1886.

Are we going too fast? Old theories, old opinions, old treatment, old books, are they sufficiently studied and considered? Are the old relations between medicine and surgery still maintained? Is the Medical side of Surgery (if I may so speak) holding its ground, and making the same advances as the more strictly called Surgery?

Of late years, how much has surgery done for medicine? Has medicine done as much for surgery, and has the medical treatment of surgical disease received the same consideration, or made the same rapid strides as the study and development of operative procedure?

It is now more than fifty years ago that Sir William Lawrence, in an introductory lecture at St. Bartholomew's Hospital, said: "It is the boast of modern surgery to have greatly diminished the number of operations." He continues: "I should think that there are not so many performed in this hospital as there were twenty-five years ago by one-half or two-thirds; the difference has arisen from improved knowledge of the nature and treatment of disease, acquired by the anatomical, pathological, and practical researches of surgeons." But surely never were these researches conducted with such vigour and with such intelligence as in the last fifty years, aided, as they have been, by appliances unknown to the older investigators; and yet surely in no period have operations been so frequent, so formidable, and so successful, as they have been of late years. That improved knowledge of which Lawrence boasted, and to which he referred as the cause of lessened operations, has in itself, by the medical aids to surgery, it has introduced, been the main cause of their greater frequency and of their increased success. But, after all, the fact that, in any case, recourse is had to an operation, is an admission that medical treatment has failed in curing the disease. We can hardly open an abscess without acknowledging that, by simpler means, we have been powerless to combat the inflammation that preceded it. In what state, then, is our knowledge as respects Surgical Medicine?

And, first, of inflammation; that subject which occupies rightly so much space at the commencement of all surgical works, and is the enemy we have to meet at all corners in the treatment of surgical disease. It would occupy too much time here to compare the present state of our knowledge of those pathological changes comprised under the head of inflammation with what it was, say, in John Hunter's time; for, in spite of our general advancement, and with the additions of chemistry and the microscope, our views, for all essential purposes of treatment, have not been materially altered in principle.

And yet the treatment of inflammatory affections has undergone considerable modification, due, no doubt, to the altered conditions of life. In bygone days, a man really lived by the sweat of his brow, his occupation was a more active one, and, with fewer holidays and fewer aspirations to be rich, he spent the even tenour of his days in greater health and more comfort. But now life is a struggle; competition and the anxiety to be rich give a man anxious days and sleepless nights. His brain is used to the neglect of his body, and, when his holiday comes, he shrinks from the fatigue of its enjoyment. Illness then finds these two men in very different conditions. Instead of a man who, as formerly, would bear bleeding and active treatment, we now get a man in whom the nervous system predominates, whose digestion is out of order, and to whom sedatives and stimulants are necessary.

This change has become so marked, almost so universal, that we are in considerable danger of forgetting the principles of the antiphlogistic treatment, or perhaps we are timid in putting them into practice in those cases really requiring it. We are inclined to smile at the way in which our forefathers were bled and purged because they had received some slight injury, the result of accident; and many were perhaps bled and purged too freely; but no one who has seen, not only the relief from pain, but also the relief from impending suffocation following a prompt bleeding, in the case of a man suffering severely from fractured ribs, can doubt that the principle, when properly applied, still holds good. The same may be said of the inflammatory affections of the cranium and its contents, the results of injury. A boy under my care in the hospital, some months back, for depressed and comminuted compound fracture of the skull, and for whom I raised some pieces of bone into position, and removed others, had within the first fortnight two separate attacks of convulsion, loss of consciousness, and high temperature lasting many hours; free leeching and purging were employed on each occasion, and each time with marked relief, the boy ultimately recovering completely. I am aware I am telling you nothing new in this, but I am sure that these cases do not now receive the same active treatment as they used to do, or as, it seems to me, they require.

In inflammatory affections of other organs, also, we are probably becoming too timid in the use of depletion. The onset of many local inflammations may be cut short by a free and timely

local bleeding. Even a strumous affection of the hip-joint will often have an inflammatory commencement, perhaps following some slight injury; and, if this condition be recognised sufficiently early, and be treated by the application of a few leeches in addition to the ordinary long splint, the inflammatory part of the illness may be controlled, and opportunity be given for the constitutional part of the malady to be arrested by other means. Of many scrofulous inflammations I believe the same may be said, and we are tempted to treat these local affections in strumous patients too constitutionally, forgetting that, while the patient is no doubt scrofulous, his disease is a local and an inflammatory one, and requires a corresponding local treatment. In many such cases, the local inflammation or the local injury is the first evidence of any deviation from a healthy condition; and if we can check the original inflammatory mischief, in its early stage, we may fairly hope to prevent its becoming tinged with the constitutional weakness, and to arrest its further progress to a chronic and wasting illness. As another instance of the change that has taken place in the treatment of inflammatory affections may be mentioned peritonitis. The application of leeches by dozens has given way to the internal administration of opium, and certainly with advantage; and yet even here, in a case of limited and local peritonitis, especially if of traumatic origin, an early application of leeches may be of great advantage in preventing the inflammation from becoming general over the abdomen.

In medical surgery, syphilis is one of the subjects that has necessarily received much attention, and, at the hands of Mr. Hutchinson and others, has been developed both in its clinical history and in its treatment. Compared with, almost classed among, the exanthemata, with its period of incubation, its local manifestations, and its subsequent constitutional symptoms, its pathology seems to have been put on a surer foundation, and the principles of treatment are consequently of a more definite character. Still, all this further experience and investigation does not invalidate in the main either the views of pathology or of treatment as laid down by John Hunter. Its further history has, however, been much extended, and a whole train of symptoms not mentioned by the older writers on syphilis have been explained as due to specific deposits; and the term "visceral syphilis" now includes many pathological conditions that were certainly not recognised as due to this disease. In treatment, now as formerly, mercury is the one remedy—at all events, in the early stages; but salivation, formerly looked on as the necessary evidence of mercury having affected the system, and, with it, the constitutional disorder, is not considered necessary—indeed, is now supposed not to have so good an effect as the slower result obtained by the long continued use of small doses. In this way, the patient does not suffer from the treatment as well as from the complaint, and is able to continue any active occupation he usually follows. On the other hand, in the use of iodide of potassium for the gummata and other tertiary deposits, it would seem that the further they are removed in point of time from the primary affection, the greater the necessity for its free administration. Symptoms yielding slowly, or not at all, to small doses, will, if these be quickly and largely increased, soon show signs of decided improvement. The knowledge of inherited syphilis was till lately confined to the infantile variety; but Mr. Hutchinson has clearly proved some affections of adolescence, notably of the eye and ear, to be of a specific character, and to be cured by specific remedies. Probably, also, there is yet more to know on this subject. Mercurial treatment certainly benefits many children and young adults suffering from some obscure affections that have a more or less strumous appearance, the possible explanation being their really syphilitic origin. A boy, aged 12, lately under my care, suffering severely from symptoms ordinarily recognised as those of strumous ophthalmia—swollen lids, congested conjunctive, superficial ulceration of cornea, and most intense intolerance of light—began to mend soon after the commencement of a mild mercurial course, when the ordinary remedies for such a case had previously utterly failed. Dr. Jeaffreson, of St. Bartholomew's Hospital, one of the best clinical physicians of his time, used to say, "Never give up a case of obscure disease till you have tried iodide of potassium." The pathologists of the present day would tell him he had unconsciously cured a case of visceral syphilis.

Cancer still remains of all diseases, though unfortunately one of the most common, still one of the most obscure and the most intractable. It still defies all our attempts at cure. It is probably, too, on the increase. In the *St. Bartholomew's Hospital Reports* for the year 1860, I find there were 111 cases of cancer admitted; in the year 1885, there were 186; and this does not include those classed under sarcoma, most of which would, no doubt, twenty-five years ago, have been included in the cancer-list. Again, according to the Registrar-General's returns,

the increase of the mortality from cancer in England and Wales in the ten years 1871 to 1880 compared with the ten years 1851 to 1860, was equal to 62 per cent. among males, and to 43 among females. I do not pretend to account for this increase; probably in all classes the consumption of animal food is much greater now than it was twenty-five years ago; but whether this alteration in the habits, specially of those classes that fill the wards of our hospitals, is sufficient cause for this increase, it is at present impossible to say. It rather tallies with the opinion of those surgeons who think that the disease, where established, progresses with less rapidity in those whose animal diet is restricted to a very meagre allowance. Beyond the relief from pain, medicine has, at present, proved useless. From time to time, remedies have been tried, and some have held their ground for a season; but, after a longer experience, have proved of no avail. But we should not be deterred by this failure; those who are specially working at this subject, and who are connected with hospitals for its treatment, are always open to try fairly any remedy which can show any reasonable prospect of success; and surely we may yet hope the time will come when some relief, perhaps some cure, may be found for this dire disease. M. Pasteur has recently opened a wide field for investigation of this kind; may we possibly look for any help from following the lines he has laid down in the treatment he has adopted for hydrophobia and some other diseases of the brute-creation?

In spite of its unquestioned hereditary tendency, cancer commences as a local affection, but extends very early in its course to the neighbouring glands and the general system. This would seem to be borne out by the difference in the rapidity of growth with a corresponding difference in rapidity of return of the three principal kinds of cancer—medullary, carcinoma, epithelioma. In my own experience, I could mention several cases of the latter variety where, after removal, there has been no return during the patient's life, though this has extended some years from the time of operation. Very early removal is at present our only remedy; but surely the efforts of surgical medicine should be directed more than they have been to the medical treatment of cancer. Surgery has done much of late for its removal from regions hitherto looked on as inaccessible: how far greater the triumph, if, by remedies prophylactic or otherwise, some method of treatment could be discovered that would obviate the constant recourse to the knife, with even then a strong probability of a return of the disease.

Till lately, the physician has laid claim to the three great cavities of the body as his peculiar province, but this is so no longer. The surgeon is now called on to assist in their treatment when, from the occurrence of inflammatory effusions or morbid growths, medicine is manifestly powerless; and there is now scarcely an organ that has not been attacked by the operating surgeon with a view of relieving some pathological condition. But, while the surgeon is thus intruding on the physician's province, it behoves him also to participate in the physician's knowledge; while surgery is steadily advancing by introducing new operations and perfecting old ones, is surgical medicine equally advancing by improvements in diagnosis, in its power specially of laying down definitely those indications that make such operations advisable? Surgery of this kind is of a comparatively recent date; but, to the credit of modern surgeons, it may be said that with their increased skill in operating has also increased their skill in diagnosis. The very success of these operations, and their frequency, has doubtless quickened the attention of surgeons to the importance of accurate diagnosis, and brought into prominence symptoms hitherto not much considered, but now of differential value when the question of operation has to be decided. Physical examination of the chest has long ago brought to considerable perfection the knowledge we required for bringing surgery to bear on the affections of the organs of that cavity, but there is much greater difficulty when we come to the viscera of the abdomen. We can tell pretty well the amount of fluid in a pleural cavity, and the character of it, but we can with far less accuracy tell the situation of an obstructed bowel, and its cause; but even in these cases, attended, as they are, by the greatest anxiety and perplexity, and when, perhaps, the greatest refinement of diagnosis is necessary, great advances have been made.

Diagnosis has, however, arrived at its highest development in determining the presence and locality of tumours in the brain, and that with sufficient accuracy to warrant the surgeon's attempt at their removal. The cases, of course, at present, have been few, but sufficiently numerous and sufficiently successful to justify further trial; but, with our present knowledge, there are, I think, few of us who could depend on their powers of diagnosis enough to encourage them in undertaking so serious an operation. In confirmation of this, I may refer to some cases lately published by Mr. Hulke, in which, for intracranial abscess in connection with diseased petrous bone, he carried out an exploratory operation. Notwithstanding his great

experience, and the pains and attention he evidently devoted to these cases, the diagnosis of the exact situation of the abscess was far more difficult than the operation planned for its relief. In cases of this kind, too, as Mr. Hulke pointed out, an early diagnosis is the only useful one; and here again is the difficulty still further increased.

Still, in spite of early and accurate diagnosis, in spite of advancing medical knowledge, operations are still increasing. Anæsthetics, and now antiseptics, have been the chief medical helps to the operating surgeon. The administration of chloroform (as a type of the anæsthetics) is now, from the natural requirements of the patient, so necessary a part of the operation, that it becomes more a matter for theoretical than practical consideration as to whether its use is attended or not by any disadvantage in the further progress of the case. The immediate gain to the patient, excluding the very few sad exceptions, is of course enormous, but certainly the obstinate sickness that sometimes follows the use of chloroform has, in the experience of most of us, by adding to the general depression and illness, materially lessened the chance of recovery. It is rare for sickness to follow the use of a small quantity; but, on the other hand, the tendency does not increase in proportion to the length of administration. What is more important, I am sure, is that the material should be of the best kind, and this not only on account of the subsequent sickness, but also for the safety of the patient at the time of operation. With regard to the choice of the anæsthetic, as a rule I prefer chloroform; and, though ether is by some considered safer, and is very useful in persons collapsed from injury or loss of blood, or who are very anæmic, in others, specially old or bronchitic people, it produces so much pulmonary congestion as to be serious at the time, and often troublesome for some days afterwards.

There can be no doubt that the introduction of antiseptics has both increased the number as well as the success of operations. Certainly, many of the large abdominal operations would not have been undertaken unless the surgeon believed that, by their use, the patient was freed from most of the casualties that follow such proceedings. Records of cases treated antiseptically have undoubtedly given marvellous results; but, of late, as marvellous results are occurring in the hands of those who have relinquished that treatment. Its adherents will admit of no compromise, but they must allow, in face of many facts before them, that wounds under favourable circumstances, in a healthy person, may heal as soundly and as quickly without the antiseptic plan as with it, also, that antiseptics do not render their patients absolutely free from those diseases it is their special object to prevent. By antiseptics, I would at once say that I include those means by which septic matter is prevented from being absorbed into a wound; but while fully recognising the importance of Sir Joseph Lister's experiments with regard to the fermentative process and the resulting germs, I cannot believe that on their presence or absence depends the health or otherwise of a wound.

Looking at antiseptics, then, from my point of view, it is neither a sudden nor a recent change in the practice of surgery. Many years ago Mr. Liston, in his book on *Practical Surgery*, gave a graphic, possibly an exaggerated, account of the management of wounds in his day, and he did much to simplify their treatment. He speaks of the many envelopes of cotton and flannel, the compress cloths, the pledgets of "healing ointment," as it is called, which enclosed a stump after amputation; of these, after remaining for some days, being removed loaded with putrid exhalations, and a profusion of bloody, ill digested, fetid matter. After the stump had been deluged with water from a sponge not over clean, the same application of bandage, plaster and grease, surmounted by some absorbent tow or charpie to soak up the discharge, was repeated. In place of this he left his large wounds partly open, and used his well known application of wet lint and oiled silk frequently changed. Did he not, by his partly open wound, and frequently renewed dressings of clean water, foreshadow the drainage-tube and antiseptics? My first experience of surgery was between the years 1847 and 1850, at Addenbrooke's Hospital, under your distinguished member, Professor Humphry, and in those days he used, after an amputation, all the bleeding vessels being carefully secured, to apply with some firmness a pad both in front of and behind the face of the stump, approximating the flaps, but leaving the line of incision freely open to the air, the stump itself being well raised on a pillow. The pads, which were made of tow and cotton, were left on for many days; the discharge ran over them and into them, and they were septic in an unmitigated degree; but the patient did well, and the stump healed quickly. Did not he and Mr. Liston, though in different ways, fulfil the same object, and that an antiseptic one, of keeping the wound free from blood? Is not decomposing blood our chief enemy in the immediate treatment of wounds after operation? and if we can keep a wound

empty of blood, can we not, with ordinary care and cleanliness, obviate those risks it is the object of antiseptics to avert? What more offensive or more harmful than decomposing blood? The ovariotomist finds that it is not the antiseptic that keeps his mortality so low, but it is the care and patience with which he removes every drop of blood from the peritoneal cavity, even at the risk of using some roughness to the peritoneum itself by the sponging necessary for that purpose. The addition of carbolic acid, and such like remedies, by preventing decomposition, no doubt further minimises septic influences, and is very valuable in the further treatment of the case when discharges of an unhealthy kind are apt to occur. In thus inveighing against blood, I do not forget that blood itself, by gluing together the edges of an incision, or even the small wound of a compound fracture, may be the means of effecting primary union in the part; but here, by drying into a firm crust, it completely excludes the air, and itself becomes a perfect antiseptic.

I must also mention here the very great advantage to hospital-surgery from the recent very laudable antiseptic fever among the nurses. We must all, I am sure, attach the greatest consequence to the improvement, not only in the education and the social status of our present race of nurses, but also in their great attention to the cleanliness of the patients, as well as their wounds. I would admit, then, the great gain to surgery from the use of antiseptics; but I would limit this admission to the gain from the absence of the putrefactive change, not to the absence of germs and the fermentative processes therein implied.

Among the recent aids to surgery must be mentioned electricity. From its stimulating effects on the nervous system, it has long been used to give tone to limbs and muscles weakened by disease or injury; but, of late, advantage has been taken of the chemical effect produced during its passage through the tissues, and of the decomposition that ensues, to cause resolution of tumours or coagulation of blood. In this way it has proved chiefly useful in the treatment of those large thoracic aneurysms that are not amenable to other surgical relief. The clotting that takes place between the needles introduced well into the cavity of the sac becomes the focus for still further coagulation; and in this way, perhaps after repeated applications, the increase of the aneurysm has, in some few cases, been arrested, and, in several, amelioration of symptoms or delay of fatal ones has been accomplished. In nevi and small blood-tumours, electrolysis has the advantage of curing the disease with certainty, and with but little scar. Probably in medical, as in social, life, electricity has not yet fulfilled all the requirements we may expect of it. Some further development of the telephone and the electric light, in its application to medical purposes, will almost certainly take place, and large additions will, we may fairly hope, by their help, be made to our present means of surgical diagnosis.

With regard to medicine itself in the treatment of surgical cases, there is but little fresh to record. The surgeon's *Pharmacopœia* is generally a small one; his list of drugs in ordinary use is confined to the few of known value and decided effects, and these must necessarily remain without much change. With the alteration in patients' habits has come a corresponding modification in their treatment. The nervous element in disease is now so prominent, and surgical affections are, from their nature, so commonly of a painful character, that sedatives are the remedies of which the surgeon very largely avails himself; and of these opium is the one on which he most depends, and that not only for its use as a sedative, but for its stimulating, almost feeding, effect in some exhausted states of the system. The fear is, perhaps, of our getting to use opium too freely. The hypodermic injection of morphia, from the facility of its administration, and the promptness of its action, is a most valuable means of giving rest to a patient after operation, or to one in severe pain from any cause; but its facility has created its abuse, and sometimes even in hospital practice its use is continued when the necessity for it has passed away.

But it would be too great a digression for me to enter on the subject of individual drugs. They will, no doubt, be brought before you by those who, in their special sections, will speak with larger experience and greater authority than I can do; for, now that the practice of surgery is broken up into departments, it must be that the remedies themselves also partake of a special character.

Among the medical aids to the treatment of surgical disease, it would be disloyal of me, speaking in this place, and after a long residence in this town, not only to mention but to enforce the great advantage to be gained by sea-air. Besides the bracing effect, as it is popularly called, of sea-air, there is no doubt that many surgical diseases distinctly benefit by a sojourn here. Roughly speaking, the effect on people in health on coming to Brighton is somewhat to check

the natural secretions; and, in like manner, probably, patients suffering from exhausting illnesses or discharging abscesses are certainly benefited. They not only improve in general health, but the discharge lessens, a sinus takes on a more vigorous action, and night-perspirations are much diminished.

Scrofulous patients and scrofulous children especially get very great good from a stay in Brighton; and they very quickly show, by their increased activity, improved appetite, and better colour, how soon their system rises to the improved condition of its surroundings. But here, for very practical reasons, I would follow the distinction laid down by Sir William Jenner between the "sanguine" or "serous" type of struma, and the "scrofulous." The former, typified by the highly developed nervous system and active circulation, liable to tubercular affections of brain, lungs, or serous membranes; the latter of phlegmatic temperament, with cold extremities, suffering perhaps from glandular enlargement, rickets, or diseased hip. It is these last that Brighton chiefly benefits. The strictly tubercular do not gain so decidedly; and, in some cases, I have certainly seen harm arise from a residence here. The stimulating air seems too much for persons with such a sensitive nervous and vascular system, and fans into flame smouldering mischief that might, under other circumstances, have remained latent, or perhaps disappeared. Again, for those even whom it benefits, too long a stay defeats its object; from overstimulation the child becomes exhausted, gets to look pale, and flags in strength. For this reason, of all invalids who get good from Brighton, I believe delicate children who come to school here gain most. The three terms spent in a good school by the sea, with the three intervening holidays of a few weeks away from it, give the necessary amount of stimulant, alternating with sufficient relaxation to permanently benefit a child suffering from scrofulous glands, or a diseased bone. It is only for a few weeks in the spring that such patients cannot spend many hours a day here in the open air.

But you will say, What is the object of these remarks? To what do they tend? Surely to this, that while great, almost marvellous, results have followed the late advances and improvements in operative surgery, and which have been so carefully and so scientifically matured by many distinguished surgeons, there is still a wide field open for the investigation and improvement in the medical treatment of surgical disease; and that, on the whole, the strictly surgical and operative treatment has received more than its share of the attention due to disease, looking at it simply from a remedial point of view. I fear we must admit that the tendency of the present day is to eradicate disease rather than to cure it. In his lectures delivered at the Royal College of Surgeons, now many years ago, Mr. Hilton almost apologised for introducing the subject of physiological and mechanical rest as a branch of what he called Natural Therapeutics. And yet, how much has surgery benefited by the principles he enunciated. He brought great anatomical knowledge and wide surgical experience to bear on this subject of Rest, and seemed really to show that there were few surgical affections that were not capable of some relief, and many of cure, if the directions he gave were scientifically carried out.

I mention this as an example of the direction in which scientific surgery may be advanced, and to suggest that if by therapeutics the pain of a cancer can be relieved, or a hip-joint saved, other means than the purely operative demand greater attention, and acquire greater importance than has been hitherto awarded them. Another bright example may be derived from the experiments lately carried on by M. Pasteur. It may perhaps be thought premature to accept his discovery with regard to the treatment of hydrophobia as a scientific fact, but even now the evidence in favour of the correctness of his views is very strong, and is not in opposition to doctrines already acknowledged. He deserves all praise for the patience, assiduity, and care with which he has laboured on this subject, and endeavoured to cure one of the most painful and fatal illnesses that come under the surgeon's care. Surely these examples may encourage us to attempt more in the medical treatment of surgical disease; to endeavour to discover the first deviation from the healthy condition; and to endeavour to find for such deviation some remedy that may arrest its further progress, and obviate the necessity for those operations that have justly helped to raise British surgery to its present high position.

In making these remarks to this Association, I cannot but remember that I am addressing a body of gentlemen who are, like myself, largely engaged in general practice, and who have opportunities of watching disease from its onset to its close, in a way impossible for the pure surgeon or the specialist. Family peculiarities, family histories, family medical secrets are known to us, and in this way we have advantages for investigating, tracing, and treating disease, that

we cannot be too eager to avail ourselves of. In fact, the general practitioner is the living embodiment of that principle I wish so strongly to establish—the necessary and close connection between medicine and surgery, a principle nobly illustrated by many of our great provincial surgeons. Our practice comprises both medicine and surgery; our medical experience out of doors is brought to bear upon our patients in the surgical wards of our hospital. Chloroform has taken away from the value of the rapid and brilliant operation. He is the most successful surgeon who is also the good physician. Surgery should get more dependent on medicine for its help. Operative surgery, from the nature of things, must have a limit, and surely that limit must be nearly reached. Let the medical aspect of surgery, then, command more of your interest and attention. I wish I were a better exponent of its principles, a better example of its practice.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF MEDICINE,

At the Annual Meeting of the British Medical Association, held in Brighton, August, 1886.

By W. H. BROADBENT, M.D., F.R.C.P.,

Physician to St. Mary's Hospital; President of the Section.

REMOTE EFFECTS OF REMEDIES.

GENTLEMEN,—My first duty is easy and pleasant; it is to tender publicly my sincere thanks to the Council of the Association for the honour they have done me in asking me to preside over your discussions.

Unfortunately, this duty is soon discharged, and I am left in presence of a task which becomes increasingly difficult every year—that is, to find anything which may be worthy of being brought before you in the brief address which the president of this Section is expected to give.

In the perplexity arising from the number of subjects which presented themselves to my mind, or in the poverty of my invention—I will not say which—I have found nothing better with which to occupy your attention for a short time than a few illustrations of the desirability of looking beyond the immediate results of treatment, and of the necessity of exercising forethought in the employment of remedial measures, some remote effects, in fact, of treatment.

That present relief is often obtained at the expense of future suffering and injury, is a trite remark. I might take up my parable and speak of alcohol, the remote effects of which are so terribly frequent; but this is not a lesson which I need enforce, and I allude to it only for use as an illustration. If we were not so familiar with the exhilarating effects of wine, we should find it hard to believe that anything could so entirely lift a man above his surroundings, banishing sorrow and care and enhancing enjoyment, sharpening the wits and raising the spirits, conferring a feeling of self-satisfaction, and throwing a cheerful glow on the most unfavourable circumstances. Supposing all this could be attained without speedy reaction and ultimate ruin to body and mind, is there any consideration which would prevent men from unlimited indulgence?

There will occur to all, again, the pain and depression, the bodily derangement and the mental wreck, by which the opium-eater, or the devotee to hypodermic morphia, ultimately pays for his delicious dreams or her factitious happiness; the miserable irresolution and wretchedness which, after a time, overtake the man who habitually resorts to chloral for the sleep which he ought to court by fresh air and exercise, and by the removal of the influences which give rise to sleeplessness. Even the bromides—the least injurious, perhaps, because least powerful of the remedies employed to procure sleep—besides producing the well-known acne, may bring a man into a state of childish dementia, which, fortunately, does not last. We have not yet begun to see the evil effects of the newer hypnotics, such as paraldehyd, urethan, etc., but coca or eucaïne is already beginning to claim its victims, who gradually develop an excitement which becomes maniacal, or an exaltation like that of general paralysis.

These glaring examples of injurious remote effects of measures which are immediately beneficial, are only adduced in order to show the direction of my thoughts.

It may be said that the injury is the result of unauthorised abuse of remedies by patients, and of weak or vicious self-indulgence; but so also will many of the injurious effects I propose to consider be seen to result from patients taking the treatment of their ailments, real or supposed, into their own hands. The point is, that very frequently the treatment has been initiated, or at least sanctioned, by the medical man, just as he has prescribed or administered the first hypodermic dose of morphia.

Let me begin with the familiar subject of gout, and of some of the remedies which are employed in its treatment. It is well known that we can relieve the pain and cut short the paroxysm of an acute attack by the free use of colchicum, veratrum, and other drugs having a similar action. It is equally well known that their injudicious use may produce great immediate prostration, and that the remote effects of their habitual employment are often most disastrous. We may, however, administer colchicum; we are, indeed, compelled by the frightful suffering to give it freely in some cases; but we are justified in resorting to it only on condition that we do for the patient by after-treatment—aperients, alkalies, iodides, etc., with careful regulation of the diet—what the attack would have done; that is, clear the system of gout-poison, and bring the secretory and excretory organs into a state of functional efficiency; or the end may be attained by a visit to one of the many baths and waters known to be efficacious in gout. These precautions, and the self-denial required for continued immunity, are frequently unacceptable to the gouty convalescent, and are disregarded; and, when gouty pains return, they are kept down by the remedies which have been found to give relief during the attack, or by some so-called specific. This may be done with success for a very long time. Meanwhile, however, the remote effects are in preparation. These are mainly due to imperfect elimination. It is not implied that colchicum and its allies directly arrest the elimination of uric acid existing in the blood; it is rather antecedent metabolism which is checked, and nitrogenised waste other than uric acid accumulates in the blood and tissues. Such impurities provoke resistance in the arterio-capillary circulation, and we enter upon the condition of high arterial tension, with all its varied damage and danger. It can scarcely be too often repeated that all the effects upon the arteries on the one hand and the heart on the other, associated with contracted granular kidney, namely, arterial degeneration, cerebral hæmorrhage, aneurysm, and dilatation of the left ventricle, valvular disease, are just as commonly produced, independently of kidney-disease, by high pressure in the arterial system due to other causes; and such pressure in an extreme degree may be induced prematurely by the means taken to keep down gout. Even convulsions not distinguishable from those occurring in uræmia may be induced. A case which occurred in my experience within the last twelve months may illustrate effects of this kind.

A man, aged 37, living a sedentary life, of strictly temperate, and indeed abstemious habits, so far as could be ascertained, consulted me in October 1885, on account of continuous headache, with weekly exacerbations of frightful severity, at times attended with vomiting. I was at once struck by the high tension in the arteries; the temporals were prominent and tortuous, the radial was large, full between the beats, and compressed with difficulty, and the pulse was long. The urine, an examination of which was at once suggested by this state of the circulation, was found to have a good colour and normal specific gravity, and did not at this time contain albumen, although traces were found subsequently. I looked upon the paroxysmal headaches as of migraine character, and did not attach sufficient importance to, or adequately deal with, the high arterial tension, especially as the arteries are tightened up in migraine; and I gave only a mild blue and colocynt pill twice a week, while arsenic was prescribed with carbonate of potash, for the migraine. Three weeks later, the paroxysmal headache was better, but the continuous headache remained; no important change was made in the treatment. Nothing more was seen of the patient until I was called to meet in consultation Dr. Wilbe, who had only been summoned to him on the supervention of urgent symptoms. These were, pain in the head of overwhelming severity, incoherence, stupor, intolerance of light and sound, and violent muscular jerkings. He lay on his back or side, the chin down on the breast, his arms bent, the knees drawn up, and all the muscles of the chest and abdomen in a state of powerful tonic contraction, while every three or four seconds there was a violent momentary spasm of the abdominal and thoracic muscles, attended with synchronous flexion on the body of the arms and legs. The heart was beating violently, and the tension in the arteries was extremely high, the radial feeling like a solid incompressible cord. (I may say, in parenthesis, that I have never found the pulse so strong and incompressible in uræmic convulsions as in this patient, the heart usually