to 1035; the highest was 1042, the lowest was 1013, and in this latter 1 to 5 per cent. of sugar was found. The average daily amount of the urine was 2,500 c. c. to 3,500 c. c.; in only one case was it 9,000 c. c.; in 14 cases it was as low as 500 c. c. to 800 c. c., in spite of taking 1,600 grains of the sprudel water; but wherever the quantity of urine was small the perspiration was great, and where perspiration became copious the sugar decreased, which may explain the beneficial action of pilocarpin and of Turkish baths. Generally the day urine contained most sugar, exercise diminished it, while mental exertion and nervous excitement and pain increased it. The sugar varied from one to three per cent.; in only one case was it as high as eight per cent. When albumen was present, as not unfrequently happened, it seemed to be in inverse relation to the sugar. After the disappearance of the sugar, a material increase of phosphates, and, in some, of oxalates, was noticed; in four cases, hippuric acid was present. In two cases, sugar was simulated by a form of uric acid when the copper test was used; the fallacy was rectified by the polariscope. When the skin was dry, there were considerable polyuria and much emaciation; if there was a fair amount of sensible skin-action, the emaciation was not marked; 35 cases were very fat, and other 46 had lost little of their former corpulency. The muscular weakness is the consequence, mainly, of degeneration of structure, which affects not only the voluntary muscle, producing the unsteady gait and the easy fatigue, but affects the cardiac muscles, producing the small pulse, the feeble heart contraction, the syncope attacks, and the death by asthenia; the intestinal muscles producing the constipation, and the ciliary muscles producing the errors of accommodation. The cardiac weakness accounts probably for some of the cases of death, with accompaniment of coma or convulsions, which have been attributed to acetonaemia. Of the condition called acetonaemia, there were six cases. That it is caused by the absorption of some noxious product of fermentation in the bowels is certain, but whether this is always acetone is doubtful. The case was relieved as soon as a free evacuation of the dark coloured, very foetid contents of the bowels was secured by castor-oil. If this could not be accomplished, the patient died.

Two forms of hunger are to be noticed: one, the normal hunger produced by the need to replenish the great waste of tissue; the other, a form of bulimia, a ravenous desire for any kind almost of food, which I consider a neurosis. In this connection is to be noticed the frequent insatiable desire for sugar, similar to the alcoholic craving of the drunkard. Thirst is to be looked on as the result of the drain of water, rather than as the result of the passage of sugar. A foetid odour of the breath is proportionate to the amount of sugar passed. Looseness and falling out of the teeth is often an early sign of diabetes. Gastric disorders are rare, in spite of the food being difficult of digestion; but intestinal troubles are frequent, notably constipation, and sometimes diarrhoea. Constipation appears to me to depend less on the nature of the prescribed food, than on the weakness of the degenerate and enfeebled muscular coat of the intestines. When diarrhoea occurs, there is evidence in the grey foetid motions, which are quickly covered with a thick froth of fermentation of sugar, unnaturally present in the bowels; of which the urine, at this time, is found to contain very much less than just before the attack of diarrhoea. Neuroses of various kinds, such as a form of hunger, already referred to, are not uncommon; they are chiefly neuroses of sensibility; of motor neuroses, cramp was the only one noticed. Crural neuralgia was not uncommon; sciatic and lumbar neuralgia less frequent; some cases of cervico-occipital neuralgia were noticed, and one of mastodynia in a man of seventy-five years. For their relief, codeia and salicylate of soda were most useful. The vulvar pruritus common in female diabetics is probably largely neurotic; it is greatly relieved by lotions of salicylic acid. Apathy is probably produced by the direct influence of the sugar-holding fluids on the brain.

Tuberculosis became developed in the course of diabetes in twenty-six cases only. Impotence was frequently present, but, in twelve cases, sexual desire and capacity was increased. Balanitis was occasionally observed, and was relieved or cured by strict cleanliness and salicylic acid lotions. Dimness of sight was frequent, partly produced by accommodation disturbances, and partly by turbidity of the lens, which disappeared with an improvement in the diabetes, except in three cases, where there was cataract, which was successfully extracted in all. Boils were common, produced by nutritive disturbances of the skin, as also erysipelas and phlegmon. The prognosis should not be so discouraging as has hitherto been the custom.

A CENTENARIAN.—A female inmate of the Hampstead Workhouse Infirmary, named Martha Grey, is reported to have died at the age of one hundred years. The cause of death is certified by Mr. A. H. Cook, medical officer of the infirmary, as "senile decay."

REMARKS ON THE TREATMENT OF RECENT WOUNDS.*

By RODERICK MACLAREN, M.D.,
Senior Surgeon to the Cumberland Infirmary.

THE treatment of recent wounds is a matter in which we all have experience. Within the limits of our Branch, we see them not only among a healthy, vigorous agricultural population, but also in town populations with constitutions deteriorated by overcrowding, underfeeding, and the various vices which abound in the lowest strata of the people. As to surroundings, we meet with wounds where we have all that money, mode of life, and skilled nursing can do to promote a successful termination. We have them in hospitals, where the nursing, feeding, and appliances are very much what we think the best for the class of cases; and, on the other hand, wounds have to be treated where every favourable condition is absent, where there is no nursing, where the hygienic conditions are of the worst possible kind, and where the feeding is imperfect. It has, therefore, seemed to me that an interchange of views and experience among us would be specially valuable. In the few remarks I am going to make, I cannot tell you anything new, but merely give you my opinions and experience on certain points more or less familiar to you all. Nor can I pretend to make an exhaustive statement of so extensive a subject; I shall content myself with laying down certain broad propositions, which, in my opinion, embrace the great majority of cases.

In the first place, I may express my conviction that no one method of treating wounds is likely to give the best attainable results under all circumstances and with every variety; and, when a man sets forth that one treatment best promotes the healing of every such injury, I think that he is either generalising on imperfect observation, or allowing enthusiasm to warp his judgment. I purpose considering wounds under their ordinary divisions of incised, contused, and punctured.

First, as to incised wounds: for wounds of small or medium size, not involving bones, cavities, or the sheaths of tendons, I have seen the best results from the most absolutely simple treatment. 1. The first thing is careful cleansing of the wound, and removal of any foreign substances, if such be present. For this purpose, I prefer carbolic lotion (1 to 20); boracic lotion (saturated); or even simple dry rag or other convenient material. I am convinced that the water in common use is often a medium which brings deleterious matter into contact with a wound, and, for that reason, to be avoided. 2. Next to this follows suppression of hæmorrhage; and the more thoroughly this is done, the better is the chance of primary union; indeed, the ability to completely control it is one of the limits to this simple treatment. Ligature of vessels with catgut, and torsion, are the simplest means at our command. Sometimes, specially if a wound be over bone, a pad of absorbent cotton-wool, applied for twenty-four hours, will stop oozing. 3. The next stage is the bringing of the sides of the wound into complete contact. For this purpose, I am in the habit of employing one of two methods—suture or pressure. The sutures I prefer are silver wire, hair, or common sewing-needles. I believe it to be an advantage to use very fine sutures; and, for small wounds, hair answers most admirably; it is very strong, unirritating, and easily procured. A very excellent way of closing scalp-wounds is to push a sewing-needle through the two edges, and bring them together with a thread in figure-of-eight. In using sutures of all kinds, it is of great consequence to pass them through the tissues beyond the wound, whenever this can be done. Thus, with hare-lip, after paring, I pass needles right through the whole thickness of the lip and mucous membrane, keeping them (the needles) entirely from contact with the wound. I have sometimes seen suppuration commence at a suture, and spread from it, breaking up a wound which was promising to heal well. This risk can be avoided by keeping the suture away from the cut surface. Occasionally, a wound is so placed that a pad will close it throughout. Absorbent cotton-wool is the nicest material for this purpose. If it come near the edges, it is an advantage to have it impregnated with an antiseptic. When a wound of the class I am speaking of is efficiently closed, and all hæmorrhage has stopped, I look on any dressing not only as superfluous, but generally as injurious. Simple exposure to the air, keeping the wound dry, cool, and, above all, at rest, are all that is needed. We all know that heat and moisture promote putrefaction; and they should, therefore, be avoided. Sticking plaster is, of all known ways of keeping a wound together, the worst, almost invariably producing suppuration of the parts with which it is in contact. The only departure from the above way of treating moderate-sized flesh-wounds is where the surroundings are unhealthy, and especially in hospital, where the presence of suppurating surfaces and various ailments causes special

* Introduction to a discussion at a meeting of the Border Counties Branch.

risk of infection; then the complete Listerian dressing is the proper one to adopt.

I will next speak of large flesh-wounds, wounds involving joints and other cavities, and wounds involving bone, such as amputations. These may be all classed together, for one treatment is adapted to all. I am not aware of any treatment which will, in the majority of cases of this class, secure primary union; nor do I think it is likely that any such will ever be discovered. No doubt it occasionally occurs under various methods of dressing; but where there is considerable oozing, which cannot be completely stopped, where muscle is no longer in contact with muscle, tendon with tendon, or subcutaneous fat with fat, but each in apposition to tissue of another kind, it does not seem likely that primary union will ever be the rule. In all cases of this class, I regard asepticism, in its most exact signification, as involving least risk to life, and as most favouring local cure, of any method of treatment with which we are acquainted. No method of maintaining asepticism equals the carbolic gauze dressing, with all the adjuncts of spray, carbolic lotion, etc. I have tried, or seen tried, a great variety of other dressings avowedly antiseptic; but no other as yet seems worthy of holding a permanent place. I have no doubt that a better will be discovered. Its disadvantages are obvious enough. It is troublesome, cumbrous, somewhat irritant, and, above all, it keeps the wound sodden; and this unquestionably is not the most favourable condition for healing. But its certainty—the fact that it *will* do what we intend unflinchingly, where the conditions are at our command, and we make no mistakes—places it above everything else yet brought forward. The drainage-tube is too essential a point of this dressing to be passed over without a word; it provides a ready channel for the escape of discharges, and prevents distension. Drainage should be limited to as few lines as possible, so that the surfaces may be kept thoroughly in contact.

Only one set of incised wounds remains, where the wounds are connected with suppuration already existing, as in opening an abscess, excising a suppurating joint, or removing dead bone. Unless the whole surface which discharged pus can be removed, such wounds may be expected to continue suppurating. In these, also, complete asepticism should be secured whenever possible; but, in a great many, from the impossibility of reaching every corner where putrefaction dwells, it cannot be attained, and I believe we then do best by using some efficient unirritating antiseptic, such as carbolised oil (one to twelve), applied on lint, and frequently renewed. In this class, I find myself yearly using the drainage-tube less and less, preferring, in a great majority of cases, to make a large wound, and leave it fully open. If the case be one where there is a reasonable probability of securing complete freedom from putrefaction, I put a plug of carbolised gauze in the wound, and an ordinary gauze dressing over it. If it seem hopeless to expect an antiseptic condition, I plug the wound with lint, soaked in carbolised oil, and have it frequently changed. Excisions of joints, as of the elbow and hip, I now treat in this way, and have got better results than when sutures were used. There is no possibility of discharge being retained; the wound heals uniformly from the bottom, no pockets of pus or sinuses remain; I believe healing is more rapid. I showed you at last meeting a case of excision of the elbow, for suppurating in the joint and sinuses communicating externally, which was absolutely healed in five weeks and four days after the operation. These remarks apply also to cases in which a cavity, that the tissues will not fill, remains after an operation. It is better to leave such a cavity open, than to shut it up by pulling skin over it.

I now come to contused wounds. When these approximate the characters of incised wounds, as so often happens with the scalp, the edges being sharp and clean, with little damage to the tissues around, they should be treated as incised wounds. The results are often surprisingly good. Large, irregular, branching wounds, caused by a blow from some blunt instrument, or a fall, often heal without any formation of pus. If these are at one end of the scale of contused wounds, at the other are cases where there is no doubt that the vitality of the injured part is for ever destroyed, and that amputation is our only resource. As this brings them into the class of incised wounds, they call for no further remark. But there is an intermediate class, where the amount of injury is doubtful, and where only time can show whether the tissues can live or not—cases, I may say, often of great responsibility and great anxiety. Such injuries, if seen early, should have antiseptic measures put in force at once. To be successful, they should be done very early, as everything in the condition of the wound favours the speedy advent of putrefaction. Very many cases so treated will well repay the trouble. I have seen apparently hopelessly damaged tissue retain its vitality, and I have seen sloughs slowly absorbed without constitutional disturbance or infective sequelæ. When a contused wound of this kind becomes putrid, I generally have it dressed with carbolised oil or charcoal poultices until the sloughs are mapped out, and then re-

move these as speedily as possible. I do not think too much importance can be attached to this, for dead and putrifying tissue forms a terribly active centre of constitutional contamination. Continuous irrigation with carbolic lotion or Condy's fluid, gives often good results with this kind of injury, specially where efficient treatment has not been instituted at once, and where widespread putrid suppuration is going on. It washes away the discharge as it is formed, and by its mechanical, as well as by its antiseptic action, it tends to keep such a wound sweet.

Punctured wounds do not call for much comment. They bear a small proportion to the other classes in civil practice. Their importance depends very much on the tissues or organs they involve, and it would be beyond the scope of these remarks to go into details. Small punctured wounds heal readily with rest alone. For medium-sized ones, an ice-bag is a useful application, the larger ones should be treated antiseptically.

In conclusion, I purpose making a few remarks on the principles and objects we have to keep in view in treating recent wounds. First in importance is the avoidance of constitutional infection; and, second, the speedy healing of the wound, and the restoration of the part to usefulness. These are not synonymous for a treatment which, if successful, results in speedy healing, but may, nevertheless, involve great risk of general infection in the event of its failure, such as the dry treatment of large wounds. I think it is our duty always to keep before us the gravity of the constitutional risk, and to consider first what reduces this to its lowest point, and to regard local recovery as an important but still secondary matter. If we inject a putrid fluid into an animal, we can get exactly the disease which used to afflict our surgical wards, and the evidence is very conclusive that the poison which produces grave general risk, is inseparably connected with putrefaction. Any one who goes over the experiments of Pasteur, of Lister, of Roberts, or of Tyndall, can, I think, come to only one conclusion, that putrefaction invariably originates in infection from without. But it needs a suitable soil, a certain amount of moisture and heat. Various substances are prone to it in various degrees, living tissues much less than dead ones, healthy much less than unhealthy, thick fluids much less than thin. We may, therefore, endeavour to carry out an antiseptic treatment from two opposite directions. We may either make the soil a very unsuitable one, as in the dry treatment, or we may prevent the access of septic material, as by the Listerian dressing. Experience and science alike tell us that, while we look after the wounds, we must not forget the body in which they are, and that pure air, good food, and careful nursing are not less essential than lotions, and sutures, and dressings.

GELSEMINUM SEMPERVIRENS IN TETANUS.

By JOHN B. READ, M.D., Tuscaloosa, Alabama.

[DEAR SIR,—Two years ago, my friend and kinsman, Dr. John B. Read of Tuscaloosa, Alabama, sent me the enclosed report of a case of tetanus cured by gelseminum extract, with the request to publish it in some New York Medical Journal. The report was mislaid, and came to light only a few days ago. I think it of much importance, and hope you will find a corner for it in the BRITISH MEDICAL JOURNAL, and oblige, yours truly,

J. MARION SIMS.

December 2nd, 1882.

The above letter has been forwarded to us by Dr. Marion Sims, with the following report.]

Early in September 1880, I was called to see a strong, healthy mulatto woman, twenty years old, who was suffering from well marked tetanic convulsions, caused by a broken bit of glass, on which she had trodden two days previously, and which was embedded in her heel.

I administered chloroform to enlarge the wound and search for the broken glass. It was impossible to anesthetise her profoundly, and her foot was forcibly held by strong assistants while I made free incisions, but failed to find the fragment of glass. The wound was then filled with morphia, and a common poultice applied; and a cathartic was given, which acted promptly.

Knowing well the inefficiency of chloroform, chloral, and opiates in tetanus, I determined to try the effect of the gelseminum sempervirens, because of its well known power of relaxing all voluntary muscles. I therefore ordered twenty minims of fluid extract of gelseminum every two hours, alternating with the same quantity of liquor potassæ at the same intervals. There was great difficulty in deglutition; but milk and soups were taken in small quantities frequently.

On the morning of the second day, there was a slight improvement in the rigidity of the jaw, and the general spasms occurred only every three or four hours. But, as the day advanced, the jaw became more