

paying special attention to the urethra, preliminary to passing a catheter. Forceps are then applied and removed directly the head is crowned. Pressure with one hand over the sterile towel on the abdomen prevents the head receding. When the head is crowned a nurse injects 1 c.cm. of pituitrin deeply into the gluteal muscle. As soon as the child is born the cord is ligated; the child is then removed to another room so that its crying will not disturb the mother, who should be allowed to sleep quietly on, after having been made comfortable. I have always found the third stage quite normal in every respect.

It might be mentioned that at the commencement of the second stage I employ my time in applying hot fomentations to the perineum. These are wrung out of weak lysol, and serve the double purpose of sterilising the region and softening the tissues, thereby lessening the probability of a tear.

With regard to the vexed question of oligopnoea, I have only met with a few cases, in all of which the child spontaneously recovered without treatment of any kind. If wrapped in a warm blanket and left alone the baby will breathe normally in a minute or so. In one or two difficult forceps cases with a child born suffering from asphyxia pallida I have had recourse to a hot bath and artificial respiration. The only deaths I have to record were twin premature babies—born at six months. Both breathed, but died shortly afterwards. The mother had only one injection, and the children would not have lived in any case.

Particular Advantages of Twilight Sleep.

Twilight sleep is of particular advantage in breech cases and in minor degrees of pelvic contracture, where it is desirable that the second stage should be prolonged to obtain satisfactory results. I have given it with conspicuous success in cases with heart disease, and I noticed that in his article on "Heart Disease and Pregnancy"¹ Sir James Mackenzie mentions that twilight sleep ought to be useful in such cases, but frankly confesses that he has had no experience of the treatment. In elderly primiparae it is invaluable. One of its most striking benefits is in the appearance and feeling of well-being manifested by a patient after a long and difficult labour, which tends to endorse the absence of conscious suffering. Shock and exhaustion are largely avoided, and with their avoidance the long train of nervous after-effects and disabilities are mitigated if not entirely abolished. Surely the memory of an exhausting and agonising labour must leave in its wake a host of neurasthenic tendencies with a vivid dread of a recurrence of the event—modified though that dread might be by the knowledge that second children are less of an ordeal. Apart from economic reasons, a dread of this kind must adversely affect the birth-rate of the country.

For the busy general practitioner the scheme I have outlined above must often prove impracticable. The late Dr. F. W. N. Haultain speaks of good results obtained by leaving the injections to a responsible nurse, in telephonic communication with the doctor. The injections are given at stated intervals. The initial dose of scopolamine gr. 1/150 and morphia gr. $\frac{1}{4}$ is recommended, and thereafter scopolamine alone gr. 1/450 is injected every hour. "Although not scientifically correct," Dr. Haultain adds, "this method is sufficient to acquire the benefits required without danger." I would only add to this that the nurse should be instructed to miss an injection during any hour that the patient is heard to mutter at random, and that in a number of cases the dosage will be too small to be effective. In cases exhibiting an idiosyncrasy for the drug, who become unruly in consequence, a few drops of chloroform is all that is needed to quieten them. I have only met with one case who became so unruly as to require restraint, and I abandoned treatment on that account. Complete amnesia, however, was present during her case, and she remembered nothing of the labour.

There is no doubt that the effect of the drug varies in individuals, and I have found that, as a rough

working guide, the larger the woman the larger the dose she requires. It is because of this variance in reaction in individuals that acute differences of opinion exist both in medical and lay minds as to the benefits of the treatment, and I would urge medical men before they condemn "twilight sleep" to consider the impossibility of giving an opinion without experience.

In conclusion, I would state that the more I give twilight sleep the more I like it, and I consider it to be the greatest advance in obstetrics since the employment of chloroform. That it mitigates actual pain and does not merely obliterate the memory of it is evidenced by the absence of screaming—the needle prick of the injection often passing unnoticed—and by the general demeanour of the patient, which is indicative of well-being as opposed to conscious suffering.

DOMICILIARY TREATMENT OF BONE AND JOINT TUBERCLE.

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THE lesson of the war (reinforcing as it does some neglected lessons of the past) that infection has been an overrated, and depressed individual constitutional resistance a much underrated, factor in the production of tuberculosis, will have had its effect upon the mind of the tuberculosis officer. He will easily deduce that the outstanding indication for action is the fact that the disease is twice or thrice as common in the working class as amongst the rest of the community; and that the chief prophylactic measure, therefore, is economic—namely, social amelioration. He will now feel assured that housing reform, even if practicable under present conditions, will never suffice of itself; will see that much of the time spent in examining symptomless adult "contacts," or in delivering lectures promising an early abolition of tuberculosis, was wasted. And all this realisation that prevention is really in other hands than his, will, or should, make him a Voltairian cultivator of his garden—lead him, that is, to concentrate for the time upon treatment.

In this line there seems at first sight little of much promise. The sanatorium the tuberculosis officer rarely sees; tuberculin is deservedly dropping out of therapeutic use; lung collapse applies only to a scanty proportion of one form of the disease; chemo-therapy as yet only to the small group of skin tuberculides. But there does remain something. Two years ago I left Alton after a two months' stay kindly allowed me by Sir Henry Gauvain, to study the Continental methods of treatment of osseo-articular tuberculosis of which he is so accomplished an exponent; for that period of time I have been applying the working knowledge there gained in the ordinary practice of a tuberculosis officer, and the improvement in one's results is striking.

Problem of Accommodation.

In old days the general practitioner used perforce to send hip or spine caries to a general hospital, or try to get such into one or two overcrowded special institutions. The former plan was desperate. The general hospital had not accommodation enough, and the folly of making out-patients of those needing before all else continued rest in bed in one posture, is evident. Yet, unfortunately, practitioners are still prone to this method of disposal. What often happens is that the case is sent first for diagnosis, or confirmation of diagnosis, and then goes on attending for treatment. When the National Insurance Act came into force, sanitary authorities engaged beds at a special institution, perhaps an orthopaedic hospital. I have had good opportunity of comparing treatment by some orthopaedists with treatment by surgical tuberculosis specialists, and have found that of the latter to be the better; mainly, I think, by reason of

¹ THE LANCET, 1921, i., pp. 1163, 1230, 1281, 1342.

the superiority of their plaster work and especially of their splints, made of celluloid from a cast of the affected part, fitting perfectly, and therefore preventing reactivation and relapse; recidivism we know to be a pitfall in every form of tubercle. The point I wish to put is that a great deal of this work can be done, in his own district, by each tuberculosis officer.

Hygienic conditions in a working-class home are admittedly far below those of a country hospital; but then the home task is much easier. Consider the severity of the cases at Alton—bilateral morbus coxæ (I have seen only one such around Barnsley in seven years), cases with other multiple lesions, facial and skull caries (I had never seen this before), paraplegic patients, lardaceous disease, and so on. This allocation of patients is, to my mind, just as should be. The extra facilities and skill are best bestowed upon the unfavourable case. Early and slight disease may quite well be treated at home. In bone and joint tubercle the main principle of disposal is surely the converse of that in lung tubercle. Incipient consumption is sent to the sanatorium, while highly active or extensive affections are excluded therefrom; but, speaking generally, and with one or two exceptions to be mentioned below, in osseo-articular lesions, the early case should be kept at home, the more advanced sent away.

Description of Cases.

The above theses it is hoped to defend with a short account of the 30 patients with bone or joint disease treated here, as stated, in the last two years. They are as follows: Hip alone, 9; hip and knee, 1; spine, 8; knee alone, 7; elbow, ankle, 2 each; wrist, 1; total, 30. Of the 30, 22 were new cases coming under notice within this two-year period; these new cases comprised 1 elbow, 1 hip and knee, 4 knees, 7 spines, and 9 hips. Fewer than a third of the 22—viz., 3 hips, 2 spines, and 1 knee—needed sending away for institutional care. Two of these three hips were in very young children, in whom, as is taught and as I have found, recovery is slow; for early infection of itself argues a relatively unfavourable outlook; besides, sick infants require more attention than can be expected from an over-taxed working-class mother. The girl with an affected knee was sent off, after responding well to treatment, in deference to the teaching that tuberculous arthritis in that situation is on the whole of peculiarly unfavourable prognosis. However, from subsequent experience with patients who for indifferent reasons had to stop at home, I regret I did not keep the case and save the institutional bed for a worse case; more especially as the girl has just been discharged from Alton with arrested disease after the unusually short stay of three months. Both the spinal patients came from bad homes, one being an adopted child and the other of very poor parents. Thus medical considerations alone did not by any means dictate the choice in every instance.

The remaining 16 domiciliary patients all did, or are doing, practically as well as I have seen cases do at Alton and at Rivelin Valley, the Sheffield surgical tuberculosis hospital. Our plan of home treatment—and, be it noted, whatever the destination of the patient there is some unavoidable delay during which he or she remains at home and may as well be started on the road to recovery—our plan is to have the child's bed put next an open window, preferably on the ground floor for convenience of the mother. Then appropriate extension is applied, hyper-extension by means of a pad under the mattress in spinal disease, extension by weight and pulley for morbus coxæ. In one knee case with considerable flexion of the joint and subluxation of the tibia, straightening was effected by the "triple extension" apparatus, with its application of the parallelogram of forces, in five weeks; after ten had been spent fruitlessly in a general hospital with simple horizontal traction. It is soon seen if muscular spasm is disappearing at something like the normal rate. In hip disease, adduction or abduction will take long to correct, but

if flexion does not yield soon, the bed-foot pulley having to be lowered something like three inches a week, then the case is obstinate and had better go to a more favourable environment. Simultaneously cold abscesses can be aspirated. When quiescence of the lesion is obtained with good position, then a plaster can be applied and the patient allowed up, of course on crutches in leg cases. Finally—often immediately—a plaster cast of the part is taken and a celluloid splint made. By the time this is worn out or outgrown, progress has usually been sufficient to render its replacement unnecessary. However, some further time should usually elapse before resumption of school attendance, because that depresses the general health and means extra risk of trauma. This interruption to education, avoided at special institutions by having visiting teachers, is the only absolute disadvantage of domiciliary treatment. But certainly there are not enough special institutions to treat all bone and joint tuberculosis, nor, as things are, enough funds available to increase their numbers or beds sufficiently. Besides, for adult patients the available accommodation is even more exiguous.

Results.

Of the 30 cases, 6, as stated above, were despatched to institutions. Quiescence of the lesion was secured in 14 of the remaining 24. By quiescence I mean disappearance of pain and muscular spasm, healing of any sinus or cold abscess, improvement in the general health, and complete or considerable correction of deformity. Three of these, one an ankle and one a knee, both with unmistakable clinical evidence of disease, the third a hip in which the diagnosis was confirmed radiologically, have now for some time discarded all apparatus and enjoyed full return of function. In four further cases the lesion was quiescent when the patient first came to my notice. This leaves 24 less 18, or 6 patients whose disease remains active. They are all adults, two of them ex-soldiers. An elbow (in plaster), a dorsal spine (in bed), and a knee (in a celluloid splint; operation refused) are slowly improving. Another spinal case is stationary. Two, a hip with many sinuses, and a knee far advanced in disease and complicated with extensive phthisis when first seen, are getting worse. There have been no deaths.

Of celluloid splints we have made 19 and repaired 4. Besides their remedial effect, they have sometimes given—as in the cases last cited—much palliation, and have rendered patients less of a drag upon their friends. Patients naturally prefer them to leather and iron appliances. Nurses take well to the preliminary stage of their construction—the pasting of layers of book muslin on to the plaster cast with celluloid dissolved in acetone—as it much resembles dressmaking. The later stages, fitting, riveting on of leather and duralumin, one must do all oneself. Its technique, like that of lung collapse, of nose and throat work, and of the rest of our speciality, needs proper learning, but, as the event has shown, is within the compass of a mechanical faculty distinctly subnormal. The admirable polish bestowed at surgical tuberculosis hospitals is not essential; and this saves time. That time which is indispensable is well spent: it looks as though in a year or two one could be master of the osseo-articular tubercle in one's district.

My thanks are due to Sir Henry Gauvain, to Dr. C. L. Pattison, surgical tuberculosis officer of Sheffield, and to their respective staffs—among whom must be named Mr. Green, orthopaedic carpenter at Alton, whose hollowed leaden stand is most useful in the shaping of duralumin supports; and, lastly, to my two nurses for their keenness and industry.

HONOUR TO A SOUTH AFRICAN MEDICAL MAN.—

On Oct. 21st, a presentation, consisting of a handsome silver tea and coffee service and salver, was made to Dr. M. W. W. Cowan, of O'okiep, Namaqualand, South Africa, on the occasion of his silver wedding, on behalf of the people of Namaqualand. Dr. Cowan has practised in the district for over 26 years.

A NOTE ON GUELPA'S METHOD

IN THE TREATMENT OF GOUT AND GLYCOSURIA BY
FASTING AND PURGING.

BY SIR HENRY LUNN, M.D., B.CH. DUB.

Dr. Guelpa's visit to the Royal Society of Medicine suggests to me to put on record the endeavours to combat various manifestations of gout in the one patient (myself) upon whom I have ventured to practise since I took my M.D. in 1887.

Thirty years ago, at the age of 32, I went to see my friend, the late Dr. Howard Barrett; I was suffering at the time of my visit from constant severe headaches, hæmorrhoids, and bad eczema. Dr. Barrett told me I was like "a volcano of gout ready to break out anywhere in any direction." He reduced my meat diet to very moderate limits with much advantage, but I was still pursued by gouty headaches, sleeplessness, and sluggishness of the liver.

Three years later I read Haig's "Uric Acid as a Factor in the Causation of Disease," and although Haig exaggerated the importance of uric acid in the causation of gout and other diseases, I found his book very valuable. In 1896, being still much troubled with gouty symptoms, I visited Tarasp, the waters of which resort contain a very large percentage of sodium sulphate. I was benefited greatly by a three weeks' course, which—together with Haig's views as to the value of sodium salicylate—led me to adopt a daily dose before breakfast of Carlsbad powders with 5 to 15 gr. (according to my condition) of sodium salicylate. I found also that small doses of potassium bromide with the salicylate had a remarkable and valuable influence upon my nervous system; these and a short sleep before dinner were necessary if I was to avoid bad nights and interference with my work. By these means I was able to keep down, within certain limits, the gouty tendencies which Dr. Barrett had considered so serious. Nevertheless, in Dec., 1899, Dec., 1900, Sept., 1903, Feb., 1906, and Jan., 1909, I had five prolonged attacks of acute tonsillitis and pharyngitis, followed each time by lumbago and severe erythema nodosum, which on each occasion laid me aside for periods from four to six weeks. These attacks have ceased since the adoption of prolonged fasts.

A First Fast.

In 1910 I read an article by an American in one of our monthly reviews on the fasting remedy. It was Easter Day. Immediately after reading the article I stopped eating for a fast of five days. On Easter Monday I had an 18-hole round of golf in the morning with much enjoyment, and in the afternoon attended to various matters. On Tuesday I had an exceptionally long day at business, 8.30 to 5.30, as there was no time occupied by meals. On Wednesday I commenced work in my office at 8.30, and after a very full day attended a dinner of the Isis Editors at Simpson's Tavern, where I spent the time in conversation, sipping Apollinaris Water meanwhile. I finished up at the Savage Club on more Apollinaris, getting home to Harrow in perfectly good form at 12.30 A.M. On Thursday I continued the fast, and on Friday and Saturday took milk for two days, afterwards returning to my ordinary diet, with my whole system immensely benefited by the experiment.

Systematic Fasting.

I read various American books, and in the following year took a nine days' fast on similar lines, drinking water copiously throughout, but only consuming during the whole period a pint and a half of milk divided into three glasses taken on three of the coldest days when I wanted additional fuel. Since that date I have tried every summer to put in a long fast, drinking only water during the warm weather, when the absence of fuel in the system could best be borne. I have also observed as far as possible a weekly fast for 11 years with great benefit. If I omit the weekly fast I

at once suffer from a diminution of mental energy. The American school, represented by Allen of the Rockefeller Institute, did not recommend purgation with the fasting, and in common with all to whom I have spoken who have tried this treatment, constipation and a thickly-coated tongue were amongst the difficulties of the fast. In following years I gradually resorted to larger and larger doses of sodium sulphate to obviate these symptoms.

Treatment of Glycosuria.

In 1916 the anxieties of the war in business and domestic affairs caused my health to suffer. I was examined by my friend Dr. de Havilland Hall; going with him into his laboratory I was surprised to find that his test showed me to be suffering from glycosuria, which at that time amounted only to an excretion of 35 gr. of sugar per day. A carbohydrate-free diet with codeia sulph. for a short time, and a visit to the Alps, entirely removed these symptoms. My diet consisted of eggs, fish, green vegetables, excluding peas, cocoa with cream, and special biscuits of nuts, and a particular bean (kalaki), with butter ad lib. A similar attack in 1917 was quickly terminated by the same regimen and I had no recurrence until the summer of this year, when I had a sharp attack in consequence of special anxiety and strain in my home life.

Guelpa's Method.

In Paris, returning from our visit to the Spas, I called with a well-known London physician upon Dr. Guelpa, who was the first European to systematise the fasting treatment and the first physician to advocate extreme purging. He promulgated his views in 1908 and was met with vigorous opposition. His views were discussed in 1908 at the Therapeutical Society and the Society of Medicine in Paris. Laufer claimed that no invalid, no diabetic, would submit to three, four, or five days of absolute fasting combined with a daily purge. Burlureaux stated that reiterated purging might produce certain disorders and a nervous shock unfavourable to these patients, and Linossier maintained that if fasting, as we have known for a long time, gets rid temporarily of the sugar, it weakens patients and predisposes them to acidosis and to coma; and, moreover, that to stop glycosuria is not to cure diabetes, of which the presence of sugar in the urine is only one symptom. Contrary to the opinion of the American school of Allen who does not use drastic purges, but advocates adequate purges, Guelpa contends that fasting and diuresis do not expel the intestinal poisons which tend to produce auto-intoxication. He therefore concluded that purgative elimination of these poisons, and draining by osmosis of those that remained in the circulation, would largely increase the eliminating action of fasting and diuresis, and he recommended fasts of varying periods, not generally exceeding three days, with a morning dose each day of 400 g. (1½ oz.) of sodium sulphate. Dr. Guelpa expressed his pleasure at meeting one who had come by his own experience, and without knowledge of Guelpa's methods, to very much the same conclusions, although the heroic doses just mentioned had not been adopted. Since leaving Paris I have had the opportunity of taking a steady course on these lines, fasting two days the first week, two days the second week, and two days the third, and have found that this course has been much more effective than any I have previously attempted. All sugar has disappeared and I am again returning to my usual health. Once each week I take 1½ oz. of sulphate of sodium and fast completely for 36 hours, excepting for weak cocoa and cream. In the fourth week I fast two days.

My own personal experience may be of value, but I have no claim from general observation of a large number of patients to deal at length with this question. It was, however, of great interest to find that Dr. Guelpa—whose experience is enormous and whose methods have been so largely adopted in France—entirely corroborated my own findings. Dr. J. Laumonier, editor in chief of the *Revue de Chimiothérapie et de Médecine Générale*, in two very able