through the mouth and is so warmed, there is less risk of pneumonia or bronchitis.

- (3) No after-treatment is required when the tube is removed.
- (4) Consent of friends is more readily obtained than in case of tracheotomy.
- (5) Tracheotomy can at any time be performed if intubation fails.
- (6) In many cases the tube can be removed early—third, fourth, or fifth day.

DISADVANTAGES.

- (1) When introducing the tube, the membrane may be pushed down and obstruct respiration.
- (2) The tube may be obstructed by membrane passing into it.
- (3) Food may pass down the tube and cause pneumonia or other complications.
- (4) The tube may slip down into the trachea.
- (5) The tube may be coughed up.
- (6) If the tube becomes displaced or obstructed, it is not easily reintroduced by a nurse.

The first of these accidents would in all probability give rise to immediate symptoms, so that the membrane might be removed, either by means of laryngeal forceps or by the performance of tracheotomy. The second is a rare occurrence, according to the experience of operators, and can only be remedied by the removal of the tube and replacement after its canal had been cleared, or by the performance of tracheotomy, if the symptoms were urgent. To prevent the third, it is advised that food, especially fluids, be at first given in small quantities, and the nourishment assisted by nutrient rectal injections, or by means of a tube passed into the oesophagus. There is a considerable difference in different patients in connection with the power of swallowing after this operation, and many swallow well after the first day or two. I believe much depends on the exact position of the tube, and the amount of interference with the action of the epiglottis. Dr. T. E. Waxham has suggested a modification of O'Dwyer's tubes, with the addition of a soft rubber false epiglottis; and, still more recently, Dr. J. Mount Bleyer has employed a tube, more cup-shaped at its upper end, and having also a false rubber epiglottis. Dr. Bleyer is of opinion that these latter tubes have afforded him better results than he obtained by O'Dwyer's original ones. The fourth and fifth very rarely occur. The sixth point should not, I think, be a bar to the operation, for in such cases it is usual to have some skilled assistance at hand which should be able to replace the tube if required. If such skilled aid cannot be available, tracheotomy would be preferable.

I conclude this section of my paper with a brief note of a case (my only case as yet), recently treated by intubation. A little girl, aged 3, suffering from great difficulty in respiration, the result of an attack of croup, was brought to me at the Royal Infirmary by Dr. Sloan, about 12 o'clock on the forenoon of November 9th. She was attacked with the croup upon the 6th, three days before, and although carefully treated, her symptoms grew worse, and the laryngeal obstruction became so marked that immediate relief was demanded. Instead of performing tracheotomy, I at once introduced one of O'Dwyer's tubes. When the tube entered the glottis, there was a violent spasmodic cough, and a piece of membrane was ejected through it. Immediately after this, when the tube had been placed in position, the breathing was relieved, and ten minutes after, when I visited the child in the ward, she was respiring naturally, and was asking, in a whispering voice, for a "piece." For the first few hours there was a difficulty in swallowing, much of what was taken being ejected; but after this she was able to swallow with ease, and took milk in abundance. On the following day, the 10th, the respiration was more rapid, and the face flushed, but the tube was causing no irritation, and there was no laryngeal obstruction. The symptoms, however, pointed to commencing pneumonia. On the 11th, the lung condition was worse, but the tube was retained, and there were no signs of laryngeal obstruction. She had no difficulty in swallowing. On the 12th she became much exhausted, and died the same forenoon, the tube having been retained until the last. The *post-mortem* examination, which was confined to the throat, showed that the laryngeal condition had been quite relieved, and that the tube had caused no ulceration of the portion of the canal upon which it rested. Death was the result of pneumonia, which had probably been caused by the exposure of the patient when brought to the hospital. The points which convinced me of the value of intubation in connection with the experience of this case were:

- (1) The ease with which the tube was introduced.

(2) The complete relief to the respiration when it had been properly adjusted.

(3) The fact that the tube caused no irritation, although retained for some days, and carried on efficiently the laryngeal respiration.

(4) The fact that after a few hours the patient was able to swallow fluids well.

(5) The satisfactory condition of the larynx as proved by the *post-mortem* examination.

4. *Intubation for Stenosis of the Larynx, the result of Chronic Inflammatory conditions, or of accidental or surgical wounds.*—The introduction of O'Dwyer's tubes in this class of case has been followed by better results than have been obtained by any other plan of treatment, and these tubes have been worn in the adult and also in the child for a week, without requiring to be changed, and in a few cases for several months. In one case, related by O'Dwyer, the tube was worn for ten months. Intubation in these cases not only relieves any temporary obstruction to respiration, but the permanent retention of the instrument, when it can be borne, is likely to have a beneficial effect in restoring the proper calibre of the canal.

A. A.—Tracheal end and opening.
B.—Free end to which india-rubber tube is connected.
C.—Gag of hard vulcanite, which is movable along the tube.

FURTHER RESEARCHES ON THE TREATMENT OF TINEA TONSURANS, ILLUSTRATED BY MICRO-PHOTOGRAPHS.¹

By A. J. HARRISON, M.B.Lond.,
Physician, Bristol General Hospital.

At our Association meeting held at Cardiff in 1885, I had the honour of reading a paper before the Section of Medicine on a "New Method of Treating Tinea Tonsurans," and I then alluded to the unsatisfactory modes adopted in the treatment of this very troublesome complaint, and I referred to the multiplicity of remedies so-called; and I formulated a statement that the efficacy of the treatment of any disease may be considered to stand in an inverse ratio to the number of remedies propounded. No one, except very rarely, ever thinks of treating itch by any other remedy than sulphur, or some compounds of sulphur, and why? Because sulphur almost invariably cures the complaint by destroying the acarus, or mite, on which the ailment depends.

I also went on to state that the great difficulty of getting at ringworm of the scalp was a physical one, the parasitic fungus revelling and running rampant in the secure nidus of the hair and hair-follicle, a soil so congenial that it seems to be in some cases ever fertile and ever fertilising. To overcome this difficulty, and so get at this secure fungus retreat, I indicated that no remedies could be considered highly efficacious which did not act chemically upon the hair-matter itself, or perhaps, to define more accurately, which could act so, and at the same time carry with them a parasiticide agent; and I showed that I had found the caustic alkalies the most useful hair-solvents, but as they are not conidia destroyers, it was necessary to combine other agents with them, and I came to the conclusion that the application of two solutions, the first, composed of liquor potassae, spirits of wine, and iodide of potassium; and the second, mercuric chloride dissolved in spirits of wine, and water, constituted a very efficacious mode of treatment. The hair-matter is softened by the

¹ Read in the Section of Medicine at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

alkali, and this allows the iodide of potash to reach the deeper structures, and then, that being followed by the mercuric solution, the very excellent parasiticide, biniodide of potassium, is formed in and around the hair-root.

Fig. 1.—Chronic ringworm, conidia of trichophyton very abundant.

The results which I and many of my friends, who carefully carried out the plan, obtained were very satisfactory, but the details were troublesome to non-professionals, and especially amongst hospital patients, and occasionally a good deal of irritation of the scalp was produced. Taking, then, all these circumstances into consideration, I determined, if possible and practicable, to simplify the plan of attack, and, after a series of experiments, which I need not burden you with, I evolved the following method.

Fig. 2.—A hair partially twisted and broken. Very few conidia after one month's treatment.

It may be stated surely that of all applications to external parts of the body, ointments are the best and the most easily and readily applied; and therefore I felt very desirous of producing an efficient ointment. People will rub in an ointment once or twice a day when they will not apply with sufficient care and

regularity a lotion or a liniment. All the investigations I made convinced me that I could not supersede the use of the caustic alkalies, although at the same time there must be included a parasiticide, so my ointment I make as follows: Caustic potash, gr. ix; carbolic acid, gr. xxiv; lanolin and oil of cocoa-nut, of each 3ss. The ingredients are to be well rubbed together, and, if desired, a little oil of cloves, lavender, or rosemary may be added according to circumstances. A small portion of the ointment to be rubbed on the affected parts every night and morning.

In this combination the caustic potash acts upon and softens the hair-matter, and in this way allows the carbolic acid to have free access to the parasitic fungus and its hosts of conidia. I do not find it necessary to have the head shaved; on the other hand, I think there is a decided advantage in leaving, when you can, as much as a quarter of an inch of hair; the ointment seems to have better play, and is kept on the part affected. By persevering with this plan of treatment for a few weeks, varying from a month in slight cases to three months in very chronic ones—which we may conveniently call severe cases—the complaint is nearly always cured. I could speak much more unreservedly of cases that are thoroughly well looked after.

After a fortnight's or a month's treatment there is generally marked improvement; more hairs begin to show themselves on the patches, and a microscopical examination gives evidence of diminution in the number of conidia—a sure mark of progress; the vitality of the fungus is being sapped.

Fig. 3.—End of a hair, frayed out, after treatment. Scarcely any conidia.

I have here photographs of hairs taken before the commencement of any specific treatment, and then again after the expiration of a few weeks' application of the ointment, and the evidence goes to show very marked improvement. The case from which the hairs in No. I and No. II were taken is a very interesting one, and it has an important professional side to it.

This boy was one of a family of eight, and they all had ringworm, and all except one very severely. How the cases had all arisen is a wonder, for they are people moving in a highly respectable position in life. Two of the boys attended one of our public schools, and very shortly before I examined the cases had been certified by a medical man as cured, and able to leave home and return to school.

Fortunately the medical officer of the school was keenly alive to his work—and how many sorry tales some of these medical men could tell of ringworm and its worries!—and the boys were sent home again. I mention these cases, and select them, not because I wish to make any charge against a professional brother—I do not even remember his name—but because the fact illustrates what must be very familiar to those who see a large number of cases of ringworm, that the complaint is not thoroughly understood.

The first photograph shows a hair abounding with the spores

of the trichophyton tonsurans. It is a micro-photograph, and there was much difficulty in obtaining good definition. A scientific friend (who very kindly rendered me most valuable assistance) and myself had to take several plates before we got one satisfactory. Even this one is defective, inasmuch as there are three or four blotches shown which had nothing to do with the picture, but I show it because the fungus spores or conidia on the hair and amongst the *débris* are very well brought out.

The second view is a hair after a month's treatment. The hair is twisted and partly ruptured, just as one so frequently finds them in the chronic stage, and is of itself characteristic; but you will notice that there are very few conidia to be seen. There were a few, and, if you use a magnifying lens, a few will appear; and, by-the-bye, a lens brings them out very clearly in the first one.

The third view is the end of a hair frayed out, just as they are so often found, and equally significant of ringworm, the fungus separating the hairs into the most minute fibrillæ; and here there are no conidia visible, but there were a few found in another part of the hair.

This last was taken from another case, a boy who was at a city school in Bristol. The case was recognised early, and when I saw him first, on the 25th of May last, the hairs were crowded with conidia. Some were twisted and burst, very similar to No. II, only crammed with conidia. My note says "one hair showed them right down into the bulb." The photograph was taken from a hair removed on July 2nd, and an examination made a few days ago, and made very carefully with several distinct specimens—by distinct specimens I mean taken from varying parts of the affected area—gave no evidence of any conidia; so I think one may safely conclude the case is cured.

I am afraid it has been the fashion to regard ringworm as a very unimportant complaint—an "uncanny" one, may I say?—and medical men have fought shy of it. Where such has been the case in the past it must not be so now. In these days of extensive gregarious education in the huge Board, National, and public schools there is too much interest at stake for the complaint to be regarded lightly, but I do not think much good will be done—in the National and Board schools at least—unless there is a better recognition of the disease and, it may be, some legislative action respecting it. The educational grants to these schools depend in great measure upon results, and as ringworm need not necessarily be accompanied by the slightest ill-health—for constitutional weaknesses and robustness have nothing to do with it—the school marshals look up the children if haply they are being kept at home, and, finding nothing the matter with them except a little scurf on their heads, as they view it, insist upon the parents or relatives sending them to school. The length of time occupied by treatment is long at the best, and it is difficult to induce mothers or friends to continue bringing their children long enough; and thus, between the urgency of the school visitor and too frequently the inclination of the parent, it is not to be wondered at that the complaint is running fairly rampant amongst the schools. If a return could be made of all the cases in Board and National schools only, and especially the chronic cases, the results would be most astounding.

This view of the subject brings me to another point, namely, the prophylactic treatment. As far as I know this has not received the consideration which I think it deserves. When we come to consider that a little innocent child, of a few or more years' age, affected with head ringworm—and it is a literal affliction—is for a period varying from months to years, in many cases (I am speaking now of the ordinary modes of treatment) practically a pariah as regards the society of other child companions, does it not seem remarkable that so little has been attempted to minimise, at least, the chance of the propagation of infection? If—and there is no doubt about it—one child suffering from tinea may, directly and indirectly, infect a large number of its companions, by being allowed to associate and play with them; surely if anything could be done to diminish this risk without ostracising the child, it is well worth consideration, and I venture to point out that by simple and elegant means, very great immunity may be obtained. I don't like to boast of perfect immunity, because my experience, although extensive, is not such as would justify the more comprehensive form of speech. May the results in the future fully corroborate the idea, however!

It is accepted that a dry state of the scalp is more favourable than a moist one for the spread or development of the parasitic fungus, and that grease also is prejudicial to its growth. Keeping these points in view, I employed various agents, but came eventu-

ally to the conclusion that the following application was very effective. B. Ointment of boracic acid and ointment of eucalyptus, of each $\frac{3}{4}$ ij; oil of cloves, $\frac{3}{4}$ ss; and oil of cocoa nut, to make $\frac{3}{4}$ vi. This constitutes really a very elegant pomade—call it prophylactic pomade if you will—one of the very best for general purposes, as well as this special that I know of. If, however, ringworm makes its appearance in a family, I recommend its use to other parts of the head of the patient, and to all the other children in the family, and so far with very satisfactory results. To test further its efficacy I purposely placed infected hairs on the heads of three children, and then did not use the pomade until the next day. No infection occurred in any of the cases. You may say that this result is only negative evidence, and so it is; but still it is worth something, and is of the kind desired.

Before closing my paper I should like to state that I have treated a few cases of favus on the same plan as tinea tonsurans, and very successfully; but in Bristol and England generally cases of favus are so very rare, that one has no opportunity of testing results on a large scale. Of tinea tonsurans I have had more than one hundred cases during the last two years, and from these I consider I am warranted in drawing conclusions, upon the whole, highly favourable.

ON THE RAPID CURATIVE TREATMENT OF CYSTITIS IN WOMEN.¹

By THOMAS MORE MADDEN, M.D., F.R.C.S.E.D.,

President of the Obstetric Section, British Medical Association; Obstetric Physician, Mater Misericordie Hospital, Dublin; Ex-President of the Obstetric Section, Royal Academy of Medicine; formerly Vice-President of the British Gynaecological Society, and Examiner in Obstetrics and Gynaecology, Queen's University, etc.

THE disease to the treatment of which I desire to invite your attention for a few minutes, namely, cystitis in women, is not only one of the frequent complaints that come before us in gynaecological practice, but is also admittedly most intractable to the methods generally relied on for its relief. Moreover, too often this condition, as Dr. Emmet has well observed, occasions an intensity of suffering, both of mind and body, unequalled by any other infirmity to which the human body is subject. I therefore need offer no apology for here bringing under your consideration a method which I believe to be new, and which I know by experience to be generally successful in its rapid curative treatment.

Within the past year I have found my former contention with regard to the prevalence of cystitis in women, as well as the advantages of the method of dealing with such cases referred to, borne out by the fact that twenty-eight instances of this kind have come under observation in the gynaecological wards of my hospital; and that in nearly every one of these cases the patient was discharged free from the disease, which in some of them had resisted years of other treatment.

Causes of Female Cystitis.—As met with in our special branch of practice, cystitis frequently occurs as a complication or consequence of vulvar or vaginal inflammatory conditions—vulvitis and vaginitis more especially when of gonorrhoeal origin; or it may be due to mechanical causes, uterine flexions or displacements, and fibromata. Occasionally it results from the extension of renal disease, or from the irritation of gravel or calculi; as well as from cold, local injuries, reflex irritation, or simply from long delay in complying with the call of micturition.

Symptoms.—In women cystitis is, not only from the special causes incidental to the sex, more frequent than in men, but is also more urgent in its symptoms and more liable to lead to grave pathological consequences than is the case with the same disease in the latter. These symptoms and sufferings may, perhaps, be best illustrated by the history of a typical case of this kind.

F.G., aged 18, was admitted into St. Agatha's Ward, suffering from persistent, teasing, suprapubic pain, extending throughout the pelvis, and giving rise to tenesmus, as well as to almost continual desire (night and day) to pass water, with little or rather no relief on each occasion of so doing, micturition being attended with increased pain, straining, and inability to void the last drops of urine. These symptoms had endured for nearly two years before admission, and had not been mitigated by the treatment

¹ Read in the Section of Obstetrics at the Annual Meeting of the British Medical Association held at Glasgow, August, 1888.