follow the noble example so admirably and successfully inaugurated in New York by Dr. Hermann Biggs, Dr. Loomis, and Dr. Mitchell Prudden in combating this fell disease? The greater number of the following observations are founded on the reports of this excellent work which have been placed at my disposal by Dr. Hermann Biggs. Of course, there would be at first the usual outcry about interfering with the liberty of the subject, but such protests are comparatively harmless, as has already been proved in America, where there is little or no opposition to the rigorous enforcement of the law by the New York Board of Health. The liberty of the subject has to be curtailed in the case of individuals who are imperilling the safety or lives of the community; why, then, should there not be restrictions on those who, by their carelessness, ignorance, or wilfulness, entail sickness, suffering, and death on millions of their innocent fellow-creatures, aye, and on millions yet unborn? Syphilis and tuberculosis are the greatest scourges of humanity—the former sapping the vigour of the flower of the land, stunting our youths, degrading our women, contaminating our children, and ruining the army on which our empire depends. But it is specially to the notification and prevention of tuberculosis that I wish to call attention—tuberculosis, which causes from 15 to 30 per cent., and in some exceptional cases from 50 to 60 per cent., of all deaths between the ages of fifteen and fifty years. I would ask if it be not time for us, as a profession, to unite at least for the good of others, if not for ourselves, and proclaim to the public with no uncertain voice that they must and shall take heed to the voice of sanitary science and take measures to prevent under rigorous penalties the reckless dissemination of tuberculosis? This they will the more readily do when they are taught to understand that it is an ever-present danger to which each and all are exposed, and this truth should be unceasingly impressed on both the classes and the masses, who should be educated by our profession by mouth and broadcast pamphlets. Ransome, in the Milroy Lectures, estimates that 70,000 persons perish annually from tuberculous disease in this country alone and that in the form of phthisis it is the cause of death between the ages of fifteen and forty-five years (the most useful stage of human existence) of more than one-third, and between the ages of fifteen and thirty-five years of nearly one-half of all who die annually. The monetary loss to the country by this mainly preventable sickness and death must be something enormous. Dr. J. M. Lindsay, in an excellent paper on the Problem of the Consumptive Poor, estimates from reliable data that the persons suffering from phthisis at the present time in the British Isles cannot be less than a quarter of a million. He also laments the lack of hospital accommodation for them and quotes Dr. Hermann Weber that “well-arranged special hospitals for the treatment of consumption can accommodate only 1 sufferer in 1000.” Professor Leyden is quoted as calculating the deaths from phthisis in Germany as 170,000 per annum and the number of the living who are suffering from phthisis he estimates at 1,300,000. The fearful mortality in prisons, asylums, and convents from tuberculosis is shown in Dr. Hermann Biggs’s reports by copious extracts from well-known authorities on the subject too numerous to be mentioned here; suffice it to say that the death-rate in these institutions from phthisis averages from 38 to 62 per cent. of all deaths.

The first and main point which I want to emphasise is that the public must be educated as to the nature, cause, and curability of phthisis, and taught that by far the most usual method of its dissemination is by dried sputum—tuberculous meat and milk taking a secondary place. It is only by making the public fully alive to the source and danger of the present state of things that they, and through them the Government, can be moved to act, and this can only be done by us as a united profession. Every medical society, association, or organisation should be a nucleus for disseminating knowledge of the more recent views as to the prevention of tuberculosis and its usual origin, and these views should be respectfully but firmly urged on the various corporate bodies, local government boards, county councils, &c., by memorials praying that the public should be instructed by means of pamphlets and *vivâ-voce* teaching. Attention would then be aroused and the medical profession would be given a free hand in the matter, and measures in accordance with medical sanitary science would be promptly adopted. This is no visionary scheme; it has already been acted on and efficiently carried out in America, notably in New York,

where notification of phthisis exists, and the public board of health not only affords every facility to medical men for the gratuitous examination of sputum but is able to insist on thorough disinfection of premises in which a victim of phthisis has either lived or died. It also insists on these premises not being let or tenanted until such disinfection has been carried out to the entire satisfaction of the inspector. It also issues for free distribution leaflets and pamphlets in four languages giving instructions to patients and their relatives and friends as to the contagiousness of tuberculosis, its dissemination from dried sputum, together with directions for its disinfection and destruction, and moreover it rigidly enforces an effectual inspection of all meat and milk-supplies for the security of the public against tuberculous meat and milk. If all this can be and is done elsewhere, why can it not be effected in England? Leprosy, plague, and cholera have been almost stamped out in the British Isles, and although it is now almost universally admitted that tuberculosis is a communicable and infectious disease and by far the most fatal to which our race is exposed yet we take no precautions against its spread. Statistics prove it to be the most easily controlled of all the infectious disorders, while it is more fatal in its ravages than all the principal diseases put together. In London alone, with its 4,500,000 inhabitants, tuberculous disease causes upwards of 10,000 deaths annually, the death-rate for London from tuberculosis being one-seventh of the entire death-rate, and the majority of those 10,000 lives might and should have been saved. According to our present knowledge tuberculosis is chiefly disseminated by the dried, pulverised sputum of those suffering from the complaint being inhaled into the lungs of those already susceptible, and this is the point we should constantly impress on the public. We have, of course, a Board of Health, but we need a body such as I have already described in New York, with power not only to lay down sanitary laws but also to enforce them. These are, briefly, compulsory notification of all cases of tuberculosis, stating age and sex, duration of disease, and place of residence; gratuitous examination of sputum; isolation in special hospitals and disinfection of premises; prompt disinfection and destruction of sputum; and rigid inspection of all meat and milk-supplies. The Government of the United States is democratic, but the sanitary measures adopted are sometimes autocratic and the functions performed by sanitary authorities paternal in character. I freely admit that in this country public opinion is not yet ripe for radical measures, but surely a beginning might be made if only our profession put all their united energies into so good a cause. Why should not we adopt the same precautions with regard to tuberculosis that we do not hesitate to enforce in the case of small-pox, scarlet fever, and diphtheria? We should thus, perhaps, become in time, as a profession, not simply medical advisers but a species of “beneficent autocrats” with the power of enforcing our salutary policy in spite of the prejudice, timidity, and sentimental conventionalities which step in and oftentimes prevent us from carrying our scientific convictions to a philosophical conclusion. Surely he who robs us of our health is not less guilty than he who robs us of our wealth and both should be equally amenable to the law.

Folkestone.

A METHOD OF ADMINISTERING NITROUS OXIDE GAS FOR THE PRODUCTION OF ANÆSTHESIA, AVOIDING THE USE OF A CLOSED MASK OR OF VALVES.

By GEORGE FLUX, M.D. BRUX.,

ANÆSTHETIST TO THE GREAT NORTHERN CENTRAL HOSPITAL AND TO THE BRITISH LYING-IN HOSPITAL; ASSISTANT ANÆSTHETIST TO THE DENTAL HOSPITAL OF LONDON; LATE ANÆSTHETIST TO THE NATIONAL DENTAL HOSPITAL.

It is usually regarded as an accepted fact that the special aim in giving nitrous oxide gas should at first be to exclude air and that in order to achieve this the patient's face must be enclosed in an accurately fitting mask so constructed that respiration can only be carried on through valves and under pressures differing from that of the normal atmosphere. Experience has shown that to get good results with nitrous

oxide gas a sufficient supply of oxygen must be provided by nature or art. The old "laughing gas" was impure and when mixed with oxygen produced great excitement; the modern gas, being pure, when mixed with oxygen rarely produces undue excitement, so that the objection to mixing it with air no longer holds good.

I have found that pure nitrous oxide gas administered in the following manner produces most excellent results. The patient being seated in a chair with the head slightly thrown back, a napkin folded to a width corresponding to the height of his face is passed round his head and lightly secured in such a manner that, while the lower border of the napkin is in contact with the chin and lower part of the face, the upper border at a level with the patient's eyes bulges forward several inches so that a cup-like cavity, open at the top and closed at the bottom, is formed. The patient is now ready to receive the gas. The gas is supplied by merely holding the end of the supply pipe over the cup-like cavity, the amount being regulated by a stopcock; the gas by its own weight falls into the cavity, and is thus easily inspired at the normal atmospheric pressure and thoroughly mixed with as much air as the patient requires. At each expiration the patient blows the face-piece nearly empty, and on inspiration breathes both fresh air and fresh gas; it is only necessary to turn on fresh gas when inspiration occurs. I find that from eight to ten gallons of gas are used for a single administration, but with a less porous and a better-fitting face-piece than a folded napkin the consumption should be considerably less.

So far my operations in this direction have been conducted without any specially constructed apparatus, but now that I am convinced of the practicability of the method I am having one made; it consists of a cup-shaped face-piece completely open at the top with a suitable stopcock for regulating the supply of gas.

The number of cases in which I have used this method has so far been limited, but in all of them the most striking feature has been the extreme tranquillity of the patient, who passes easily by almost imperceptible stages from consciousness to anaesthesia and back again to consciousness and has all the appearance of being merely asleep. The face keeps its colour, the breathing continues gentle, and sleep becomes deeper and deeper till the usual signs of anaesthesia appear, lasting from forty-five to sixty seconds, when the patient quietly wakes up. In none of these early cases has there been any jactitation, stertor, or noise, nor any hurrying of respiration, nor any complaint of the slightest feeling of inconvenience to respiration. I have tried this method upon myself and, apart from a sense of drowsiness, I was unaware of any unusual sensation. In addition to the action of the face-piece in conveying the gas to the patient, its being wide open at the top has the great advantage that it enables the whole of the patient's face to be under direct observation and it also adds to his comfort. It allows his respiring under ordinary conditions, thus relieving all sense of oppression; he is free from the transmitted hiss from the gas bottles and from the disturbing bruit of valves, to say nothing of his escaping from the odour which seems inseparable from all ordinary forms of gas apparatus and from the discomfort and risks of breathing into and out of an apparatus which many have used before him.

Old Burlington-street, W.

THE TREATMENT OF RINGWORM OF THE SCALP.

By H. LYLE, M.R.C.S. ENG.,

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THE treatment of ringworm of the scalp, especially if the case has become chronic, is most tedious and tiresome. Much has been written about the subject, but the treatment still remains as unsatisfactory as ever. Dependent as the disease is on the implantation and subsequent growth of the spore of the trichophyton tonsurans it commences as a small spot and generally escapes notice until it has become a patch of more or less considerable size. As this spore has probably been simultaneously implanted at different points the patches are usually multiple, being more or less circular in form

and presenting a roughened appearance. The hairs on the infected areas are short and stubby and are easily removable. Of course, many cases of ringworm of the scalp are fairly easily cured, but others drag on month after month in spite of every kind of treatment. Among the remedies which have been recommended for this intractable disease are daily epilation and the application of various drugs, some in the form of ointments and others as oils. Formalin has been very highly spoken of, but I have found its application so painful that I no longer employ it. Chrysarobin has been much used alone and in combination, as well as *huile-de-cade* and iodide of sulphur. Oleate of mercury dissolved in olive oil has likewise been extensively tried. Of course, in places where there is a special hospital the medical adviser, disgusted and wearied with the seeming futility of his treatment, can either recommend his patient to a specialist or, if the patient is too poor for that, he can send him to the hospital. But in the country such a course is mostly out of the question and the medical man has to do the best he can.

Hoping that it may be useful to the country practitioner, who has no one to whom to send his chronic cases of ringworm, I venture to lay before the readers of THE LANCET a plan of treatment which I have found most satisfactory. Tired of seeing children come week after week and month after month with no improvement in their condition I determined to try what painting with a solution of silver nitrate would do. Among others on whom I used it I chose two of the most chronic cases which I could find; in one case the patient had been attending hospital twice a week for many months and in the other not quite so long. Neither of these patients had improved much in spite of their long attendance. The usual changes had been rung on the drugs generally employed—namely, ointments, oils, &c. The method I adopted was this. I had the heads entirely shaved and kept so. I scraped each patch with a Volckmann's spoon and then, by means of a piece of cotton wool rolled round the end of a glass rod and tied there, I applied a solution of silver nitrate of the strength of a drachm in an ounce of proof spirit and well rubbed it in. This of course turned all the places of application black. This was done twice a week and after removing the black layer each time (which came off fairly easily) I scraped off as much of the underlying parasitic growth as I could with the spoon before repainting with the solution. The smarting after its use was not much and only lasted a short time. An oil of oleate of mercury, 5 per cent. in strength, was rubbed into the heads night and morning as well. In the two cases which I have mentioned I had to paint almost the entire scalp so large was the extent of the growth. The heads were washed before the application and, as stated above, were kept shaved. Of these two cases after about fourteen weeks of this treatment one is quite well and the other is nearly so. I have tried this method on heads *de novo*, but I have found it very difficult to get the mothers to persevere with the attendance. In all the cases, however, in which I used it the improvement was remarkable. One boy who had numerous patches when he first came under treatment has now (after about fifteen weeks) no spots at all. As the diseased areas became smaller and on the wane I increased the strength of the solution from one drachm of the salt to two drachms to the ounce of spirit, but I always scraped the patches before applying it. I am of opinion that the remedy in addition to the destructive effect of silver nitrate on organic matter acts by depriving the growth of air. I should like to say that I often see cases of alopecia areata which have been sent as tinea. I need hardly remark that the remedy is not likely to be of much use to them.

Liverpool.

EXHIBITION OF OPTICAL AND OTHER INSTRUMENTS AT THE LONDON MANSION HOUSE.—On Monday last, Oct. 3rd, the Lord Mayor opened an exhibition of optical, mathematical, and scientific instruments under the auspices of the Spectacle Makers' Company. Among the objects of interest to be seen are astrolabes of the fourteenth to seventeenth centuries, sun dials from England, France, Germany, Italy, and the maximum and minimum thermometer used by Captain Ross in his various voyages round the world. Among the exhibits of interest to medical men are those of Messrs. W. Harry Cox, Ltd. (electrical and scientific apparatus), Messrs. Raphael and Co., Messrs. R. W. Paul, Messrs. Carpenter and Westley, Messrs. R. and J. Beck, Ltd., and Messrs. George Culver.