the existence of such local variations, I would just allude to the wider geographical differences which are well known to exist in regard to the distribution of insanity or of particular forms of brain disease. One of the most remarkable of these is the undoubted fact that general paralysis is all but unknown in Ireland. It is again more common in the northern and midland districts of England than in the southern, and more frequent in England generally than in Scotland. Similar remarkable differences exist in regard to the insanity associated with epilepsy. For one case of that form of insanity to be seen in a Scotch asylum, there are, I suppose, ten or more to be seen in English asylums; and it is more common in the south of England than in the north—the reverse of what holds as to general paralysis. Analogy, therefore, rather favours the idea that the factors which give rise to insanity may vary greatly, even within narrow limits, as to locality, and that differences may exist in regard to particular forms of the disease in places quite close to each other, but separated, it may be, by endemic differences in reference to the causation of disease, whether in relation to hygienic conditions, prevailing occupations, the social habits of the people, or other circumstances.

On Forced Alimentation. By Frederick Needham, M.D., Medical Superintendent of the Hospital for the Insane, Barnwood, near Gloucester.

No part of the treatment of certain conditions of insanity is more important than that which relates to the administration of food when from any cause there is inability to take it, or persistent refusal of it.

To decide when to feed, and when it is safe to abstain from doing so, one can follow no fixed rule, but must, of course, be determined by the physical state of the patient and by his antecedents; but it may be definitely assumed that if we err in any direction we shall do so with least detriment to our patient's prospects of recovery in the forcible administration of food at a very early period after its first persistent refusal.

The method of feeding, as I need scarcely say, must depend largely upon the cause to which the indisposition to take food appears to be due, no less than upon the possibilities of the manner of feeding itself. From a somewhat lengthened experience in a mixed asylum, I venture to think that per-

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sistent refusal of food is a much more frequent concomitant of the insane condition in private patients than in those of the pauper class, and I should say that in them it is both more obstinately maintained and more largely dependent upon delusion as to the bodily condition of the patient, and the character of the food itself.

Where the cause of refusal is delusion of this kind, it is commonly sufficient to feed in the usual way by means of the æsophagus tube and pump, but where it depends upon a disordered state of the digestive organs, this mode of feeding is frequently rendered impossible by the irritable condition of the stomach and æsophagus, and the consequent rejection of the food immediately it reaches the stomach. Sometimes the mere introduction of the tube renders subsequent feeding an impossibility, either by causing retching, or by impeding the free entrance of air into the trachea; and in such cases we have no option but to adopt measures which shall give rest to the irritable membrane while we maintain the strength and nutrition of the patient. For this purpose the regular and prolonged administration of nutritive enemata has been attended in my practice by the best results.

I can, of course, claim no novelty for a method of treatment which is both old and commonplace. My only object in making this contribution to the literature of the subject is to direct renewed attention to its value, by placing upon record a short series of cases in which it has been adopted during more or less prolonged periods, not only safely, but with marked benefit to patients, to whom the administration of food by the stomach was, so far as I could see, obviously impossible.

Case I.—W. P. Male, aged about 50. Admitted into the York Lunatic Hospital on the 10th August, 1860. He was in an extremely feeble state of health, and the subject of general paralysis. The right arm was nearly powerless, and the power of articulation almost gone. Both lower extremities were very feeble, but he was not decidedly paraplegic. Head very small and narrow, and mental condition that of advanced dementia. He had been persistently intemperate, and the mental attack had lasted 16 years. There was hereditary predisposition to insanity.

The following entries in the case book record the progress of the case:—

Sept. 24.—Physical condition better. Takes food freely. Mental condition unaltered.

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Oct. 18.—Better in many respects, and stronger.

Nov. 3.—Not nearly so well in any respect. Begins to refuse food, and repeated attempts to feed by means of the tube and pump produce symptoms of suffocation and choking. Ordered enemata of four ounces of strong beef tea (one pound to half a pint) and half an ounce of brandy four times a day.

Dec. 4.—The muscular feebleness has increased. Still fed with the enemata, of which he has five daily. Has taken no food since November 3rd.

He was regularly supported by means of the enemata, gradually becoming more and more feeble, until the 2nd February, when he died from paralytic exhaustion. He was thus constantly fed by means of the enemata for twelve weeks, no food whatever being taken into the stomach, and, during that time, his strength and nutrition were as fully maintained as, judging from experience in other similar cases, they would have been by the administration of food by the pump in the ordinary way.

CASE II.—M. A. S. Female, aged 35, who had been an inmate of Barnwood House since August, 1871, was attacked with severe tonsillitis, accompanied by diphtheritic symptoms on the 17th November, 1876. She was able to take food fairly up to the 21st, when her ability to swallow ceased, and four enemata of strong beef tea and brandy were given to her. On the next day she had six, and these were repeated daily until the 25th, when she was again able to take food, and continued to do so up to the date of her convalescence.

CASE III.—A. R. Female, aged 47, was admitted into Barnwood House on the 18th May, 1877, suffering from a first attack of acute mania with the ordinary symptoms. Apparent cause, climacteric. On the 22nd she absolutely refused food, and on the morning of the 23rd she was fed by means of the tube and pump and again in the evening. But on the last occasion only a very limited quantity of food could be given to her on account of the violent retching which was induced by the mere introduction of the tube. The bowels were confined, and the tongue was coated. She was ordered to have a drop of croton oil, which procured free action of the bowels.

May 24.—Feeding by means of the tube had to be finally discontinued, in consequence of sickness and difficulty of breathing, which all attempts at its employment immediately induced. Four injections of strong beef tea and brandy were given in the course of the day, and were all retained.

May 27.—The enemata have been continued to the number of six each day, other food being persistently refused. To have two grains of calomel.

May 31.—Is better and quieter. Takes a very small quantity of cold milk at intervals. The strength is greater, and the tongue begin-

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ning to clean, and the patient's general appearance is much more satisfactory.

June 1.—Much more excitable. Has taken three pints of milk. To have four injections in place of six.

June 5.—Has been induced to take but a very small quantity of milk, and the enemata have been again increased to six daily.

June 9.—Has not varied since the last entry. Has had the six injections daily.

June 13.—Has taken no food until to-day, when she drank 2¼ pints of milk. Is fairly strong, and has a good pulse, and a clean tongue. She is a little thinner, but otherwise in a satisfactory state. To have four injections, and to be constantly tried with varied food.

June 21.—Better in all respects. Is quieter and more rational. Takes her food well, and has ceased to have the enemata.

On the 1st August she was in excellent health, and was discharged on two months' trial.

In this case the enemata were continued for three weeks, small quantities only of milk being taken at infrequent intervals.

Case IV.—L. J. S. B. Female, aged 19, was admitted into Barnwood House, March 8, 1878, suffering from a first attack of acute mania, with the ordinary symptoms. Apparent cause retrocedent eczema. Had persistently refused food prior to her admission. Tongue coated, bowels constipated, otherwise in fair physical health. To have one drop of croton oil.

March 10.—The bowels have acted freely, and she has taken a little nourishment, but only after continued persuasion by the Assistant Medical Officer, Mr Townsend, and myself.

March 11.—Refused food entirely, and was fed with the tube and pump.

March 12.—Still refuses food, and all attempts at feeding make her violently sick, and induce symptoms of impending suffocation, although the tube was introduced very gently and gradually, and to varying extents, down the æsophagus. To have six injections daily of strong beef tea and brandy.

March 15.—No food has been taken until to-day, when she drank a pint-and-a-half of cold milk.

March 20.—Has taken very small quantities of milk up to this date, and continued the enemata. The strength and nutrition are perfectly maintained. Tongue clean, bowels regular.

March 27.—Has taken food well since the last entry, and her mental condition is improved.

August 9.—Is in a greatly improved state of mental and physical health, and takes her food without difficulty.

These cases, occurring as they did in various mental and physical conditions, show that in the method of feeding

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which was adopted, we have an important means of treatment which may, if necessary, be maintained during long periods, while rest is being afforded to part of the digestive apparatus, without danger to the general strength and nutrition of the patient.

It may of course be assumed that in some at least of the cases which I have recorded, there were defects in the method of feeding in the ordinary way, or that sufficient efforts were not made to induce the patients to take food voluntarily. To this I can only reply that I should not have ventured to take up space in these pages unless I had, at all events, satisfied myself that no alternative existed in any of the cases between suffering the patients to die from inanition, and adopting the measures which are here set forth.

On the Influence of Age, Sex and Marriage on the Liability to Insanity: being an Analysis of some Statistical Tables in the Thirty-Second Report of the Commissioners in Lunacy (England). By T. ALGERNON CHAPMAN, M.D.

I have been disappointed rather than surprised that no one has given us a full and useful analysis of the Statistics of the Causes of Insanity and of the Occupations of the Patients admitted into Asylums during the year 1876, in the Thirty-First Report of the Commissioners in Lunacy; at present they are a mere *rudis indigestaque moles*, and I must say that the effort to extract much valuable meaning from them appears to be an arduous one. Thinking that the Tables given in continuation of the same series in the Thirty-Second Report may meet a similar fate of neglect, I somewhat rashly propose to endeavour, if not to extract their full meaning, at least to state what are the facts they most clearly enounce, and, if possible, to suggest a meaning for them. I do this the more readily that they are not an extensive series, and are, therefore, somewhat manageable, and may admit that they have a certain attraction for me, as the most remarkable novelty they demonstrate happens to be a circumstance that on a small scale I have been aware of for some years, and had frequently thought it desirable to have tested on larger numbers, and yet is one to which I do not recollect ever to have seen attention directed. This circumstance is the frequency with which, in comparison with other lunatics, the general paralytic is married.

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