After maintaining for three days his minimum weight, on a small and somewhat uncertain quantity of food, he took, on the tenth day, all the diet given him. I have already shown that, by calculation, it contained in ounces 3.72 of albuminates, 19.41 of carbohydrates, and 1.36 of fat. Taking these together, we have one part of nitrogenous food to six of carboniferous. The total nitrogen is 255 grains, the total carbon 5119 grains, including 875 grains contained in the nitrogenous substances. Absolutely, these are high figures, especially when we have the man at rest; while the relative proportion of carbon to nitrogen is also considerably above the usual dietary estimates.

As far as mere nutritive elements are concerned, we have a supply here not only capable of repairing the ordinary tissue-waste, but sufficient also to provide a surplus, which the system is unable immediately to utilise, beyond storing it up in the form of adipose tissue. This additional fat, arising from excess of hydrocarbons in the blood, adds merely body-weight and bulk. There is no corresponding increase of the more highly organised tissues which give forth strength and stamina, and consequently these fall off, and are besides rather clogged by the fatty accumulation. It almost invariably happens that, if, in the course of several months, a man's health is not affected by the monotony of the diet of which I have been speaking, he gains in weight, but not in strength. He becomes stouter, but not proportionately strong, as he is deprived of that healthy use of his muscles which preserves their power and vigour. The original body-weight (107½ lbs.) having been reached in the case of H. W., the excretion of urea for the last four days averaged 307 grains, being at the rate of 2.8 grains per pound of body-weight in twenty-four hours, and that on a non-animal diet containing 250 grains of nitrogen.

December 23rd, 1869. It is curious to note the obstinacy with which this man refused to take his food. Although it was put into his cell regularly, and remained there all night, he would not, and did not, touch it, and he continued this with very little interference to his bodily functions until the sixth day. It shows how persistently the body clings to its life, eating itself, as it were, by a process of capillary cannibalism, rather than die out at once for want of food supplied by the proper channel to repair the natural waste.

ON BICHLORIDE OF METHYLENE: AN ACCOUNT OF ONE HUNDRED CASES OF ITS USE AS AN ANÆSTHETIC.

By PHILIP MIALI, Surgeon to the Bradford Infirmary.

(*Editorial Abstract of Original Paper.*)

THE author commonly uses the cylinder introduced by Mr. Peter Marshall. Most of the administrations were for operations on the eye; but it was used also for amputation of the thigh and leg, and removal of the breast.

Insensibility in adults was generally produced in from two to five minutes; the average being 3 minutes 20 seconds; the minimum, 1½ minute; the maximum, 5 minutes.

One dose of a drachm was generally sufficient to produce anæsthesia. In females, less than this will suffice. More than a drachm and a half was never found necessary to produce the first insensibility. The maximum quantity required before the completion of an operation was three drachms and a half.

The author proceeds to compare these results with those from the administration of chloroform. The average time taken to produce full anæsthesia was: in

Men—3 minutes 20 seconds with bichloride of methylene.

6 minutes 20 seconds with chloroform.

Women—2 minutes 22 seconds with bichloride of methylene.

4 minutes 18 seconds with chloroform.

Children—1 minute 16 seconds with bichloride of methylene.

2 minutes 24 seconds with chloroform.

The quantity of chloroform required was about double that of the bichloride of methylene. The duration of insensibility after removal of the inhaler was not found to vary with sex and age, as the time of the invasion was. It was not uncommon to find the patient completely conscious and walking away in less than three minutes after the commencement of inhalation.

Vomiting occurred forty-two times out of ninety-seven; nausea merely, six times. Vomiting did not occur once before anæsthesia was complete. The author thinks that the use of the bichloride is not likely to be much more free from consequent vomiting than chloroform.

The pulse was unaltered in 4 cases, quickened in 9, and lessened in frequency in 23.

The respiration was nearly always quickened. In five cases in which

the respiration gave warning of impending danger, prompt measures were successful in restoring the patient.

The author is satisfied as to the safety of this anæsthetic, and thinks it is easily managed with average precautions. It is important to exclude rather than admit air. The apparatus should be well applied to the face. In small operations, it is decidedly preferable to chloroform, and for larger ones quite as useful.

TWO CASES OF EMPYEMA SUCCESSFULLY TREATED BY DRAINAGE-TUBE.

By WILLIAM PALEY, M.D., Peterborough.

CASE I.—Miss B., aged 10½, of good constitution, was seen by me on the 3rd of March last, for a most severe attack of double pneumonia, complicated with pleurisy on the right side, coming on after measles. The symptoms were so urgent, and the exhaustion so great, that the child was only kept alive by the free use of stimulant and most careful feeding. I saw her again on the 18th of March, and found her reduced almost to a skeleton, so weak that she was unable to move a limb; the left lung was slowly recovering, but on the right side slight effusion had commenced.

On April 3rd, in consequence of the urgent dyspnoea and increasing debility, the chest was punctured by a trochar in the ordinary method. About four pints of thick pus were removed, and the wound closed. Considerable relief was afforded for the first four days after the operation, but in ten days' time the chest was quite full again, and the child as weak as ever—indeed, the chances of recovery were so small that I had great difficulty in persuading the parents to allow any further operation.

On April 13th, the following operation was performed. On a level with the ensiform cartilage, and a little to the right of the nipple, a direct opening was made into the chest with a medium-sized trochar. After about a pint of pus had been discharged, an India-rubber-tube (such as is used for feeding-bottles), about two feet and a half long, and with a few small openings cut into it, with a pair of scissors, at the end to be left in the chest, was passed through the cannula for about six inches. The cannula was then withdrawn over the tube, and the latter was securely tied to two pieces of plaster above and below the wound with a piece of silk, the patient lying near the edge of the bed, and on the affected side; the lower end of the tube was placed in a basin half full of water, on a chair at the bed-side, and kept under water by a weight tied to it. No operation could have answered better. Not a single bad symptom or difficulty of any kind occurred during the whole subsequent treatment. The tube was kept in for six days; the fluid was slowly evacuated without any air being admitted into the pleura; the lung expanded as the fluid was withdrawn gradually, taking its place, so that no vacuum was ever left in the chest. The tube, being quite soft, caused no pain at the wound, and did not seem to irritate either the lung or pleura by its presence in the chest. When the tube was withdrawn, the opening in the chest was kept covered by a piece of wet lint, with oiled silk over it; and for the next four months small quantities of pus continued to be discharged—at first, daily, and afterwards, from time to time. After a fortnight, the child was allowed to get out of bed; and, as she gained strength, was carried out into the open air as much as possible; and, as soon as she could be moved, was sent to the sea-side, where she remained six weeks.

I saw her about a week ago, and, save a very little falling in of the chest under the right clavicle, scarcely any other trace of the serious mischief that had previously existed was left. The chest was fairly resonant all over that side, and a well-marked respiratory murmur existed throughout the lung. The general health and strength of the child was as well as ever. The wound had been quite closed since the end of August last.

For all the details of the operation and its successful performance, I am indebted to my friend and colleague at the Hospital here, Dr. T. J. Walker.

CASE II.—The next case was even more successful than the first. Master A., aged 10½, of fairly strong constitution, had been ill with pleurisy, followed by empyema, since the end of March. The child had been most carefully treated from the first, under the superintendence of one of our best local physicians. The chest had been twice tapped by a trochar, and the wound closed in the ordinary method before I saw him, on the 16th of June last. I found the whole left side of the chest quite full of fluid: the child could only lie on the affected side; was greatly reduced in strength; had very little appetite; and the abdomen was large and distended. The operation was performed by Dr. Sinclair in my presence on June 17th, precisely in the same way