THEIR STULTIFICATION.

But after all this trouble had been taken, a discovery was made, by Surgeon-Major Milward, of a fact that nullifies any precautions that have hitherto been taken. He happened to notice a man carrying a large chattie or earthen vessel on his head going past the Station Hospital, in the direction of the dairy. Surgeon-Major Milward followed the man into the dairy, and found that the chattie was full of milk. On inquiry it turned out that the dairyman was in the habit of supplementing the deficient supply yielded by his own cows by buffalo's milk brought from the bazaar. He says that though all the milk used for drinking is milked at the dairy, the buffalo's milk which has to be used for making butter is principally obtained from a bazaar contractor. I have been told that this contractor really represents about thirteen owners, and I suppose that this means that he keeps a chattie into which any residue of buffalo's or goat's milk are thrown, and that when it is full it is smuggled into the regimental dairy. It is obviously not worth while to investigate the conditions under which milk is thus obtained in the bazaar. The sanitary precautions are likely to be of a kind that would have been out of date on Noah's Ark, and, what is more to the point, any suggestions that I could make to the native owners would most certainly be disregarded as soon as my back was turned. I have strongly represented the desirability of changing this state of affairs, but owing to circumstances beyond the control of the regimental officers concerned this has not as yet been done.

Although I have mentioned the typhoid fever that has been going on in the East Surrey Regiment, I should like to point out that the work described in this paper must not be regarded as an attempt to find out the origin of this outbreak. I have merely attempted to bring a little bacteriological knowledge to bear on the dairy, and I think some of the things I have noted would be regrettable if the regiment were in the best of health. There may or may not be a connection between the dairy and the typhoid. It is, however, not only possible, but probable, that there is, in spite of the padlocks on the milk pails. The typhoid has attacked both officers and privates. So far as I know, the only articles of diet of common origin that go to the officers' mess, and are also used by the privates, are the butter, the milk, and the soda-water. The soda-water is, I believe, now unexceptionable, and no officers have had typhoid since the officers' mess gave up taking butter and milk from the regimental dairy.

ARTIFICIAL FEEDING IN ACUTE MELANCHOLIA.¹

By JAMES NEIL, M.D.,

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In the management of a case of acute melancholia, with refusal of food, we must bear in mind that we are treating, not a so-called "lunatic" merely, but a person suffering from a bodily disease of an urgent and formidable kind. In many cases there is constant and exhausting motor excitement. There is loss of rest at night, and, frequently, hypnotic drugs procure only a short period of troubled sleep. The secretions of the alimentary canal are dried up. The bowels are constipated; the gullet and mouth are dry; the tongue and lips brown, parched, and cracked; and the breath is fetid. The patient loses weight rapidly, and this loss of weight, the expression of tissue waste, tells us that the one important measure is to supply abundant nourishment. The state of the alimentary canal does not contraindicate feeding. The repugnance to food, the constipation, the dry mouth, and the foul breath, are symptoms of deficient innervation, and they disappear when the nutrition of the nervous centres is restored. The best proof of the correctness of this view is that food, although administered forcibly and rapidly in large quantities, does not cause sickness or vomiting, and that the alimentary organs gradually return to their healthy condition under a course of abundant alimentation only, without any treatment for "dyspepsia."

¹ Abridged from a paper read before the Oxford Medical Society, November 10th, 1893.

A melancholiac should be carefully weighed once a week, and, if the weight is falling, too little nourishment is being taken. When refusal of food is absolute, and wasting is rapid, one entire day of fasting is all that should be allowed. In cases where some food is taken, but not enough, we should not temporise, but boldly resort to forcible feeding.

Many methods of feeding forcibly have been practised, but here it will be most useful to select some one plan, and describe it in detail. I do not claim perfection for the operation selected, but, after having performed it several hundreds of times, and compared it with three or four other procedures which I have also practised, I can recommend it as a very good operation.

(a) The food must be liquid; custard of egg and milk is a very good and convenient food. But it is desirable, especially if the feeding has to be kept up for any length of time, to have some variety, and to introduce the vegetable element. We begin by giving a couple of eggs in a quart of new milk, morning and evening. For dinner about the middle of the day, a ration of meat pounded fine in a mortar, with two or three good-sized potatoes, and added, along with a couple of eggs and cupful of cream, to the liquor in which the meat was boiled, the whole being made into a smooth *purée* with all solid particles strained off. If this last point is not attended to, the feeding tube will be choked, and an awkward interruption to the operation caused. It will be observed that all the elements of the meat are retained, which is not the case with ordinary beef-tea. The potatoes should be cooked by steaming, or boiled in their skins, so that the vegetable salts are not lost. To each of these three meals a dose of cod-liver-oil should be added, gradually increased to a tablespoonful. If symptoms of exhaustion are at all marked, from half an ounce to an ounce of brandy should also be added. If, after a week of this regimen, the body weight is still falling, another egg must be added to each meal.

(b) The room in which the operation is performed must be well lighted. Place a mattress on the floor, in the full light of the window, and lay a pillow on the end of the mattress farthest from the window. Have a yard all around the mattress clear of furniture.

(c) Instruments.—1. A feeding tube. It should be of flexible material, as thick as a smallish finger, and soft to the very tip. No part should be hard or rigid. An accident can hardly happen with such a tube. It is too large to enter the larynx, and too soft to perforate the stomach or œsophagus. It is best to have the cup for receiving the food made in one piece with the tube, and of the same material. 2. A screw gag of plated metal, thin at the tips, and serrated to prevent it from slipping off the teeth. 3. A small bottle of olive oil. 4. A counterpane folded double. A counterpane is better than a sheet, because being thicker and softer, it lies more closely to the patient's body, and prevents movements more effectually. 5. A towel. 6. The food, in a jug with a handle and spout; not a basin. If a basin is used, much of the food will be spilled as it is being poured into the funnel.

(d) To prepare the patient. Take off the boots, and loosen the clothing about the body and neck. In the case of a woman, direct the nurse to unfasten the stays and slacken the petticoats.

(e) The operation. Four assistants are required: one at the head, one at the feet, and one at each side. The patient is made to stand on the mattress, near the window end, with his face to the light. The chief assistant stands close behind the patient, and puts his arms through the armpits of the latter. Those at the sides grasp the arms of the patient at the wrist with one hand, and at the elbow with the other. The assistant at the feet, standing at one side, puts his arms round the patient's ankles and snatches his feet from under him, while the others, especially the chief assistant, support the body and let the patient gently and quickly down on the mattress on his back, the feet being towards the window and the head on the pillow. The light must fall on the patient's face. The operator throws the doubled counterpane across the patient's body, covering him from the shoulders to the waist, the arms being under the counterpane and close to the sides. The chief assistant takes the head firmly between his knees, kneeling behind the patient, the back of whose head rests

on the pillow. The second assistant kneels astride the patient's legs, and, grasping the knees with his hands, presses them downwards. Those at the sides kneel on the loose ends of the counterpane close to the patient's body, grasp the elbows with one hand, and the wrists with the other through the counterpane, and press downwards on the mattress. In this way the patient is completely controlled in a few seconds, and a prolonged struggle, causing terror and exhaustion, is impossible. The chief assistant tucks the towel under the chin to prevent the clothes being soiled.

Here a caution must be given. The assistants must on no account kneel on the patient nor grasp the bare wrists. That must be done through the counterpane or the sleeve of the coat or dress. The chief assistant who holds the head must not squeeze the ears between his knees. The need for these precautions will be evident when it is remembered how easily many of the insane are bruised.

The operator now kneels at the right hand side of the patient's head, and places the instruments and vessels on the floor at his own right hand. He oils the tube, and lays it across the patient's chest, on the towel, to be ready. The oil should not be omitted, for, as has already been said, the oesophagus is in a dry condition, the secretion of mucus being in abeyance. Then he inserts the gag between the molars, and opens the mouth widely with the screw. If the patient clenches his jaws, there are, in most cases, irregularities or gaps between the teeth that will admit the gag, or the nostrils may be pinched between the finger and thumb, when the patient will probably open his mouth for a moment to breathe, or he may be surprised into speaking by asking him a question suddenly and sharply. If these means fail, we can generally slip the gag in gradually by keeping a steady moderate pressure with it for some time. When the mouth is well opened, the operator passes the gag to the chief assistant, who holds it in position with his right hand, taking care that it does not turn round, or slip forward out of the mouth. The operator then takes the oiled tube with his left hand near the cup end, and with his right about 8 inches from the point. Introducing the point into the pharynx he guides it gently down the gullet into the stomach. The stomach is known to be reached by the feeling of resistance ceasing, and by a puff of gas that comes through the tube with a slight gurgling sound. The ear should be inclined towards the tube to catch this indication. Occasionally the point hitches against the back of the pharynx, the tube doubles forward at its weakest part, where the eyes are pierced namely, and, pressing against the larynx, causes violent dyspnoea. This is apt to happen when the head of the patient is too far extended, causing the cervical vertebrae to bulge forward. Withdraw the tube, and direct the chief assistant to flex the head. Reintroduce the tube, and, with the right forefinger in the pharynx, guide the point into the oesophagus. Sometimes there is a spasmodic action of the gullet, and the tube is grasped by it. Hold the tube against the obstruction for a few seconds, when the spasm will relax and the tube will pass down. Then, holding the tube upright with the left hand, with the right pour the food into the cup as fast as it will go down. If the flow is checked, it is because the eyes of the tube are closely applied to the gastric mucous membrane and are thus blocked, or because the tube is doubled in the stomach. Withdraw the tube for a couple of inches, and the food will flow. In some cases there is much regurgitation of food, causing troublesome, or even alarming, symptoms of suffocation. Lay down the jug, and suspend the administration of food by pinching the soft stem of the tube with the right forefinger and thumb till the regurgitation subsides, then go on again. It may be necessary to do this two or three times in the course of the operation. When all the food is given, withdraw the tube gently, keeping it, while doing so, towards the roof of the mouth to avoid tickling the epiglottis. The patient is then released. It is usual to allow him to lie for a short time to lessen the risk of vomiting, but that accident rarely occurs.

The operation now described can easily be performed, when the assistants are expert, in four and a-half minutes from the time the patient is placed standing on the mattress till the moment he is released. This is an important point in favour of the method, for, in the most favourable case, the

mind and the muscles of the patient are held in a state of painful tension, and when there is exhaustion, regurgitation of food, and alarming symptoms of choking, forcible feeding is a disagreeable and anxious operation. It is almost as much so in fact as the giving of an anæsthetic, and the more quickly it can be performed the better. It is with the view of conducting to expedition that I have gone so fully into details which, I would venture to hope, have not appeared trivial or tedious.

PARALYSIS OF THE SERRATUS MAGNUS AND DISLOCATION OF THE SCAPULA.

By J. ERNEST MOORHOUSE, M.A., B.Sc., M.B., C.M.

J. B., a miner, aged 44, was treated in July by my *locum tenens* for pain in the region of the deltoid muscle and right side of the chest. At that time he was off work for a fortnight, and the pains gradually ceased. He came to me on September 20th, complaining of the same pain, and that his "shoulder blade was growing out." This condition had been present since the beginning of August, and had gradually become worse.

On examining him I found that the pain was now localised in two places—one behind the deltoid muscle, corresponding to the position of the circumflex nerve, and the other to the inner side of the biceps. The pain was only marked when he held the forearm out between pronation and supination. He could not keep this position long, and pressure on the two points caused severe pain.

With the arms hanging at the side, the lower angle of the right scapula was half an inch nearer the spine than the left. With the arms stretched out in front, the right scapula came out like a wing to such an extent that the dorsal border was 2 inches from the chest wall. The distance between it and the spine was only $2\frac{1}{4}$ inches, as compared with 5 inches on the left side. He could stretch out the left arm $1\frac{1}{2}$ inch further than the right, and, in trying to push, the affected arm was very weak. The curious thing was that when I supplied the place of his serratus magnus and pushed the scapula forward against the chest wall he suffered no pain in any position of the arm.

The right shoulder was lower than the left, and the deltoid considerably atrophied. On examining the chest the digita-