

in the insane. Both children and the insane are deficient in habits of cleanliness, which offers so great a preservative from infection by entozoa. It is said that Liebig measured the degree of civilisation of a people by the quantity of soap consumed per head of its population; and I think that the time will come when the degree of civilisation of a people will be estimated in proportion to the rarity of entozoa diseases among its members. Indeed, the main measures of prevention for the greater part of entozoa concern personal rules respecting the manner of living, eating, drinking, and washing, which generally agree pretty closely among the more refined civilised people.

(To be concluded.)

A SUCCESSFUL CASE OF UNILATERAL LARYNGECTOMY.

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DAVID C—, aged three, was admitted to the General Hospital on Jan. 10th, 1889, under the care of my colleague, Dr. Saundby, for laryngeal dyspnoea. The mother stated that four older children had previously died of "croup." On Jan. 12th intubation was performed, and this was repeated several times by the resident surgical officer, Dr. E. Nason. Owing to the sudden disappearance of the intubation tube, tracheotomy had hurriedly to be resorted to on Jan. 21st, in order to prevent death from asphyxia. Details of the case, with those of others upon whom intubation was practised, were reported in the *Birmingham Medical Review* for October, 1889, by Dr. Nason, who makes a note at the end of his report, that "the larynx is apparently almost completely stenosed." When the patient was transferred to the surgical wards in the summer of 1889 he was wearing a tracheotomy tube, and as regards speech was absolutely dumb. When examined, an obstruction was met with in the larynx, feeling like a dense diaphragm, which various efforts made by Mr. Barling and myself with various appliances, both from the mouth and the opening in the trachea, with and without chloroform, failed to penetrate. The laryngoscope gave no satisfactory result, owing to the restlessness of the patient.

Operation (Oct. 29th).—The thyroid cartilage was divided by an incision in the median line, and the two halves being held apart, the larynx was found to be completely occluded by dense cicatricial tissue. The soft parts having been dissected off the right ala of the cartilage, it was separated from its connexion with the cricoid and removed. The cicatricial tissue in the larynx was then freely taken away with the scalpel and Volkmann's spoon, but the air passage being still occluded below, the right half of the cricoid cartilage was excised by prolonging the incision in the median line downwards to the tracheal wound. The obstructing fibrous tissue being then removed, a free passage upwards to the epiglottis and downwards to the bronchi was established. After the preliminary median incision through the soft parts the hæmorrhage was practically nil. The section of the cartilages was easily and accurately made by means of a stout scalpel.

The subsequent progress was satisfactory; for the first two days feeding was performed through a nasal tube, but on the third day liquid nourishment was given by the mouth. At first some of the fluid taken showed itself in the wound, so that it was deemed advisable for a few days afterwards, when liquids were given, to insert a small piece of sponge immediately above the tracheotomy tube. On the fifth day minced meat was readily swallowed. At the end of six weeks the wound had healed throughout, and in order to maintain the patency of the opening into the mouth a double tube was constructed, one portion of which passed upwards to the epiglottis and the other downwards into the trachea. At first difficulty was experienced in reintroducing the tubes after cleaning them, and an anæsthetic was necessary to enable this to be done; but for the last year the insertion and withdrawal have been readily performed, and the sizes of the tubes have been twice increased, the last occasion being at the end of January of the present year. The patient's power of expression gradually returned, and he can now speak in a hoarse but audible whisper. In July

of last year a vibrating reed (Irvine's modification of Gussenbauer's) was fitted to the tube, and subsequently two others were constructed with lower notes. With this apparatus he can speak clearly and distinctly in a monotone, heard at a considerable distance.¹

With regard to the operation itself, the median incision was found to give free access, and permitted of an easy and rapid removal of the cartilages. The bleeding was so slight that no tampon was necessary. No doubt the tracheotomy performed nine months previously much facilitated the severer procedure. The stenosis must, I think, be mainly attributed to the ulceration excited by the intubation tube, the preliminary report showing that it was worn continuously for nearly nine days, and that re-introduction was necessary on seven occasions. To laryngeal tissues already inflamed and softened, the constant introduction and presence of a hard foreign body must be a source of great irritation; and whether for English throats, in really bad cases of diphtheria and croup, tracheotomy is not in the long run the lesser of two evils is a question for consideration. My own experience at the present time would lead me to prefer the cutting operation. Maintaining the intubation tube in position is often a matter of difficulty, especially in young subjects. In the case here reported it was finally coughed up, swallowed, and passed per anum, and an exactly similar sequence of events was repeated in another child shortly afterwards. Doubtless others have met with a similar experience. The phonating reed, when placed in position and worn for any time, was found to cause some obstruction to the passage of air to the lungs, so the patient was taught to introduce it himself only when he wished to make his voice more audible. For all practical purposes he can make himself understood without the introduction of this specially constructed apparatus. The general health and development of the boy are not apparently being interfered with by the operation.

Birmingham.

THE PREVENTION OF FEVER IN INDIA.²

By SURGEON-GENERAL SIR WILLIAM MOORE,
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THE prevention of fever in India should be considered under two heads: What can be done by authoritative regulations, and what can be effected by personal hygiene? And such heads should be considered with reference to Europeans, including soldiers; and, secondly, with respect to the general population. Much has been done for the European soldier by the provision of better barracks, baths, workshops, recreation rooms, &c.; and in some stations better bungalows for officers have been provided. Much attention has been given to the clothing and dieting of the men, and intemperance has been discouraged in every possible manner. Much, however, still remains to be accomplished. Men are sent out too young, notwithstanding the well-known fact that young soldiers in India are particularly liable to fever. The standard barracks are more or less a mistake, for no one plan of barrack or bungalow is suited to every varying climate of Hindustan. Over-ventilation should be guarded against as much as under-ventilation. Ventilation in barracks is often excessive, from which the men sleep in a draught and get chilled, which is a fertile cause of fever. More in the way of drainage is required round barracks and bungalows. The dry-earth system of conservancy is generally adopted, and self-acting hoppers should be supplied. Strict orders should be enforced against men staying in the bath too long, which is frequently followed by fever or liver affection. The natives of India know well the value of the "cummerbund" (a cloth worn round the loins and bowels), and wearing a flannel belt should be made obligatory, for a congested kidney may be a cause of fever. Arrangements should be made for a change of clothing when coming in heated and perspiring from parade. A free ration should be given in the early morning of bread, biscuits, tea, cocoa, or coffee, which renders the system less liable to be affected by the chilly

¹ The patient was exhibited to the Midland Medical Society on March 18th last, and is now an inmate of the Barnardo Homes.

² Paper read in Section I. of the International Congress of Hygiene.