

taking height as a criterion of physical development, among equal numbers taken from each grade the average height was almost the same for all grades. Deterioration of physique does exist, but it is not shown by the recruiting returns; it can, however, be shown from them by analysis of the heights of boys of 18 that the average height among factory workers is about an inch below the general average at that age. That deterioration is evidently environmental and not racial and is therefore amenable to preventive and remedial treatment by educational and social reforms.

We are too apt to be carried away by pithy phrases—e.g., "One cannot make an A1 nation out of C3 men." The 25 or 30 per cent. of Grade III. men on which this aphorism was founded was the result of the examination of some 2 million (or less) men out of a possible 10 or 12 millions; the remainder being either already in the forces in a higher category or protected at home for the performance of labour which could only be carried out by fit men. We are not a nation of C3 men.

In conclusion, it may be noted that Dr. Comrie's classified defects are fairly typical of those generally observed, and are individual defects for the remedy of which there is required provision of more expert medical and surgical treatment than is offered by the panel system, and not only for the insured worker but for the children before they reach the age of the wage earner. More than that, it is necessary to see that such treatment is not only obtainable but obtained, and this can only be done by education, for compulsory health is even more an Utopian ideal than compulsory physical training.—I am, Sir, yours faithfully,

Carbis Bay, Dec. 3rd, 1919.

D. F. SHEARER, F.R.C.S.

THE "GRIDIRON" INCISION.

To the Editor of THE LANCET.

SIR,—With reference to the article in THE LANCET of Dec. 6th by Dr. St. G. Griffiths on "The Frequency of Right Inguinal Hernia after Appendicectomy by the 'Gridiron' Incision," I would state that while at the R.N. Hospital, Plymouth, I had occasion to operate upon four cases of right inguinal hernia which had appeared after appendicectomy. In all cases Battle's method had been employed, and the herniæ appeared from one to four months later. As both conditions are specially common in the Service, it would seem impossible to draw any conclusion from the number of cases so far reported. Nevertheless, my impression was that as in these cases the incision was made at a rather lower level than usual, the weakening of the abdominal wall and the disturbance of the position of parts at the time of operation had favoured the speedy descent of a hernia into a pre-existing sac. In this respect at least a Battle's incision would appear to offer no advantage over the "gridiron."

I am, Sir, yours faithfully,

RICHARD A. BARLOW, M.B., F.R.F.P.S.

Glasgow, Dec. 8th, 1919.

COPPER ALANIN IN INOPERABLE CANCER.

To the Editor of THE LANCET.

SIR,—On Nov. 7th, in the Section of Laryngology of the Royal Society of Medicine, I showed a case of lingual cancer in which the patient has derived considerable comfort from intravenous injections of amino-propionate (alanin) of copper. Although the advance of the disease in this case would appear to have been arrested, microscopic sections taken during the treatment showed that histologically the epithelioma was unaltered. Full particulars will be given in the published proceedings of the section, and the object of this letter is to let medical men know where copper alanin can be obtained. The substance, the credit for suggesting which, amongst other forms of treatment for inoperable cancer, is due to Dr. Shaw-Mackenzie, was not made commercially in England before the war. It can now be obtained in 0.44 per cent. solution from Messrs. Boots's Research Laboratory, Island-street, Nottingham. My experience of the injec-

tions is that its administration in doses of from 1 to 2½ c.cm. has been attended only with benefit. It may be well to add that the benefit consists in a remarkable improvement in the general condition of the patients after one or two injections. The injections appear to retard the advance of the disease, but the experience so far obtained does not allow one to regard it as more than palliative. As long as the injections are continued from once to three times a week the arrest is maintained, but if they are omitted even for a week a fresh advance can always be noted. It would appear, however, from this that the intravenous injection of this form of copper salt has a retarding influence on the growth of cancer.

I am, Sir, yours faithfully,

JAMES DONELAN, Ch.M., M.B. R. Univ. Ir.

Manchester-square, W., Dec. 1st, 1919.

THE TREATMENT OF ANTRAL SUPPURATION.

To the Editor of THE LANCET.

SIR,—I would like to say a few words on Mr. Somerville Hastings's clear exposition which I enjoyed reading in THE LANCET of Nov. 29th. Persistence of suppuration in the antrum following an acute catarrh is presumably due to persistence of irritation. The irritant is usually a well of putrefying material as well as the bacteria infecting the mucous membrane. Removal of the putrefying exudate by irrigation and prevention of reaccumulation by making an opening from the nose into the antrum near the floor is the usual method of treatment practised. Bacteria still growing on the moist internal surface of the cavity can, however, call forth an exudation of fluid and leucocytes and this secretion may continue for some time. To rapidly destroy the germs without irritating the tissues is a problem which, as far as I know, has only been solved by using zinc ionisation.

To ionise the antrum it is necessary to puncture the nasal wall with a trocar and cannula, wash away accumulated secretion, and then fill the cavity with weak sulphate of zinc solution. The cannula which conveyed the fluid can be utilised to convey the electric current, if it has been insulated on its outer surface by several coats of varnish. In an uncomplicated case—that is, one in which there is no ethmoidal or frontal sinus disease, no caries, and no polypi—complete subsidence of suppuration may be in most cases expected to occur forthwith without further treatment.

Treatment by ionisation naturally does not contraindicate an attempt being made to diminish the liability to severe colds in the patient subsequently by vaccines.

I am, Sir, yours faithfully,

Devonshire-place, W., Dec. 8th, 1919.

A. R. FRIEL.

SOME USES OF DIATHERMY.

To the Editor of THE LANCET.

SIR,—Mr. Norman Patterson's excellent article in THE LANCET of Dec. 6th on the Treatment of Epithelioma of the Mouth and Pharynx by Diathermy ought to help towards remedying the "little general recognition of its value" which he mentions. A somewhat extensive experience of its use in cases of cancer of the tongue, often extending on to the floor of the mouth and the pillars of the fauces, sometimes invading the tonsil, encourages me to endorse his opinion that "in cancer of the bucco-pharyngeal cavity it ought entirely to supersede cutting operations." The diathermic method renders the actual operation less formidable and the convalescence more tolerable. So far my cases have run an almost apyrexial post-operative course, and any secondary hæmorrhage has been trifling. The functional results where the whole tongue was not removed are excellent. It is too soon to speak of the ultimate results, as I have only made use of the method for two years.

Diathermy is also to be recommended as a palliative measure in "inoperable" cases of carcinoma of the cervix uteri (either destroying as much growth as possible by means of a button electrode or carrying out a supra-vaginal amputation of the cervix by the spatula).