produce the picture described by Dr. Bourne. The specialized training in anaesthesia should, in my opinion, include the skilled use of nitrous oxide. That a different result can be obtained is well known ; were it not so the gas would not have the wide application that it has after over a century of use. Good results are easier if use is made of a machine which will deliver gases under pressure. A trichlorethylene bottle will help with the very resistant types ; these cases are few in number and the trichlorethylene should seldom be used.—I am, etc.,

Portsmouth. H. B. C. SANDIFORD.

SIR,—I read Dr. J. G. Bourne's letter (June 9, p. 1330) with interest, and congratulate him on his results, but beg to differ from him in some of his views. He states that anaesthesia is usually impossible " with N_2O alone and normal oxygenation," but does not say whether he refers to N_2O–air or N_2O–O_2 anaesthesia ; if the former, I agree with him, but if the latter, I would make certain observations.

Cyclopropane is, in my opinion, not a safe anaesthetic agent in the hands of the junior resident staff, to whom casualty work is usually relegated, because of its effect on the cardiovascular system, and because dangerously deep anaesthesia can be rapidly produced, and may go unrecognized until too late. The anoxia—i.e., mild hypoxia—which may accompany N_2O–O_2 anaesthesia is at least frankly anoxaemic in type, whereas the excess of oxygen used with cyclopropane may blind the inexperienced to the fact that the O_2-carrying power of the blood is limited, and that, in any case, the ability of the nerve-cells to employ oxygen is reduced in the anaesthetic state ; if a sedative, such as hyoscine, is given pre-operatively, this must enhance the anaesthetic effect, and further depress the metabolism of the central nervous system. In skilled hands, N_2O–O_2 anaesthesia is adequate and safe for the minor surgery of casualty and out-patient departments, and anoxia should certainly not play " a large, possibly the greater, part " ; the difficulty arises in that skill is not easily acquired. It is unfortunate that the student frequently learns how to give anaesthetics in the operating theatre, but only incidentally in the casualty department or dental room ; yet, under modern conditions, he is much less likely to be called upon to anaesthetize for a major operation than for the removal of a tooth or the " opening " of a septic finger. More emphasis should be placed on the proper administration of N_2O–O_2 anaesthesia in the ambulant patient. As you, Sir, imply (June 9, p. 1314), and as Dr. Bourne has shown in practice, this important branch of anaesthesia is worthy of more attention.—I am, etc.,

Bramcote, Notts. D. D. C. HOWAT.

Laboratory Facilities in General Practice

SIR,—Having advocated the provision of laboratory and *x*-ray facilities for general practitioners nearly forty years ago without any obvious response from the medical profession, I was agreeably surprised to find Dr. C. B. Ainscow (June 9, p. 1331) quite independently advocating such provision. As he maintains, such facilities could be provided at a fraction of the cost of health centres, such as are now receiving the support of the Council of the B.M.A.

I was one of the secretaries of the West London Medico-Chirurgical Society when Lord Dawson (Sir Bertrand Dawson at that time) gave its Cavendish Lecture in which he advocated what he called health centres, but I felt and continue to feel that the proposed health centres were on too grandiose a scale. In such centres the general practitioner is to see his patients in co-operation with his fellow-practitioners, but what kind of co-operation is to be expected in this competitive world, and what progress is to be expected in general practice without competition ? This idea of co-operation may be in line with present egalitarian views, but I fear it will not work. Courteous, friendly rivalry is likely to produce better results.—I am, etc.,

Kensington. HAROLD H. SANGUINETTI.

John Brownlee Research Laboratory

SIR,—Some of your readers will no doubt be interested to learn that the new headquarters of the department of infectious diseases of the University of Glasgow at Ruchill Hospital is to be named " The John Brownlee Research Laboratory." The late Dr. John Brownlee was physician superintendent of Ruchill Hospital immediately before his appointment as principal statistical officer to the Medical Research Council.

I am anxious to get in touch with those who worked with him and who had admiration for his work ; for it has seemed to me appropriate that there should be placed on the building a simple tablet which would permanently commemorate one who has made many contributions to the study of infectious diseases. Would any such person please write to me at Ruchill Hospital, Glasgow, N.W. ?—I am, etc.,

Glasgow. T. ANDERSON.

Subarachnoid Haemorrhage in a Child

SIR,—I read with interest the article by Dr. A. Kahan on the subject of spontaneous subarachnoid haemorrhage in children (March 17, p. 567). In view of his comment that very few cases of this condition have been reported I feel that I should pass on a recent experience of my own.

A young male African child was admitted recently to Machakos Hospital, where I was then working. He was aged 6 or 7. He was running a slight temperature and was slightly drowsy. As the malarial season had started he was thought to have cerebral malaria. A day after admission he was found to have head retraction, and a lumbar puncture was performed to exclude meningitis. The cerebrospinal fluid was stained a uniform pink colour and it was realized that he had a subarachnoid haemorrhage. Questioning excluded any recent injury. An examination of the central nervous systems showed no paralyses. After the lumbar puncture his condition improved for a few days, he then became delirious. My available literature (Price's *Textbook of Medicine*) said that repeated lumbar punctures were contraindicated, and so he was treated with sedatives only ; shortly before I left Machakos his condition began to improve and his delirium subsided, and he later made a complete recovery.—I am, etc.,

Fort Hall, Kenya. E. P. RIGBY.

Bleeding in Acute Leukaemia Treated with Protamine

SIR,—It has been pointed out that in acute leukaemia the haemorrhagic syndrome may be caused not only by thrombocytopenia but also by a circulating heparin-like anticoagulant.[1] Such alterations are evidenced by the prolonged clotting time of the whole blood, by the positivity of the screening test (normal plasma mixed with the plasma to be examined in various proportions ; progressive prolongation of the clotting time in the mixture: see details in [2]), by the protamine titration.[3] Blood transfusions are not completely effective in counteracting the coagulation defect. An attempt has been made with intravenous and intramuscular protamine sulphate (5–10 ml. 1% solution) to neutralize the heparin-like anticoagulant.[3] Such treatment produces a shortening of the clotting time, which persists for only a few hours. The injection of larger quantities of protamine sulphate intravenously has to be made very slowly and is not always harmless. The intramuscular use of such solutions is considerably painful and it is not advisable to repeat their administration very often. An evident advantage can be obtained by using concentrated intramuscular protamine sulphate (200–400 mg. in 1–2 ml.)[4], which is effective also in the hyperheparinaemias caused by the intramuscular administration of heparin[5] ; such preparations assure a more persistent effect (12–24 hours and more, according to the degree of the coagulation defect), and do not need to be repeated at frequent intervals, as the less concentrated