Dietary Factors in Haemopoiesis

Sir.—In connexion with some researches on the physiological role of vitamin B, we had observed in 1931 the presence of a heat-stable factor in liver extracts which stimulates the formation of erythrocytes in normal as well as in vitamin-deficient rats to a remarkable degree.1 We had first thought that the factor concerned might be vitamin B, but we were able to prove that it was not so by preparing a haemopoietic extract of liver in which practically all vitamin B had been destroyed by autoclaving in an alkaline region. We succeeded, further, in producing supernormal erythrocyte concentration in the blood of rats, which were moribund owing to severe deprivation of vitamin B, by feeding vitamin B, free liver extracts. We pointed out, therefore, that this heat-stable haemopoietic factor was different from vitamin B.

Further, it has lately been shown that vitamin B, in ox liver and ox kidney extracts is quite markedly heat-labile when rendered alkaline.2 Meanwhile, from results of clinical tests, Strauss and Castle3 suggested that vitamin B, was probably the "extrinsic" factor concerned in haemopoiesis. Wills4 came to a similar conclusion from the encouraging results she obtained with marmite. Recent clinical trials carried out by Wills4 have shown, however, that this factor is different from vitamin B,, thus supporting our original observation with rats. This appears to be a striking illustration of the agreement between clinical and experimental results. It indicates that Castle and Wills on the one hand, and we on the other, have probably been dealing with the same haemopoietic principle. Work on this subject is in progress.—I am, etc.,

Calcutta, Nov. 22nd. B. C. GUHA.

A Plea for More Scientific Dieting

Sir.—Although it has been shown that the mineral content of diets cannot be safely left to chance, yet even in such long-continued diets as those of diabetic patients it appears to be ignored. Recently in estimating the minerals in a diabetic diet from a well-known work on nutrition, I found the phosphorus and iron to be below Sherman's allowance, being 1.13 grams of phosphorus (Sherman 1.32), and 0.012 gram of iron (Sherman 0.015). Sherman's figures are not given as the optimum, but as 50 per cent. above the indicated average minimum, corresponding to an allowance of 67 grams of protein. Sherman himself says that if we would have as liberal a margin of safety here as in the case of a protein allowance of 100 grams per man per day, then his figures must obviously be increased by one-half. As the diabetic diet investigated was the most liberal given, it is quite probable that the remaining diets of lower calorie value contained deficiencies also. That this is not an isolated example of deficiencies occurring in diets which have been made up without sufficient care is shown from the fact that when the ulcer diets of six leading American hospitals were analysed all were found to be deficient in iron, and all but one in vitamin C, and only at maintenance levels in vitamin B and general mineral content.

It seems to me that the time has come when all diets should have the mineral content estimated and attention given to the vitamins. Then we may feel more certain that our patients are not running the risk of having their health impaired through deficiencies in the diets which we have prescribed for them.—I am, etc.,

Auckland, N.Z., Oct. 24th. VIOLET E. HASTINGS.

3 Lancet, 1932, ii, 117.
4 British Medical Journal, 1931, i, 1059.
5 Lancet, 1933, i, 1283.

How Do Vitamins Act?

Sir.—In his interesting and instructive letter on the above subject in your issue of December 16th Dr. Cramer has done valuable service to clinical medicine by clearly pointing out that it is not necessary to add preparations especially rich in vitamins to the dietary if the diet is built up sufficiently round an adequate amount of milk, butter, and bread which has not been deprived of its vitamin B content. This is a valuable declaration from a distinguished vitamin worker which will make a wide appeal to a large group of practitioners, whose experience with medicinal vitamins over the past few years has probably prepared them to accept its truth.

For a number of years past I have advocated that, so long as practitioners recognize the value of good fresh "live" food—which bulked so much more largely in our national dietary in former days than it does to-day—they do not require to trouble about any individual vitamin. In his last annual report Sir George Newman strikes a valuable warning note in pointing out the present tendency to the "debasement" of common foodstuffs, and the possibility of the need in the future for legislation in regard to this, examples quoted including the bleaching of flour and the addition to foods of laboratory-prepared "vitamin" preparations. There are, in my experience, very many practitioners who are frankly sceptical of the great clinical value of laboratory-made vitamin preparations, and at the same time interested and puzzled by the discrepancy between the results obtained in the laboratory and those observed in daily practice. This discrepancy is, in my view, likely to be explained only by a widening of the field of inquiry as to the nature of vitamins. In the solution of this question the experience of clinicians must play a very important part. The unsatisfactory state of the "vitamin" subject to-day in practical medicine has probably largely arisen from the failure of clinicians to adequately co-operate, on the lines within their sphere, in the complicated problems in which the purely laboratory workers on vitamins are engaged.—I am, etc.,

Chalmers Watson, M.D.

Anaesthetic Deaths after Basal Hypnotics

Sir.—The advocates of basal anaesthesia will, like myself, have sympathized deeply with Dr. Herbert Charles when they read of the death under anaesthesia where nembutal had been administered previously. I had the privilege of being taught anaesthetics by Dr. Charles, and I shall always remember him as the most careful administrator, who reduced the risk of anaesthetic accidents to the minimum. It seems very bad luck, therefore, that this should have happened to him, of all people.

I have used nembutal, pernocton, and evipan considerably during the past two years, and I have had three cases, all women, which gave me the gravest anxiety. All three patients, two of whom were given pernocton and one evipan, had morphine administered previously to the barbiturate. The first two patients, who had pernocton, left the operating theatre with profound respiratory depression and slight cyanosis, and remained completely unconscious for more than twelve hours. Both H2O and CO2 were administered and the patients eventually recovered. The third, who had evipan, developed cyanosis and expectorated frothy mucus immediately after the drug had been administered, the respiration being depressed and very "bubbly." The patient was sent back to bed without operation, and atropine, coramine, and oxygen were administered. Recovery fortunately took place.

3 Lancet, 1932, ii, 117.
4 British Medical Journal, 1931, i, 1059.
5 Lancet, 1933, i, 1283.