Correspondence

Letters to the Editor should not exceed 500 words.

World Health Research Centre

SIR,—I would be grateful if you would allow me to make a few comments on your recent editorial concerning the World Health Organization Research Centre (27 June, p. 1653). I feel that this editorial, perhaps unintentionally, was exceedingly patronizing to both the World Health Organization and to Scotland. Further, it only advanced the arguments supporting the present somewhat negative "party line" and made no effort to review or consider many obvious points that can be made for such a Centre with all the three suggested functions—namely, epidemiology, communications, and biomedical research. Judging by recent reported statements by the Minister of Science and the Secretary of State for Scotland, there is now wide acceptance of the first two functions, and, if the W.H.O. proposed such a Centre, then it appears likely that the United Kingdom will support an invitation to site the Centre in Scotland.

However, your editorial, and since then the Parliamentary Secretary, Ministry of Health, appear strongly opposed to an international laboratory for biomedical science. I find the arguments against such a laboratory unconvincing. You advise W.H.O. to stick to its last and remain a world health public authority interesting itself only in epidemiology, disease control, and sanitation. Surely you are not seriously advancing the principle that public health work should be international and basic biomedical research should be national? A number of us find it encouraging that the World Health Organization is beginning to interest itself in more basic problems in research. The World Health Organization will, in time, inevitably take more and more interest in the type of research which leads to discoveries that can alter the pattern of disease and medical services throughout the world. Your editorial suggests that such a Centre would probably not attract scientists of first-class quality. The advisory council of scientific policy oppose such a laboratory "because it would be harmful to the country if a number of our leading biologists were to withdraw to such a laboratory." It has even been suggested that such leading biologists would be "isolated" in an international laboratory in Scotland.

These opposing arguments with similar conclusions are symptoms of national organizations being unable to rise to the challenge of international problems. I am sure that a world centre where biomedical research is carried out will become a reality. Basic research cannot be the monopoly of the richer countries. Men of talent from poor and small nations must have the opportunity to carry out such research as a shared experience and feel that all men are working for the same ends without patronage and without relation to economic or political power. No matter where the Centre is sited it will probably

contain the same proportion of British scientists. If such a Centre were in Scotland, then, surely, if we must think in national terms, the influence of the British and other scientists in the Centre will be far greater on British biomedical work and thought than if it were sited in some other country.

The suggestion that these men would be "isolated" is absurd. There is a great medical research centre in England at Mill Hill and no one would say that these scientists are cut off from communication with other scientists either in the United Kingdom or anywhere else. Further, their work influences and enriches British medicine. Why should it be so different in Scotland?

It is not entirely fortuitous that Scotland has been mentioned so frequently in this context. During the last century many Scottish doctors have travelled far and wide, have worked hard in many countries, have established medical schools all over the world, and have a reputation for a truly international attitude.

Finally, the opposition from London to a biomedical research section in the proposed Research Centre is, even now, strongly jeopardizing any chance that an invitation to build the Centre in the United Kingdom, and particularly in Scotland, will be seriously considered. This is, therefore, a very grave issue, and I am disappointed that your editorial, although entitled to its opinion, did not show its usual balanced judgment and foresight. The United Kingdom must show that it is capable of intellectual as well as technical co-operation with all the nations of the world.—I am, etc.,

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Vitamin D as a Public Health Problem

SIR,—The reduced incidence of hypercalcaemia in infants following the reduction of vitamin D in vitamin preparations and infant foods as shown by the British Paediatric Association Report (27 June, p. 1659) appears to be a unique and satisfactory reversal of well-meaning iatrogenic disease on a national scale. Conversely, the reports of increasing incidences of rickets from Glasgow¹ and Dundee² and the variable vitamin-D intakes reported by Drs. E. R. Bransby, W. T. C. Berry, and Dorothy M. Taylor (27 June, p. 1661) show that many infants are still at risk and that maternal health education can be improved.

A recent review of children seen in the intern and extern departments of this regional paediatric centre in the last eight years showed 30 cases of mild and moderate nutritional rickets, and 13 cases of hypercalcaemia, all but two of the mild variety. None of these

hypercalcaemic infants had particularly high vitamin-D intake, but the vitamin-D content of their diet was probably fairly high, including fortified cereals; the amount of natural irradiation is usually fairly high in infants and children here, as judged by skin pigmentation, although the mean daily sunshine is only about 3.5 hours.

In France and most European countries other than Scandinavia nutritional rickets is still rife and one of the major paediatric problems. Surveys of hospitalized infants in France have shown incidences of 15% to 39% of nutritional rickets; a study by the International Children's Centre in Paris (using very exacting criteria) showed that 52.4% of a group of children followed over some years showed signs of rickets. It seems that vitamin supplements for infants are not usual in these countries; and one also has the impression that in these warmer climates the infant is often over-protected from sunlight. Coloured immigrants are another rickets-prone group in France as well as in England. To counter the prevalence of rickets the French Ministry of Public Health last year advocated the following dietary supplements for healthy infants: between 6 weeks and 18 months—1,000 units of vitamin D daily; for infants little exposed to sunlight—1,500 units daily; for coloured infants—2,500 units daily. For the premature infant 1,500 units daily was recommended from the eighth day, and vitamin supplements were recommended for all children up to the end of the 5th year. These recommendations were stated to be in accord with those agreed by a study group at the 10th International Paediatric Congress in Lisbon. If these supplements were given on a wide scale to infants having fortified foods and also exposed to sunlight one would expect that hypercalcaemia, hitherto apparently rare in France, would become more frequent as the incidence of rickets declines—assuming that there is a direct relationship between vitamin-D intake and hypercalcaemia, and that British and Irish children do not have any racial hypersensitivity to the vitamin. The implications of the two reports in this journal cited above would appear to warrant careful consideration by the medical authorities in France and other countries considering anti-rachitic campaigns.

It is a pleasure to acknowledge that the source of the information concerning France was an excellent seminar on calcium metabolism at the Centre Internationale de l'Enfance, Paris, in September 1963. My thanks are due to the Irish Meteorological Service for some figures on sunshine.

—I am, etc.,

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REFERENCES

- 1 Arneil, G. C., and Crosbie, J. C., *Lancet*, 1963, 2, 423.
- 2 Stewart, W. K., Mitchell, R. G., Morgan, H. G., Lowe, K. G., and Thompson, J., *ibid.*, 1964, 1, 679.

SIR.—I should like to criticize the unwarranted complacency in your leader, "Vitamin-D as a Public Health Problem"

(27 June, p. 1654). This attitude doubtless reflects the views expressed in "Study of Vitamin-D Intakes of Infants in 1960" by Drs. E. R. Bransby, W. T. C. Berry, and Dorothy M. Taylor (27 June, p. 1661). I quote from this, "Finally, the decisions of the Welfare Foods Subcommittee have stood the test of time. Intakes of vitamin D have been reduced, the incidence of hypercalcaemia has been more than halved, and there has been little or no increase in rickets."

This report, excellent as it is in some respects, has the inevitable fault of being out of date, since it relates to 1960. Its reported findings are certainly contrary to the situation in Glasgow during the past five years. In 1963 we¹ pointed out the increasing number of cases of infantile rickets presenting at the Royal Hospital for Sick Children, Glasgow. During the period 1953-8 the incidence of such cases averaged less than two per annum. For the period 1959-62 the figures rose to an average of eight per annum. The total number of such cases for the first six months of 1964 stands at no less than 20 children. This figure is higher than any since 1947. It is untrue to suggest that coloured immigrants are the problem in this area. Of the 20 cases seen this year only two were "coloured," and of the 47 seen since 1961 only five fell into this category.

Stated simply, since the reduction in the vitamin-D levels of infant foods in 1957 the incidence of infantile rickets in "white" children in Glasgow has risen sharply and continues to rise. The 18 "white" children seen here in six months equal the entire number for the United Kingdom for the 18-month period (1961-2) reported in the British Paediatric Association Report on Infantile Hypercalcaemia, Nutritional Rickets, and Infantile Scurvy in Great Britain (*B.M.J.*, 27 June, p. 1659). Surveys in the local Glasgow population confirm the suspicion of latent cases existing. Most of our cases have not been recognized by the general practitioners, many of whom were unaware of the recurrence of rickets, unfamiliar with the disease, and especially with its occurrence in the older age-group (12-36 months) now commonly affected.

While this rise in the incidence of rickets is disturbing, it is not (yet) of serious proportions. It would be wrong, and irresponsible, to remain complacent, to ignore the significance of these irrefutable facts, or to relax efforts to check the increase in a disease which is totally preventable. It is a glib and easy excuse to say that these patients come from "unsatisfactory" families. In fact such families have always existed in underprivileged cities such as Glasgow, and there is no reason to suppose such families have increased in numbers. It is extremely unlikely that the higher incidence of infantile rickets in the city since 1958 is not directly related to the reduction in vitamin-D content of infant foods in 1957. Our suggestion¹ that *luxus consumption* of vitamin D₂ during the first six months of life protected children of "unsatisfactory" families from rickets for many months afterwards seems the only reasonable explanation of the observed facts. We have yet to find some method whereby rickets can be prevented in our slums without the risk of hypercalcaemia arising in other babies.

In the face of disturbing facts the use of

soothing syrup seems unlikely to resolve the problems of vitamin deficiency in 1964, and a more vigorous prophylactic approach appears desirable. As suggested² modern methods of education are desirable, and B.B.C. television should certainly be used to reach the mothers of such families with information on the cause and prevention of rickets. Cod-liver oil should be replaced in the welfare services by a more palatable product and latent fortification of infant diets continued until the age of 3 years.—I am, etc.,

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REFERENCES

- ¹ Arneil, G. C., and Crosbie, J. C., *Lancet*, 1963, 2, 423.
- ² — *Practitioner*, 1964, 192, 652.

SIR,—The article on vitamin-D intake in children (27 June, p. 1661) draws attention to the gross effects of excessive intake of vitamin D, but in addition to their gross effects excessive intake of vitamins can cause and do cause frequently minor degrees of ill-health.

Well before the last war I published an article, "Hypervitaminosis as a Cause of Ill-health in Country Children," in the *Medical Press and Circular*¹ in which I gave a dissertation on a series of cases of anaemia and loss of weight in children who were taking an excessive amount of vitamins. In those days it was considered that one could not take an excessive amount of vitamin D, and my article was, of course, not considered seriously. The real danger appeared to me then that symptoms of an excess of vitamin intake were so similar to the symptoms of lack of vitamins, and the danger arises of vitamins' being given to cure a condition which is due to an excessive intake. Only too frequently in this country do we hear, "I have given him good food and extra vitamins and still he does not improve."—I am, etc.,

Petworth, Sussex.

W. A. BALL.

REFERENCE

- ¹ Ball, W. A., *Med. Press*, 1936, 192, 303.

Blood Loss in Paediatric Surgery

SIR,—Your correspondent Dr. D. Vernon Thomas (20 June, p. 1635) rightly draws attention to the possible dangers of blood-transfusion in the newborn infant. Unfortunately, however, he makes no mention of the measures which are available to minimize such dangers, and which are standard practice in many paediatric surgical centres in this country.¹ Since the timely administration of blood during the major operative procedures now carried out on the newborn infant is of such major importance in reducing mortality and morbidity rates it would be tragic if lack of appreciation of safeguards were to lead to undue reluctance to transfuse blood when needed. I would therefore be grateful if you would allow me to comment on some of the points raised by Dr. Thomas.

Allowance can be made for the low free-calcium of stored whole blood by administering 1 ml. of 10% calcium gluconate (suitably

diluted) for every 15 ml. per lb. (33 ml. per kg.) body-weight of blood transfused. By using blood which has been stored for no more than five days, the serum-potassium content is kept to a minimum. Before transfusion, blood is warmed in a water-bath to 37° C.; since the method of administration is by syringe and Heller valve directly attached to the intravenous catheter^{2,3} there is neither time nor length of drip tubing in which heat loss can occur. Blood is thus transfused at a known rate and temperature, in precise amounts related directly to the estimated loss, the aim being to preserve a constant blood volume.

Hypothermia of the newborn infant during operation is, of course, a well-recognized hazard⁴ and can be reliably prevented by methods such as those described by Auld and Munro.¹ These involve warming and humidifying the anaesthetic gases, and placing the infant on a hollow perspex "platform" heated with warm moist air. The temperatures of the infant, anaesthetic gases, and heating apparatus are monitored and easily adjusted. Experience has shown that extensive operations lasting several hours are now feasible, the infant's temperature remaining normal throughout.

The surgeon is thus enabled to operate on a normothermic infant whose blood-volume is being maintained with warm blood of relatively low serum-potassium content, who is receiving adequate amounts of calcium, and whose transfusion is performed accurately via a graduated syringe. Under these circumstances the dangers of cardiac depression would appear to be kept to a minimum, and the trouble taken is more than justified by the results.

In conclusion, may I add that the use of the above precautions only serves to underline our respect for the possible dangers of blood-transfusion. All efforts are made to keep blood-loss to a minimum, and certainly to avoid a policy of indiscriminate transfusion, which would be inexcusable.—I am, etc.,

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REFERENCES

- ¹ Auld, W., and Munro, J. R., *Scot. med. J.*, 1962, 7, 431.
- ² Heller, M. H., *Anaesthesia*, 1958, 13, 358.
- ³ Thomson, W. J., *ibid.*, 1961, 16, 104.
- ⁴ France, G. G., *Brit. J. Anaesth.*, 1957, 29, 390.

Management of Meningitis

SIR,—Dr. Esther Hendry Welbourn and Dr. M. A. Casson (27 June, p. 1705) both comment on the desirability of making concurrent blood-sugar estimations for comparison with the sugar content of the C.S.F.

Dr. Welbourn's¹ excellent paper on the ratio of C.S.F. sugar to blood sugar is well known to us, and during the past two years we have taken the opportunity of estimating this ratio in the course of our routine work on samples of blood and C.S.F. from children in the wards; blood for sugar estimation has always been taken first as recommended by Dr. Welbourn. We agree with both your correspondents that it is useful to consider the C.S.F. sugar in relation to the blood sugar, and the ratio between them will usually distinguish between a low C.S.F. sugar due