VITAMINS AND DENTAL CARIES.

SIR,—There are indications that the fat-soluble A theory of the causation of rickets is not satisfactory, and if the experiments of Professor Noël Paton and Mr. A. Watson (BRITISH MEDICAL JOURNAL, April 23rd) have not demolished this vitamin theory, they must at least have tempered the enthusiasm of its advocates. Naturally, Professor E. Mellanby (BRITISH MEDICAL JOURNAL, May 28th) does not abandon the theory, and even adopts the idea that lack of fat-soluble A in the diet is the "all-important factor" in the causation of dental caries! The contention that defective calcification of the teeth is responsible for the prevalence of dental caries is not new. It was, however, set aside by the dental profession years ago, after the late Professor G. V. Black's classic investigation into "the chemical and physical properties of the teeth" left no other course open. Having made an extensive chemical and physical examination of teeth, Black came to the conclusion that—

"the teeth of persons who suffer much from caries are just as hard, just as heavy, and contain just as much lime salts as the teeth of persons who do not suffer specially from caries."

In different teeth there are certain differences. Sir Charles Tomes gives the percentage of lime salts for the incisors as 71.5, and for the molars 73.2. These figures are practically the same as those recorded by Black, and more recently by Gasman. Yet, as is well known, the molar teeth are more frequently ravaged by caries than are the incisors. With regard to the microscopic structure of the teeth, Dr. Leon Williams showed years ago that—

"the finest lenses reveal not the slightest difference between enamel ground moist from a living tooth and that which has lain in the earth for a hundred centuries."

If fat-soluble A had anything to do with the prevalence of dental caries, why should we find that it increased with the increased consumption of such foods as butter, eggs, and animal foods. Together with an increasingly higher standard of living last century there was a corresponding increase of dental caries. Similarly, we learn from statistics that "the better the school the worse the teeth." On the other hand, during the war, when there was a notable scarcity of animal fats, milk, butter, and cream, what statistics we have indicate that there was a decrease in the prevalence of dental caries. There was, of course, a great reduction in the amount of sugar, sweets, etc., consumed, and the decrease in caries goes a considerable way to corroborate the "official" theory of the cause of the disease. I am not trying to indicate that meat, butter, and fats generally are harmful to the teeth; most dentists would agree that these foods are detergent in their effects, and had it not been for the shortage of these foods during the war the benefit of the restricted consumption of concentrated sugar (sweets, jam, etc.) would no doubt have been more conspicuous.

Consider the subject from another point of view. At the present day the temporary teeth of children are ravaged by caries, yet these teeth are calcified before the age when rickets is liable to supervene, and unlike the rachitic puppies under Professor Mellanby's care the temporary teeth of children, as a very general rule, take up a regular position in the jaws. Moreover, as a matter of fact, hypoplasia of the temporary teeth is most exceptional. In a recent investigation Mr. A. T. Pitts found only fifteen teeth showing hypoplasia in at least 4,000 cases. Yet caries of the temporary teeth is even more rampant than caries of the permanent teeth. Professor Mellanby may be disappointed in noting the conclusions which others draw from Professor Noël Paton's experiments on puppies, but his digression from rickets to dental caries does not appear likely to restore his fallen idol.—I am, etc.

London, W., May 28th. J. SIM WALLACE.

ECLIPSE BLINDNESS.

SIR,—Dr. Lodge and Dr. Maxted describe serious cases of eclipse blindness, in which there was no visible change in the fundus oculi, although the vision was much impaired. I saw two less serious examples of this distressing result of exposure of the retina to the solar rays, and it may be of interest to send a few observations I made regarding them.

The general features of these cases were: (1) the short time of exposure to the sun; (2) the presence of visible changes in the fundi; (3) a temporary central scotoma with diminished visual acuity; (4) complete recovery.

I will describe one of the cases more fully.

Miss E. T., aged 27, observed the eclipse on April 8th, 1921, for a few seconds only; she did not use any protective glass or other medium. On account of the photophobia she experienced, she at once desisted, but a little later noticed that vision was blurred. On the following day she attended the Birmingham and Midland Eye Hospital, complaining that since she had looked at the sun "things were blurred and she could not see the centres of things."

The visual acuity in each eye was 6/18, and the field of vision, normal with regard to its periphery, showed a small relative central scotoma. At each macula there was a yellow glistening line, which (magnified by the direct method of ophthalmoscopy) was about an eighth of an inch in length. There was also slight pigmentation around the maculae. The patient was prescribed potassium iodide and ordered to wear No. 3 smoked goggles for a time.

On April 23rd I examined the fundi again, but could find no sign of the changed appearance described above. On the occasion of each examination a mydriatic was used. On this day the vision was 6/6 in each eye. I saw the patient again on May 21st, and the visual acuity was unchanged and colour vision was normal. There was no central or paracentral scotoma, either relative or absolute, for white or coloured objects.

For permission to record the above case I am indebted to Mr. Fulford Eales.

With the suggestion that the public should be fully warned regarding the danger of observing eclipses without proper precautions I heartily agree. It seems remarkable that eclipse blindness occurs in such a small percentage of the interested observers.—I am, etc.,

H. W. ARCHER-HALL, D.O.Oxon.,
Assistant Surgeon, Birmingham and Midland Eye Hospital.

May 23rd.

THE PREVENTION OF PUERPERAL INFECTION.

SIR,—Once again the general practitioner is being subjected to a more or less well-deserved criticism in respect of his midwifery. Last year a somewhat heated controversy took place in your columns along similar lines, more particularly concerning the use of forceps in relation to the relief of pain. Towards the close of the discussion one correspondent went so far as to state that the "agony" of childbirth was a myth, and indirectly suggested the abolition of chloroform anaesthesia in labour.

In so far as the general practitioner is concerned, the fault lies at the door of the teaching schools, or, to be more precise, at the door of those responsible for the college curriculum. It is not that facilities are limited. They are not; on the contrary, they abound, but unless the student is particularly interested in obstetrics, he will not take advantage of them. He is not compelled to do so, as he is in the case of medicine and surgery. For some obscure reason, obstetrics—the oldest of the three arts—has not been permitted to share the same scientific standing as medicine and surgery. The subject has been neglected. It forms a very hurried, insignificant part of the student's final year, consisting of, at the most, six months' theory, followed by the personal management of twelve cases of normal labour in the district of a maternity hospital. The application of forceps or the attempted treatment of an abnormal case is strictly prohibited. So long as the regulations are complied with and a ticket is produced certifying that a course of lectures has been attended, and that twelve cases of labour have been undertaken, the authorities are presumably satisfied that that is all the experience required to practise obstetrics. The student is examined in theory, no clinical examination being considered necessary, and is then thrust upon a trusting public as a fully-qualified (*sic*) obstetrician.

In your issue of May 21st a correspondent makes the suggestion that midwifery should be a specialized subject, kept apart from general practice, and undertaken only by those to whom the work offers a special attraction. This would seem to be the ideal both to the practitioner who dislikes obstetrical work and to his patient. To those in general practice who specialize in obstetrics but dislike the remainder of their daily routine this suggestion, if materialized, would be a godsend; but, as your correspondent rightly says, the present scale of fees prohibits the occurrence of any such Utopia.—I am, etc.,

R. DOUGLAS HOWAT, L.R.C.P. and S.Ed.,
L.R.F.P.S.Glasg.

Hawick, May 23rd.