MOTTLED ENAMEL IN RAT MOLARS

IN an experiment planned to learn the conditions for producing mottled enamel in rat molars, we have fed members of unreduced litters of albino rats, born and suckled on a sucrose-casein type of ration, graded daily doses of fluorine as sodium fluoride by pipette. The amounts given were 0, 1, 2, 4, 8, 16, 32 . . . micrograms each, respectively, to as high as 256 micrograms to a single rat, the tenth in its litter. The rats were weaned at 21 days and fluoride feeding was discontinued. The animals were then placed on a ration of yellow corn meal 66, whole milk powder 30, alfalfa powder 3 and sodium chloride 1, for eight weeks and sacrificed.

The first and second molars of both the maxillae and mandible of the rat which had 256 micrograms of fluoride showed dull white, deeply corroded enamel. Particularly the cusps of the upper molars appeared denuded of enamel. The third molars appeared normal. Two rats which received 128 micrograms of fluorine daily showed a diffuse milkiness of the enamel at the gingival line of the first two molars and some rounding of cusp edges. Other rats, 34 in all, receiving less than 128 micrograms of fluorine, had apparently normal molars.

The high dosage of fluorine required to produce mottled molars is more evidence that the rat is less sensitive to fluorosis than man.

The successful production of mottled enamel in the permanent teeth of an animal in which dental caries can also be induced permits direct experimentation of the interrelations of these two diseases. It also provides a means of study of the time relations of the formation of normal and mottled enamels.

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QUOTATIONS

THE NEED FOR EXTENSION OF MEMBERSHIP OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE[1]

IN 1931, the centenary year of the British Association, the General Treasurer's Report stated that the activities and liabilities of the association had increased to such an extent that further endowment would be essential in order to consolidate the position which it had attained at the close of its first century.

During the past few years the British Association has not hesitated to extend in fresh directions its activities for the advancement of science.

A new Division for the Social and International Relations of Science was established in 1938. It is charged with coordinating work that deals with these relations both at home and abroad, and with carrying out inquiries and research; and it is empowered to hold meetings not only during the annual meeting of the association, but also independently. The division is in full activity: its organization necessarily involves expenditure; and the fields of inquiry already opened to view indicate that with more ample resources the association will be able to undertake, through the division, new work of national and international importance.

As from October, 1939, the association will cease to publish its report in an annual volume, which is felt to be no longer the most effective medium of publication. Instead, a quarterly periodical will be issued under the title of *The Advancement of Science*. It is confidently expected that this new quarterly will assure a more adequate record of the transactions of the association and engender a wider interest in them; but in order to give full effect to this expectation the association must be in a position to restrict itself less severely than hitherto in the matter of printing costs.

In 1937–38 the association broke new ground by sending a representative scientific delegation to India to join the Indian Science Congress Association in celebrating the jubilee of that body. The practice of organizing such delegations to overseas territories, especially those in which normal meetings of the association could not be expected to take place, is regarded as an imperial service of first importance, and one which the association is peculiarly qualified to render. Proposals for more than one such delegation overseas are under consideration now. But in order to further the extension of this principle, it is obviously desirable that the association should be able to bear out of its own funds a larger share of the cost of delegations than is possible at present.

A happy development of international contacts has recently been inaugurated by the establishing of more intimate relations between the British and the American Associations for the Advancement of Science. It has been agreed that in alternate years the British Association shall invite an American lecturer, and the American Association a British lecturer, to their respective annual meetings. Grants will be made to cover the expenses of the lecturers.

Increased financial resources are essential if the asso-

[1] An appeal signed by P. G. H. Boswell, General Treasurer of the Association, Burlington House, London.