A POSSIBLE DIETARY PREDISPOSITION TO STAMMERING

IN working with stammering patients over a considerable period, it has been impressed upon me that while there are a number of specific causes for the habit, each of which must be treated on its own basis, there are probably certain predisposing causes which are also predisposing to other objectionable habits. A habit, as a habit, may be broken; but obviously this is not a final solution of the problem if either specific or predisposing cause is still active.

In the cases of many stammerers whose childhood histories could be reconstructed with reasonable fullness of detail, it has appeared that improper diet in infancy and childhood may have been an important predisposing factor. Further survey of stammering cases, made with the assistance of Dr. Vernon Scheidt, has strengthened my suspicion that an insufficiency of meat in the diet is a predisposing factor in a great many cases. Being unable to carry this survey farther at the present time, it seems appropriate to present the suggestion to all who have opportunities to study stammering cases and who may be able to experiment by placing on an adequate meat diet stammering children who have been on an almost exclusive vegetarian diet.

From the age of two years, there is no reason why children should not have meat at least twice a day. In many cases where the diet has previously been badly managed, the problem may be to induce the child to eat a sufficient quantity. Variety of meats and of preparation, with good psychological technique, offer the solution to this problem. Overcooked meats should probably be avoided.

In some cases, children who have been reared on a diet which includes meat (beginning with liver) from the age of three months refuse to eat meat except sparingly, when they have attained several years of age. In some such cases, the incidence of stammering has been noted. Further observations on such cases and on children who have continued without interruption an adequate meat diet are needed. In the cases of adolescents and those of later ages, adequate information concerning the diet of infancy and early childhood is obtained with difficulty, on account of the well-known unreliability of the reports of both individuals and their mothers concerning matters of early life. In many cases, however, sufficiently accurate accounts of the dietary régime can be secured, and the collection of these seems to be of importance.

For stammering adults, it is conjectural whether a full meat diet would be helpful, along with proper psychological treatment of the habit. The situation of the adult stammerer is of course quite different from that of the stammering child or adolescent. That which may be a predisposing cause in infancy may have other bearings in adult life. Since a surprisingly large number of adult stammerers are relative vegetarians, however, it would seem possible that meat diet would be advantageous to many of these cases.

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OCCURRENCE OF A PHYTOSTEROL IN AFRICAN OIL PALM (ELAEIS GUINEENSIS)[1]

IN the course of an investigation dealing with the separation of α-carotene from a commercial carotene product representing chiefly the unsaponifiable fraction of palm oil, there were obtained several grams of a substance which gave a strong phytosterol reaction.

The alcoholic mother liquor remaining after the separation of most of the carotene was mixed with petroleum ether and sufficient water added to bring the alcohol content to 85 per cent., whereupon a separation of crystalline material occurred. After being filtered and recrystallized, first from 95 per cent. alcohol and finally from absolute alcohol, white plate-like crystals melting at 136.2 to 136.5° and giving a positive Liebermann-Burchard reaction were obtained. Acetylation with acetic anhydride yielded an acetate melting at 130.5 to 131.5° C. and having a specific rotation in $CHCl_3$ $(\alpha)_D^{20}$ −36.5°. The regenerated parent substance melted at 136.5 to 137° C. and had a specific rotation in $CHCl_3$ $(\alpha)_D^{20}$ −41.66°.

From these data it is concluded that palm oil phytosterol probably consists chiefly of sitosterol.

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BACTERIA-FREE CULTURE OF PARAMECIUM

THERE are two reports in the literature on the successful culture of *Paramecium* in bacteria-free media. Glaser[1] demonstrated such cultures of *P. caudatum* and *P. multinucleata*, and later Glaser and Coria[2] outlined the culture methods employed for *P. caudatum*. Recently Hetherington[3] has questioned the bacteria-free nature of their cultures because he was unable to repeat their method with success. The following results may be of interest in this connection. In November, 1933, *P. bursaria* was washed according to the method of Parpart[4] and has since been successfully cultured in a synthetic peptone medium.

[1] Food Research Division Contribution No. 223.
[1] *Jour. Parasit.*, 19: 13, 1932.
[2] *Jour. Parasit.*, 20: 33–37, 1933.
[3] SCIENCE, 79: 413–414, 1934.
[4] *Biol. Bull.*, 55: 113–120, 1928.