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Note added in proof. A source of dietary fluoride in Greece is sea salt. In a recent work it was reported that sea salt contained 40 p.p.m. of fluoride (see ref. 14).

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Selenium Content of Millet and Dental Caries in the Rat

McCLURE reported recently that diets composed essentially of millet (76–94 per cent of the diet), with or without 18 per cent cerelese, when fed to weanling rats for approximately 60 days, proved to be considerably cariogenic¹. The reason for the caries-producing property of millet could not be explained.

It has been shown that the selenium-absorbing capacity of millet was higher in comparison with that of other cereal grains, for example, corn, wheat or rye grown under the same experimental conditions². In view of this, it was thought of interest to determine the selenium content of different varieties of this cereal for an explanation of the caries-producing effect of millet diets as observed in rats by McClure¹. Results from a number of investigations, reviewed elsewhere^{3–4}, indicated that the ingestion of minute amounts of selenium may be responsible for rendering the teeth more susceptible to dental caries, both in human beings and in laboratory animals.

The following four varieties of millet were obtained from a local commercial source: Japanese, early fortune, white proso and yellow proso. Although the millets were grown in this country, their exact origin was not known. An adequate amount from each variety was ground to a powder. Selenium determinations in samples of each millet were performed by neutron activation analysis at the Oak Ridge National Laboratory. The analyses revealed the following levels of selenium (in p.p.m.): Japanese,

0.21; early fortune, 0.22; white proso, 0.22, and yellow proso, 0.41.

The concentration of selenium in the four varieties of millet is about 2–3 times higher than that in samples of a stock corn caries-producing diet recently analysed⁵. It is presumed that the higher level of selenium in the yellow proso millet resulted from the higher amount of this element present in the soil where it was grown.

The selenium-levels in the four varieties of millet may seem small. It is known, however, that the margin between beneficial and harmful effects of selenium intake is narrow, and that minute amounts of this element exert profound influences. It has been shown that the maximum growth in chicks fed a vitamin E-free *Torula* yeast diet resulted after supplementing the basal diet with selenium, as sodium selenate, to a level of 0.05 p.p.m.⁶. Increasing the level of selenium as selenate from 0.1 to 0.5 p.p.m. and 1.0 p.p.m. in the basal diet of the chicks resulted in retardation of growth, the latter level producing also evidence of toxicity⁶. In a recent report, it was suggested that selenium present in a diet at a level of 0.34 p.p.m. may have been responsible for increasing caries susceptibility when fed to weanling rats for a period of 100 days³. It thus appears that the amount of selenium present in millet may have been the factor responsible for the caries-producing property of these diets observed in rats by McClure¹. The possible influence of small amounts of selenium on dental caries susceptibility requires further investigation.

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PHARMACOLOGY

Phenomena of the Hypokinetic Rigid Type caused by O-methylation of Dopamine in the Para-position

THE investigations of Carlsson^{1,2}, by which he demonstrated that practically all dopamine in the mammalian brain is found in the caudate- and entiform-nucleus (forming an important part of the extrapyramidal system), whereas norepinephrine is present in only minimum quantities, suggest that the function of dopamine is not merely that of a precursor of norepinephrine. Carlsson showed, moreover, that reserpine depletes the dopamine from the corpus striatum and produces a Parkinsonian syndrome which could be counteracted by dopa, the precursor of dopamine.

De Jong and Baruk³, Schaltenbrand⁴, von Schroeder⁵, and many others, observed that bulbocapnine and papaverine are capable of provoking a striking hypokinetic rigid syndrome, which is manifested in cats as a catatonic state and in monkeys as a Parkinsonian syndrome—probably also an effect on the extrapyramidal system.

If we compare the chemical structure of dopamine with bulbocapnine, papaverine, and the drugs