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This Week

Research Notes

Articles

Cover: Human teeth are coated with a complex bacterial community known as plaque. This scanning electron micrograph reveals bacteria adhering above the gum line in a "corncob" configuration. Threadlike bacteria make up the central cob, and bacteria of the genus *Streptococcus* are the kernels. (Micrograph: National Institute of Dental Research)

Departments

Letters

Refining the terminology

In "The fructose connection: Copper and heart disease" (SN:5/3/86,p.279), the low copper content of the U.S. diet is putatively "a consequence of food processing."

Although this idea may be in a very general sense partially true, it is at the same time misleading. Food processing encompasses many specific treatments, several of which would have slight if any influence on copper content. For example, preservation treatments such as canning or freezing have little effect on mineral content.

Perhaps the concern expressed is with refinement. White flour contains only about one-third the copper of whole wheat (0.2 mg/100g vs. 0.6 mg/100g). One-quarter pound of bread would provide about 0.14 mg and 042 mg copper from white and whole wheat breads, respectively. The higher levels of the copper in whole wheat bread may be only a nutritional mirage, as the bio-availability of minerals from whole wheat products is often less than from refined wheat products.

In the 1980 RDAs the estimate of the safe and adequate dietary intake for copper is 2 to 3 mg for adults. It would appear that segments of the U.S. population consume less than 2 mg copper per day. Thus food refinement may be a factor in copper intake below the estimated safe and adequate level. Other factors, especially inappropriate food choices, are probably more important. In any event, a more precise term than "food processing" is needed to effectively communicate the dietary concern.

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Degraded by analysis?

That Persi Diaconis's analysis of syllable patterns in Plato's books ("Inside Averages," SN:5/10/86,p.300) ascribes a historical sequence in agreement with the consensus of classical scholars is, I fear, largely fortuitous. To simply standardize and average the raw scores is objectionable in view of the relatively high correlations between the series.

Admittedly, the sparseness of the data demands a straightforward approach. One solution would be to use a technique such as principal component analysis to explore the structure of the data. If most of the variance in syllable patterns can be explained by historical precedence, we would expect there to emerge a principal component representative of that relationship. But alas, the findings suggest a different sequence: *Republic, Timaeus, Politicus, Sophist, Laws* and *Philebus.*

It would be difficult indeed to argue that these trivial games make any serious contribution to the understanding of classical philosophy. To reduce Plato to syllable patterns degrades both that writer and the statistical discipline.

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