Further steps should now be taken to assure that the violations which appear to have occurred in the name of promoting nuclear power do not pass with mere quiet acknowledgement and professional disdain. The abusive use of science to bias public policy decisions will be minimized in the future only if it is emphasized publicly, is punished legally when appropriate, and defenses are constructed to prevent its repetition.

It would seem prudent-in view of (i) the immensely catastrophic consequences of a nuclear accident of even moderate proportions, heretofore downplayed, but which the data of the report and its predecessors alike suggest; and (ii) the fact that no reliable estimate exists of the improbability (or probability) that a nuclear accident will occur-for there to be a formal, public reassessment of the nation's commitment to the widespread use of nuclear power.

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Sudden Infant Death

Jean L. Marx (Research News, 1 Sept. 1978, p. 799) summarizes the case for botulism as the cause of sudden infant death (SID). On the other hand, D. J. C. Read (1) has pointed out the similarities between thiamine deficiency-induced neuropathology and SID symptoms, especially the characteristic apnea. I wish to call attention to a possible connection between the two lines of investigation.

It is instructive to note, first, that the thiamine intake of infants may be marginal. Quoting W. J. Sebrell, Jr. (2):

Holt et al. [J. Nutr. 37, 53 (1949)] found the thiamine requirement of seven infants to vary between 0.14 mg and 0.20 mg/day on the basis of a urinary excretion test. With an average thiamine content of cow's milk of 0.35 to 0.4 mg/liter, an infant weighing 7 kg is calculated to receive at least 0.3 mg of thiamine a day, but this makes no allowance for destruction by heat in pasteurization or sterilization. The margin of safety is, therefore, regarded as

23 MARCH 1979

small by Holt and co-workers in the case of either sterilized milk or breast milk, since the latter contains roughly only half as much thiamine as cow's milk.

In view of these figures, the fact that many strains of Clostridium botulinum produce thiaminase-I (3) may be significant. The anaerobe could precipitate or exacerbate a deficiency by decomposition in the gut of the low concentration of thiamine ingested.

Marx mentions the neurological effects of botulinum toxin. While of slower onset than those of the toxin, the effects of thiamine deficiency on the peripheral and central nervous systems can be devastating. Thiamine triphosphate appears to have an important role in excitable membrane function (4). Moreover, evidence now has been adduced for in vivo interaction of acetylcholine and thiamine (5).

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Predictive Coding Techniques

Arthur L. Robinson, in his recent article on speech recognition (Research News, 16 Feb., p. 634), ascribes the linear predictive coding technique to Bishnu Atal and other workers in the speech processing field. Without detracting from these significant accomplishments, I wish to point out that an almost identical approach has been used with great success for the past 15 years in petroleum exploration for the processing of seismograms recorded in water-covered areas. In our industry, this method goes under the name "predictive deconvolution." Both approaches are direct outgrowths of the fundamental ideas of Norbert Wiener who developed most of the relevant theory at the Massachusetts Institute of Technology during the 1930's and early 1940's.

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Erratum: In "Uranium mill tailings: Congress addresses a long-neglected problem" by Luther J. Carter (News and Comment, 13 Oct. 1978, p. 191), the chemical designation for yellowcake was given as 308 U, instead of the correct formula, U₃O₈.



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