

Food and Drug Administration. The approval was withdrawn the following year in the face of challenges by John W. Olney, professor of psychiatry and neuropathology at the Washington University Medical School in St. Louis, and attorney James Turner. Since then, Searle has gone through a lengthy process of getting its Aspartame studies validated by independent pathologists. The FDA finally convened a Public Board of Inquiry, a new review procedure involving a panel of three scientists, who spent 3 days listening to Olney, Turner, and Searle representatives in late January.

Olney, who may be remembered for his discovery that massive doses of monosodium glutamate (MSG) cause brain lesions in young animals, believes that Aspartame, a combination of two naturally occurring amino acids, has the potential for causing damage to the nervous systems of children. Olney's objections to Aspartame are threefold. First, because Aspartame contains the amino acid phenylalanine, he claims it will add to the hazards faced by children born with phenylketonuria, an inherited metabolic disorder. Because phenylalanine contributes to mental retardation in PKU children, doctors put them on a phenylalanine-free diet, at least for the first several years of life. Second, Olney says that even modest amounts of aspartate, the other amino acid in Aspartame, in combination with MSG can cause damage to the hypothalamus. Finally, he cites a rat-feeding study Searle conducted in which 4 percent of the experimental animals and none of the controls got brain tumors.

Searle has countered that since phenylalanine is in so many foods, its presence in Aspartame is hardly cause for concern; that a damaging synergistic action with MSG is only "hypothetical" and has not been produced in tests with primates; and that the hypothalamic lesions observed by Olney are a "pharmacopathologic curiosity" with no relation to Aspartame. Searle officials discount the rat study cited by Olney and emphasizes the results of two other rat-feeding studies, in which tumor rates in the experimental animals and the controls were identical. Olney is inclined to discount the two other studies, particularly one

in which an FDA inspection team found numerous irregularities, including lack of homogeneity in the feeding mixture.

Although the Bureau of Foods has already indicated that it favors approval of Aspartame, Olney says he is not the only scientist who has misgivings. Floyd Bloom of the Salk Institute, for one, says he believes the evidence produced by Olney demonstrates that even moderate amounts of aspartate can be neurotoxic.

Members of the scientific panel, whose names were submitted, respectively, by FDA, Olney, and Searle, are Walle Nauta, neuroanatomist from the Massachusetts Institute of Technology; Peter Lampert, neuropathologist from the University of California at La Jolla; and Vernon Young, MIT nutritional biochemist. But for all the scientific talent lined up to look at Aspartame, the final verdict in view of the equivocal evidence is likely to be a result of subjective judgments.

Searle has a lot of money riding on the panel's decision, particularly if approval of the product persuades Congress that it will no longer be necessary to keep imposing moratoriums on the FDA's ban of saccharin. The market could reach several hundred million dollars a year, according to one outside analyst, if Aspartame becomes available as a dry sweetener, breakfast cereal coating, and sweetener for chewing gum, desserts, and toppings. If it is cleared for use in soft drinks as well, the market could top \$1 billion in a few years.

Deutch to Leave DOE

John Deutch, who early in the Carter Administration was brought in to head the Department of Energy's new Office of Energy Research and who now serves as under secretary of energy, plans to leave his post and return to Massachusetts Institute of Technology within the next month or so.

In his letter of resignation, he cited the need to return to his family, which has remained in Lexington, Massachusetts. However, his departure is earlier than originally intended. At his confirmation hearings in mid-1977 he

assured senators that he would stay as long as the President wished him to; but the method of operation instituted by energy secretary Charles Duncan, who succeeded James Schlesinger in the job last August, has reportedly made it difficult for him to exercise his authority. Duncan has surrounded himself with 14 special assistants—most of them imported from the Department of Defense, where he worked previously—who, according to one source, keep making



Photo by E. Poggenpohl

John Deutch

"end runs" around the line of command. Deutch is said to have obtained repeated promises from Duncan that the situation would be straightened out, but it was not. So, he felt he had no choice but to leave, even though Duncan urged him not to. Deutch himself refuses to make any criticisms publicly and insists that he and Duncan are good friends.

Asked about DOE's accomplishments during his stint there, Deutch told *Science* he is "proud" of the "sound policy" on nuclear power the DOE has adopted and very happy with the government's move toward synthetic fuels. He is disappointed that more has not been accomplished in the areas of coal utilization, conservation technologies, and radioactive waste management. Deutch believes it is time to move ahead with establishment of a nuclear waste facility in New Mexico (the Waste Isolation Pilot Plant), but the Administration has decided, for all intents and purposes, to cancel it.

Deutch's reception on Capitol Hill has been very favorable, according to an aide to Senator Pete V. Domenici (R-N.M.). The aide says they appreciated his technical expertise and willingness to explain technical things to them.

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