

by introducing the risk-benefit concept to food additives, much the way it now applies to drugs. (Various other pro-saccharin bills also are in the hopper, sponsored or cosponsored by an additional 50 members of Congress.) Martin says that Congress cannot give the matter careful attention during the next couple of months because the House Interstate and Foreign Commerce Committee, which has jurisdiction over the saccharin bills, is busy dealing with President Carter's Comprehensive Energy Act. Therefore, Martin asked the FDA to hold off on its saccharin ban. In addition to pleading for more time, Martin, who holds a Ph.D. in organic chemistry, claimed saccharin is beneficial in "helping people stick to their diets," and he called the rat studies "at best a flimsy scientific basis for predicting any incidence of cancer in humans."

The majority of witnesses at the hearings seemed to be against the FDA and

for saccharin, many of them arguing with "anecdotal evidence" that saccharin meets a real need. One woman, unaccompanied by before and after pictures, presented herself as living proof that diet foods help people lose weight. Several witnesses alluded to the virtues of saccharin in reducing obesity, heart disease, and the complications of diabetes.

Representatives of the American Diabetes Association's "Heart of America" affiliate came from the Midwest to testify that diabetics need saccharin to "enhance their quality of life." One of them spoke of "soda without fear." Another, a psychiatrist who treats diabetic children and adolescents, said they need saccharin so they can snack with their peers. It is necessary, she said, to their "psychosocial development."

A spokesman for Procter & Gamble, makers of saccharin-containing Crest and Gleem, told the FDA that if saccharin is banned from toothpaste there could

be a "major increase in dental disease," as people by the thousands stop brushing twice a day.

#### No Evidence Saccharin Works

Countering such testimony were declarations by antisaccharin forces that there is no evidence it is good for anything—scientifically speaking. What few studies have been done to compare dieters or diabetics who use saccharin with those who do not have shown no benefit from saccharin, consumer advocate Sidney Wolfe of the Nader-affiliated Health Research Group rightly pointed out. He added that in some cases saccharin may actually make things worse. Saccharin, Wolfe claimed, has been shown to *lower* blood sugar, which in turn increases appetite and, among diabetics may actually contribute to the onset of hypoglycemia and insulin shock.

In addition to arguing that saccharin has no proven benefit, Wolfe testified

## Eschewing Understatement, United Kingdom's

The new Toxic Substances Control Act (TSCA, or Tosca as it's called) was subjected to a withering attack not long ago by British science attaché Alan Smith.

The remarks, which since have enjoyed wide circulation in government and through the diplomatic set, were made at a public meeting staged last March by the Environmental Protection Agency (EPA) on "possible approaches to implementation" of the new act, which went into effect on 1 January.

TSCA, an extraordinarily complex law that took 5 years to get through Congress, requires all "new" chemicals to be proved environmentally safe before they are marketed, and calls for safety testing of many already in use. It will have an important effect on trade because it applies to imports as well as domestically produced chemicals.

At the meeting, Smith, speaking from hastily scribbled notes, complained that EPA had given other governments "ridiculously short notice" for commenting on the act. He also excoriated the law for being, on the one hand, incomprehensible, and on the other, an attempt by the United States to run the world's environment. The little speech was loudly applauded by the audience of over 600, most of whom were representatives of chemical concerns.

Smith's pungent remarks went in part as follows:

"I cannot understand the language of the Act. In its wording, a chemical substance is not a chemical substance; the environment is not the environment; . . . 'manufacture' means 'import'; in short, everything means everything—including everything else.

"We are left in a condition of maximum entropy: in which events and objects are indistinguishable. . . ."

Many interests, said Smith, "could be seriously affected by this absurd piece of gobbledegook," but (theoretically) "how can one comment helpfully about the ravings of a man who . . . does not know what he is talking about, and cannot explain it in everyday language?"

Smith noted that "the United States does not have a mo-

nopoly of the environment" and that there already exists international machinery, in the form of the Organization for Economic Cooperation and Development (OECD), to advise governments on such matters. But "You have chosen to ignore that machinery; and instead to embark . . . on this ludicrous charade" of inviting governments to comment on a law they had barely even heard of, much less understood.

"Well, you must take what is coming to you," said Smith. "I believe the situation is too serious to mince words.

"Go back: consult your State Department: have some respect for the international environment of which you are a part. Do not bite off more than you can chew; do not kid yourselves that the words of your mother tongue can be made to carry more meaning than they will bear; do not presume to legislate for the Universe and the whole human race until you have proven to the world that you can run your own affairs; do not try to teach your grandmothers in Europe to suck eggs; . . . and above all, take a thought for your reputation: there is a limit to the number of times even the greatest country in the world can afford to appear ridiculous in international affairs. . . ."

"This draft is like the Jabberwocky of Lewis Carroll. . . . The language of chemistry mixes uneasily with the language of metaphysics, and the overlay of legal jargon makes the whole incomprehensible.

"When you know what you want to do . . . approach us through the proper channels. . . . Until then, do not expect the international community to compensate for the defects in your own approach to problems: and do not waste our time."

Smith, a mining engineer who has been at his current post for 2½ years, still sounded angry when *Science* called him up 2 months later. He said he'd had no instructions from his government—"only a great raft of questions"—about the act—"but I have no reason to believe that my

that, in his view, the risks are proven. He referred to 11 different long-term "laboratory studies" in which saccharin has caused cancer. "Some of these studies were less than perfect by today's standards," Wolfe admitted, referring to a continuing problem in evaluating the relatively large amount of saccharin data that have accumulated over the years. "Nevertheless, the consistency of the findings should have compelled a saccharin ban years ago," he said.

In fact, when FDA commissioner Kennedy picked up the ball on the saccharin ban he was handed upon taking office, he went to some effort to point out that it was not *just* the Canadian but the accumulation of evidence that saccharin is hazardous that persuaded him the ban is proper. Furthermore, Kennedy believes a saccharin ban is justified in light of current concern about environmental carcinogens. "We should not," he says, "allow even weak carcinogens in the en-

vironment if we can help it. Our systems may already be overloaded."

The many assessments of saccharin give equivocal evidence that it is risky, but there is even less proof that it is safe. As far as the other side of the equation is concerned, there have been no overall assessments of the *benefits* of saccharin, except for a preliminary evaluation of the situation in 1974 by the Institute of Medicine—National Academy of Sciences. At that time, the Academy was completing a study of evidence of saccharin's potential hazards, and the Institute was making ready to consider whether there are grounds for reclassifying it as a drug, were the Academy group to recommend its being banned from food. When the Academy declared the data were not strong enough to ban saccharin, the Institute shelved its saccharin-as-a-drug study. However, reporting for the Institute, pharmacologist Kenneth Melmon of the University of Cali-

fornia Medical Center at San Francisco said, "The data on the efficacy of saccharin or its salts for the treatment of patients with obesity, dental caries, coronary artery disease, or even diabetes has not so far produced a clear picture to us of the usefulness of the drug." On the other hand, Melmon says, "There isn't any good evidence that saccharin causes human cancer either."

No one really knows what to make of all of this contradictory and inconclusive information. But many scientists are beginning to join the politicians and the average citizens who think that the FDA may have acted in haste. Whatever the case, it will be unfortunate if a serious—and needed—discussion about possible changes in the food and drug law is clouded by the saccharin debate, with all its ambiguities and emotionalism. The underlying issues about the role of the FDA are too important; saccharin is too trivial a vehicle to carry them.—B.J.C.

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## Science Attaché Declares Tosca Non Grata

colleagues in Whitehall would dissent from my position." He reiterated that the law was a mess, its definition of "environment" absurd (it's defined as "water, air, land and all living things and the interrelationships that exist" among them) and the apparent intent was "to protect everything from everything anywhere." He added that it would have a horrific effect on trade. "I say it's nonsense and the hell with it."

There have been no official attempts to placate Smith, but he says quite a few people in government have since approached him to say, in effect, "Well done—we don't understand the bloody thing either."

Other foreign representatives sympathize in varying degrees with Smith although they do not share his vehemence. The Canadian science attaché said, "It's time someone said something like that" and agreed with Smith that the law contained "an element of presumption as well as an element of imprecision." A German agreed the law was "unclear" and a French attaché said, "We are very concerned," but unprepared to comment on the law.

### EPA Shrugs off Criticism

Irving Fuller of EPA's office of international activities disputed Smith's contention that there was no time to prepare a response to the law, saying he had ample opportunity during all the years the act was going through Congress. Fuller said the agency had tried very hard to get other countries involved in developing strategies to implement the act, that briefings had been held for the diplomatic corps, and that there is to be a meeting with the chemicals group of the OECD this month. (Another EPA official said Europeans felt they had been given inadequate notice but "this is a common complaint in Europe about everything America does.") As for the substance of the act, said Fuller, "That's something that Mr. Smith's government will have to take up with Congress."

An official in the State Department's Office of Oceans

and International Scientific Affairs said, "We are involved in a laborious and detailed operation" to inform foreign governments on what the act involves, and that U.S. embassies abroad had recently been deluged with three-volume sets, inventorying some 30,000 existing chemicals, which are to furnish the baseline for determining what chemicals are new.

Although State and EPA officials did not appear to take Smith's criticisms very seriously, all parties acknowledged that other countries do not yet have much idea how the law will affect them. Since "import" does indeed equate with "manufacture" under the new law, any country wishing to trade with the United States will have to pretest any new chemical—and allow evidence of its safety to be publicized—before it can be sold in this country, and will have to supply evidence that any "old" chemical not on the approved list is environmentally safe.

TSCA is not the first American environmental law to have significant international repercussions—the Clean Air Act, for example, has affected foreign auto manufacturers—but it is undoubtedly the most complex and far-reaching. There are not yet any official prognostications about how the law will affect trade in chemicals. The United States, according to EPA, imports some \$2.7 billion worth of chemical substances a year and exports chemicals worth over \$8 billion. The potential effects of the law are much wider, however, for EPA's proposed regulations would control all chemicals in all imported articles.

The United States is not alone in having a toxic substances law, but the TSCA seems to be more aggressive than those of other countries—Switzerland, Sweden, Norway, France, Canada, and the United Kingdom—whose basic approach is limited to the control of new substances.

As for the comments by the British science attaché, they may not have been very constructive, but they were refreshingly undiplomatic. One envoy said wryly, "A couple of people are calling it 'the new diplomacy.'"—C.H.