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PCB

ANNOUNCER:...and speaking of Barbara Mahallic(?) -- three letter abbreviation for chemical compound more consistent than DDT. When that turns up in your crossword puzzle, the answer is PCB.

The American Chemical Society is meeting in New York this week, and Barbara has been spending some time at their seminars and she's going to tell you the end of the PCB story. Barbara --

BARBARA MAHALLIC: Remember the picture story on deformed infant sea birds? It originated in Natural History magazine, and it hit the split page of the New York Times several months back. Some of the birds lacked feathers; some had crossed bills; some had three legs. That was the first many of us heard about the industrial compounds called PCB's, polychlorinated bifenals(?). Biologists related the deformities to high levels of PCB's in the waters of the birds nesting areas, and in the fish the birds feed on.

Chemists began to suspect PCB's as a problem in the late sixties. Studies of PCB in humans, in fish and wildlife, and in the environment in general were begun. Results of much of this research was brought together at the American Chemical Society's meeting in New York City this week.

I talked with Dr. Otto Hutsinberg(?) a top research scientist for the Natural Research Council of Canada. He was there with very welcomed proof that PCB's do eventually break down in nature. PCB is known to be far longer lasting than DDT, and chemical theory had held that PCB does not break down, which would have meant that the amounts of the compounds that have been put into the environment in the last forty years will just stay there, cycling to birds and people.

I asked Dr. Hutsinberg wwhat polychlorine bifenals are?

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DR. HUTSINBERG: Polychlorine bifenals are a mixture of melated(?) compound in industrial use. Their used in the neighborhood of several thousand tons a year and there are several mechanisms by which they can escape (UNINTELLIGIBLE).

MAHALLIC: What kind of things are they put into in the first place?

HUTSINBERG: They are put into capacitors, they're used as liquids, coolants and transformers. They're used in paints, or they were used in paints. They're used as (UNINTELLIGIBLE), heat transfer media, they're used as (UNINTELLIGIBLE).

MAHALLIC: Dr. Hutsinberg is a native of Austria.

Like DDT, PCB's are concentrated by the action in the food chain. A South Dakota State University team reported that a cormorant(?), that's fish eating bird, has a PCB level sixty times greater than the level in the fish it feeds on. PCB's, again like the persistant pesticides of DDT, and such, are stored in body fat. Then when exercise or pregnancy requires the birds to use their fat for energy, the concentrated pesticides and PCB are released into the blood. The specific toxic effects of PCB have not yet been definitely established. High pesticide levels in the brain cause death. Some dozen papers on PCB's were presented at the American Chemical Society sessions. A paper by Dr. Ann Yobbs(?) of the Environmental Protection Administration, dealt with PCB levels in human beings. Apparently about half the people in the United States today, have some PCB in their body, and one person in every three has more than one part per million. And if that doesn't sound like a lot to you, it's twenty times the concentration the Food and Drug Administration would allow in your food.

It's taken us a long time to catch up with PCB. I asked Dr. Hutsinberg if something like this could happen again. Could some new material be introduced in industry, and then found to be as persistent as DDT, and PCB?

DR. HUTSINBERG: (UNINTELLIGIBLE) of course exists. But you know with everyone very much aware of the problem at the moment, I think the danger is much much less.

MAHALLIC: If people had been required to make an environmental impact statement at the time PCB's were first introduced, do you think that would have helped?

DR. HUTSINBERG: No, I don't think so, because they were first introduced in 1930, and no one thought about the environment at that time. The use of PCB has increased every since dramatically, and it was only found because PCB's interfered with analysis of pesticide additives. This was the first time they were found,

because people saw strange peaks on cromatagrams(?) in analysis, and they were questioning what are they, what are these compounds?

MAHALLIC: In other words, the first studies of PCB were ordered mainly to find a way to keep PCB readings from confusing the very similar DDT type pesticide readings. Well now we do know that PCB's escaped from their industrial uses, exist in the general environment and they persist in the general environment.

Because they last so much longer than DDT, more PCB is around, evan though more DDT has been produced. What will the governments of Canada and the UnitedSStates do about it? Will they regulate these PCB's? Dr. Hutsinberg has some thoughts on that.

DR. HUTSINBERG: We'd really be satisfied with Monsanto's and othar companies approach to limit the use of PCB, to containers that are sealed, but no more uses where PCB could get into the environment.

MAHALLIC: And what direction do you think they can go beyond that to eliminate PCB from the environment? Do you think the possibility is there that it would be totally banned, for example?

DR. HUTSINBERG: There's a possibility, but the companies are not all that interested to retain because (UNINTELLIGIBLE)... but it's actually the manufacturer's of other products and to a certain extent it's standard association in the United States because at the moment, for certain uses, it has no substitutes.

MAHALLIC: So much for PCB's. They've already been substantially phased out. What's in the environment and in you will be there for a very very long time to come, but not much more will get in. In fact, tha people who've done important work on PCB's are bored with them. They've solved that puzzle -- their off now to work on something new and exciting. Ethyleneethoureo(?)for example, ETU.

ETU is the next chemical hazard you'll be hearing about. That's a break down product of common fungicides. Apparently toxic is certain concentrations, but fortunately not persistent. Off with the old and on with the ETU.

I have some troubling thoughts on this situation. By and large it is public funds that have been used to study PCB's, millions of dollars worth easily. It's not the funds or the industries that put the PCB's into the environment, however innocently, and is this something we accept? Do we accept that in the technological society, society at large should bare the expense of detecting and correcting such mistakes, so that society can benefit from technological progress? And if so, is this attitude calculated to encourage caution on the part of industry in business. And what about trying to plan ahead and stop things like DDT and PCB and ETU in the test tube?

There is some action along these lines. The US Department of Health, Education and Welfare has set up a new unit at Pine

Bluff, Arkansas. They'll survey existing chemicals, whether or not they're now used in industry, and determine ahead of time whether or not they would cause harm. And legislation that may reach Congress next session, could require industry to prove a compound is safe before they use it. Much as the Food and Drug administration now requires that advance proof on new food additives, and I can see trouble there too. That kind of red tape and expense would surely hamper technological development. Is that the trade off we have to make for avoiding three legged sea birds, and PCB in the brain tissues of two year old children? Are we willing to make it? Some watershed decisions are coming up for Americans.

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