The Evening Star
WASHINGTON, D. C.
D. 318,026 SUN. 362,408
DEC 24 1970

WASHINGTON CLOSE-UP

Environmental Ignorance Flunking

By JUDITH RANDAL

If concern about the environment has done nothing else, it has gone far toward dispelling the complacent notion that what you don't know can't hurt you and the corollary aphorism that ignorance is bliss.

Recent events would suggest, however, that there is a crying need for the basic scientific investigation of potential hazards rather than their mere detection, because we are far from knowing the meaning of much of what we learn.

The tuna fish incident last week is an example. It was reassuring when the government — having learned that some tuna fish is tainted with mercury — decided to remove the product from the market whenever it is found to contain more than one half part per million of quicksilver. But what comfort can be taken from the ban?

The question is a tricky one because no one can be sure whether mercury levels in tuna fish are any higher now than they were, say, 10 years ago and because the .5 ppm safety standard is a figure more or less plucked from the air.

★

All that can be said is that bacteria in the water convert the inorganic metal from industrial wastes into soluble methyl mercury which then is eaten by higher organisms, but no one knows to exactly what extent. Thus, the figure may be ultraconservative or it may not.

The only people who have died of acute mercury poisoning from food did so after what they had eaten contained from 10 to 80 times more mercury than the amount set by the government's guideline and from 13 to 100 times the average amount of mercury found in the tuna fish that was subject to last week's ban.

On the other hand, it is quite conceivable that chronic ingestion of smaller quantities of the elusive metal may subtly undermine health or actually shorten life.

This is known to happen with other heavy metals such as arsenic and lead. If large amounts of mercury are capable of fatally injuring the liver and the brain and causing massive birth defects, so the thinking goes, smaller ones cumulatively may — if they exceed a critical threshold — exert proportional effects. Unfortunately, no one knows what that threshold is or how it may vary among individuals.

★

In announcing the ban, the Food and Drug Administration maintained that Americans have little to worry about in any case, since they don't eat much fish, but this may be whistling in the dark. Tuna, as a deep-sea species, lives on smaller fish and so gets the mercury only from its diet, making it likely that all of the marine food chain is involved. Stop to consider that fish meal from so-called trash fish is a principal ingredient of poultry feed and it is not too hard to imagine that chickens, which are a dinner table mainstay, may for practical purposes occupy the same position at the top of the marine food chain as tuna.

Nor are freshwater species exempt. Mercury contamination in this country was first discovered in Coho salmon in the Great Lakes which, like the oceangoing tuna, are at the head of the water food chain. And since it also was Great Lakes Coho salmon which were found to have high levels of DDT in their fat, another disturbing question comes to mind: Do these chemicals interact in living systems and, if so, how? DDT, after all, is widely distributed in the environment around the world.

Those of the "you can't stop progress" school can make the charge that no one yet has demonstrated that chicken is contaminated by mercury or that mercury and DDT do more harm together than either does alone. They will, of course, be right, and if DDT and mercury were the only pollutants involved, we might be able to wait until one industry's meat becomes another's poison — the usual route of disclosure — to find out.

Only last week, however, Science magazine reported that polychlorinated biphenyls — chemicals used in electrical transformers and capacitors — appear to make ducks more susceptible to virus infections, and perhaps man as well. And PCBs are just one more of a long and growing list of abundantly distributed industrial and agricultural wastes.

★

Besides, they interfere with the detection of DDT, further complicating the understanding of environmental hazards.

In medicine, doctors work on the timeless principle, "primum non nocere" (first do no harm), and no treatment is accepted until there is reasonably solid evidence that its advantages outweigh its drawbacks. Even here, of course, mistakes happen; patients die needlessly on the operating table or a drug like thalidomide sometimes gets on the market without adequate testing.

Still, medicine in general accepts the responsibility, as industry has not, that relative safety must be demonstrated before rather than after the fact. It would seem to be an idea worth considering for society as a whole.

MONS 032444