

In the wake of the Argo Merchant

"The public thinks that when an oil spill occurs you just call the Coast Guard and they'll take care of it. But the Coast Guard doesn't know what to do. Someone should tell the public we don't have many answers yet," bemoaned a participant at a symposium on oil spill research sponsored by the University of Rhode Island last week. An array of science and engineering disciplines were represented among the more than 200 marine specialists who came to hear findings of research on the fate and impact of the 7.7 million gallons of oil released when the *Argo Merchant* tanker ran aground Dec. 15, 1976 (SN: 1/1/77, p. 6).

"Miracle" spill-cleanup techniques and machines one reads about often can handle no more than 750 gallons of oil without help, one researcher said, and that's if the weather's good. But it's not always good, especially during North Atlantic winters when one can expect storms with lashing, 35-mile-per-hour winds and 40-foot waves (as occurred following the *Argo Merchant* wreck). Cleanup apparatuses are made to operate in 5-foot crests and probably will not break down in 10-foot waves, but nothing can tackle the 20- to 40-foot waves seen at the *Argo Merchant* site, said another researcher.

Recognizing an important opportunity to study spill effects outside the laboratory, hundreds flocked to Cape Cod in mid-December 1976 — many literally volunteering skills and time in exchange for the chance to take part in research. More than 50 agencies responded to the spill. Those who could hire or beg a ride to the spill site shared the awe and at times overwhelming challenge of conducting research on the high seas. Back in their laboratories they sampled the humbling frustration of trying to "find something" amidst the sometimes confusing array of

"possible" correlations and small samples (many of which proved too small to be statistically significant).

For example, of 2,900 sea-bed drifters dropped about the spill site to record much needed data on currents, only 38 were recovered intact, another 84 lost their anchors and surfaced. A search for small oil droplets dispersed in the water revealed a collective total of one drop. Contents of 37 fish stomachs revealed only two which showed ingestion of oil that strongly resembled the *Argo Merchant's* cargo—and one of those fish, a cod, came from a region thought to have been unaffected by the spill.

Those trying to chemically identify oil as coming from the *Argo Merchant* were frustrated by oil weathering (during which volatile portions evaporate or enter the water, thereby altering the spectra of the remaining portion). It also appears that the tanker carried three different oil cargos, of which there are known samples of only one.

"I'm worried," said Clarence Tarzwell, a retired government environmental expert. "If we take this tack [post-spill investigation using ineffective techniques] we're playing into the hands of those who would pollute."

Tarzwell suggested setting immediate, and perhaps arbitrary, ocean standards to limit oil releases, and putting the burden on industry "to prove that what they did shouldn't cause harm." Better yet, he suggested, since accidental spills represent only about three percent of the oil added to the seas annually, why not redirect our focus at preventing that other 97 percent? Results from this meeting, he emphasized, confirm the belief that acute spills are less of an ecological hazard than chronic exposure to the elevated hydro-



Only a month or more after the Argo Merchant wrecked — causing the biggest oil spill disaster in U.S. history — scientists had trouble finding more than trace amounts of its oil.

NASA

carbon levels developing at sea.

The Environmental Protection Agency's Paul Lefcourt pointed to another problem. A new amendment to the Clean Water Act will allow federal and state agencies to be reimbursed for "damage to natural resources" and for resource restoration. But, he asks, how do we determine damage, and more important, will our "evidence" stand up in court? The conference pointed out that there are no clear answers to these questions. The federal revolving fund that pays for oil-spill cleanup and for studies to verify damage is supposed to be replenished through fines and court settlements levied against polluters. Already fines do not meet the cash outflow, said EPA's Hans Crump, and at least \$25 million in claims await court action. □

Multiple sclerosis: Promising treatment

Three years ago, E. H. Eylar of the Merck Institute, now of the University of Toronto, reported that a particular protein was involved in the causation of multiple sclerosis. Specifically, he and his co-workers found that the so-called A-1 protein, when taken from the brains of multiple sclerosis patients and injected into experimental animals, sensitized lymphocytes (immune cells) in the animals. The lymphocytes then migrated to the animals' brains and spinal cords and produced experimental allergic encephalomyelitis, the animal equivalent of multiple sclerosis. Eylar and his team then found, paradoxically, that if they put the protein in a salt solution and injected it into the diseased animals, the protein desensitized their lymphocytes and reversed the disease permanently (SN: 6/15/74, p. 383).

Now Eylar and his colleagues have launched a study to see whether injections of the protein can help multiple sclerosis patients. So far they have tried it on a dozen patients and plan to eventually expand their test group to 25. No results are available as of yet.

Meanwhile, Jonas Salk, discoverer of the Salk polio vaccine and head of the Salk Institute in LaJolla, Calif., has isolated a protein identical to the A-1 protein from pig central nervous system tissue, and has likewise found that it helps counter experimental allergic encephalomyelitis in animals. He calls the protein myelin basic protein rather than A-1 protein. Salk and his co-workers are now starting to test the protein on a handful of multiple sclerosis patients to see whether it can help them.

Actually, a clinical study with this protein has already been conducted by another group of researchers. However, results were not particularly encouraging, apparently because the protein was given in too small amounts and over too great a period of time. □