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Oil Pollution

Destruction of the Torrey Canyon and the associated pollution of parts of the English and French coasts dramatized a problem chronic in the United States. All too often major and minor releases of petroleum have destroyed marine life and fouled vacation beaches of the Great Lakes and of our seacoasts. Unless additional legislation is enacted, the intensity and frequency of fouling could increase. The tonnage of crude oil and its products moved in tankers is growing, and ships of unprecedented capacity are being built. Sooner or later, one of these huge tankers will be sunk off the United States. How will we meet such a disaster? Who will pay for the damages?

At the moment there is effectively little legal recourse. Included in the Clean Water Restoration Act of 1966 were amendments to the Oil Pollution Act of 1924. These amendments were intended to increase the law's penalties and authorize the government to remove spilled oil from the water or shorelines and then sue the responsible parties for the cost. The Senate version of the amendment included a definition of an oil discharge as "any accidental, negligent, or willful spilling." However, this version was changed in House-Senate Conference. The new definition of "discharge" became "any grossly negligent, or willful spilling." Proving gross negligence is almost impossible, or so Justice Department lawyers believe*, for no one has been prosecuted under the new law. Previously about 100 prosecutions a year were filed.

Some petroleum companies have exposed themselves to the charge of "public-be-damned" attitudes, through their practice of cleaning tankers near the coasts by rinsing them with sea water. However, other oil companies have been leaders in efforts to minimize nuisances associated with their activities. Progress in methods of treating refinery wastes is especially noteworthy.† For instance, some facilities are so designed and operated that phenols are almost entirely absent from waste effluents. Many refineries do a good job of removing other components of their effluents. In a typical instance most of the oil is separated mechanically, leaving water containing about 50 parts of oil per million. The oil content is reduced to about 7 parts per million by microbial attack in aerated ponds containing inorganic nutrients. Straight-chain hydrocarbons are readily destroyed. Chains with tertiary carbons are resistant. Also relatively resistant are tar-like complex asphaltenes of high molecular weight.

For years it has been difficult to identify those responsible for oil pollution. When large oil slicks recently were sighted off the Atlantic Coast, the source of the petroleum could not be fixed. Leakage of oil from sunken World War II tankers was blamed. But this facile explanation may not suffice much longer. With modern instrumentation it should be possible to catch the culprits. For instance, a combination of gas-liquid chromatography, controlled pyrolysis, mass spectrometry, and computer calculations probably could provide an identification as valuable as a fingerprint. Patterns obtained from oil slicks could be compared with samples obtained from tankers bound for, and unloading at, United States ports.

The oil industry has needlessly damaged its public image. The industry has adequate talent and resources to minimize its contribution to pollution, and it should proceed to do so.—PHILIP H. ABELSON

* *Congressional Record* (20 April 1967). † J. B. Davis, *Petroleum Microbiology* (Elsevier, New York, 1967).