Capitalism's Industrial Plagues

"They mean to kill us all"

Bob Nirkind

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> This article is the first in a two-part series on the effects that the indiscriminate handling and usage of radioactive waste materials and dangerous chemicals are having, and will have in the future, on human beings and their environment. Part One focuses on the results of chemical accidents and nuclear leakages in the United States and around the world. Part Two, Is Michigan Slated For Nuclear Landfill?, Fifth Estate #277, October 1976, will concern itself specifically with Michigan, and the Federal Government's intention to test land here for the possible construction of a nuclear waste disposal system.

Between nuclear waste leakages and chemical dumps and explosions, it's quite conceivable that the human race—indeed, perhaps all life, animal and vegetable—may not be long for this earth. At this point this is hardly more than conjecture, but it does appear that unless the current number of accidents and disposals of unsafe chemicals and nuclear waste materials is drastically reduced, it's somewhat difficult to envision life as we know it continuing for many generations, or even decades, to come.

Within the chemical industry—a multi-billion-dollar-a-year business—the drive for profits is so overwhelming that virtually nothing, life included, is allowed to stand in the way. As a direct result of the unavoidable dynamic of company expansion and increased profit margin, human beings are facing devastating personal and ecological consequences—consequences which, though countless chemical firms are currently engaged in it, can't be paid off in cash.

As for nuclear waste disposal systems, they're proving to be far from "safe" as the government would have us believe. The alarming number of ruinous incidents involving radioactive waste materials rather points to an even bleaker future.

Despite the government's unceasing efforts to downplay the results of nuclear waste leakages in the United States, it's a fact that radioactive materials have been seeping into the environment.

Currently, the most notorious chemical catastrophe occurred in Seveso, Italy where an explosion at the Icmesa plant, a subsidiary of the Swiss pharmaceutical conglomerate Hoffman-La Roche, has killed off an incalculable number of animals and vegetation, sickened some 500 persons and forced the evacuation of the town and many surrounding areas.

Reports out of Italy have indicated that the explosion at the factory, which manufactures chemicals for herbicides, medicines and cosmetics, was created by a stuck valve system which in turn caused an autoclave to overheat and speed up the chemical reaction which produces the chemical. The explosion released two kilos (4.4 pounds) of the poison gas. When you consider that one gram can kill thousands, you can better understand the possible consequences of such an explosion.

With the aid of a slight breeze, the deadly tetrachlorodibenzodioxin, or TCDD, a component of the defoliants used by the American forces in Vietnam, blew southward, contaminating Seveso and several other small communities on the outskirts of Milan.

At first Icmesa officials attempted to cover up the seriousness of the explosion by assuring local mayors that there was nothing to worry about while at the same time visiting area homes to inquire whether there were any newly-sickened farm animals or pets about. By the beginning of the second week, the factory officials were forced to admit that the gas presented a great danger.

By this time, area residents had already begun to observe the effects of the poisonous gas. They watched as their pets bled from the nose and mouth and died. As related in Time Magazine, one farmer saw his cat keel over and when he picked it up, its tail fell off the body. Two days later, when authorities dug up the cat for investigative purposes, only the skull remained.

Finally, by the end of the second week, Icmesa announced that drastic measures would have to be taken, evacuation included. Not only were animals dying by the thousands and the leaves withering on the trees, but doctors were overloaded with patients complaining of skin infections. Hundreds of such cases were registered in the area.

To put a stop to the spread of contamination, an army of veterinarians stepped in to kill off all surviving animals within the boundaries of the affected area. Cornfield and vegetable patches were to follow.

According to the regional health minister, Vittorio Rivolta, the dioxin cloud was "our own little Hiroshima." The region had to be isolated by troops and all the people evacuated from the most contaminated sectors-. A ban was enforced on the consumption of all local produce.

The danger to humans in the Seveso area is enormous. From past medical experience in other countries, it's been shown that small doses of dioxin are capable of damaging the liver, spleen, kidneys, respiratory tract and nervous system as well as producing deformities in unborn babies.

In a study conducted by the U.S. Food &Drug Administration on the effect of TCDD on farm animals, it's been suggested that dioxin is one thousand times more dangerous to fetuses than teratogen, the deforming agent in thalidomide. It's a potential genetic time bomb (to say the least).

Doctors in Sevaso have announced that they'd recommend abortion if they found signs of deformed fetuses in pregnant women. As expected, the Vatican has opposed the proposed action. The government, surprisingly, appears to be supporting the physicians.

Until now, there's been no clear-cut solution to the problem. Officials at Hoffman-La Roche have recommended a scorched-earth policy of destroying the factory, leveling the houses, burning out all surrounding vegetation and skimming off approximately one foot of topsoil over the entire affected area. Another suggestion has been to soap down the area with either chemical foams or natural fats.

At this point it's clear only that something must be done. Professor Ton That Tung, a North Vietnamese specialist in defoliation, has predicted that the contamination would spread far beyond Sevaso, given time.

The only known solution was employed in Britain in 1968 when a factory contaminated with dioxin was leveled and its wreckage buried down an abandoned mine shaft.

Not all ecological tragedies involving chemicals have been accidental though—not by a long shot. The most common source of environmental damage is technological change via industrial innovation. In the chemical industry, corporations stake their drive for increased profits on the rapid rate of innovation and product replacement. The push for new products is so great that the industry simply doesn't bother to invest in the time to check out the ecological effects. The result is products such as soil-depleting nitrogen fertilizers, high-polluting, expensive "luxury" automobiles and energy-burning, light-reflecting additives in detergents advertised as "brighteners."

This, of course, doesn't even begin to take into account the fouled water and air, the diminishing resources and the ravaged land.

Of course, America is far from being the only country involved in such madness. In an effort to catch up and forge ahead of the United States both technologically and economically, the Soviet Union (among others) has done an exemplary job in polluting its rivers and streams with industrial waste.

Within the realm of capitalism, it's only increased productivity that counts. Personal and environmental considerations lag far behind. And, as pointed out in a book concerning multinational corporations entitled *Global Reach*, "In a world of oligopoly competition, no single nation dares impose significantly greater anti-pollution costs on its own corporations than the other advanced industrial nations are prepared to impose." In the age of multinationals, a further cost burden imposed by any government only leads to the corporation moving its operations, and big bucks, elsewhere, to another country's "benefit".

In regards to nuclear dumps and leakages, the distinction first has to be made between "low-level" and "high-level" nuclear waste material. According to the Environmental Protection Agency (EPA), low-level wastes are defined as "contaminated equipment, clothing, rags, experimental animals, decontamination liquids" and the like. High-level wastes, on the other hand, are the "hot" liquids and solids used in nuclear reactors and other processes.

While it's become common practice for nations to dump low-level wastes into the ocean, an international treaty bans the ocean-dumping of high-level wastes. And although the United States stopped dumping its low-level wastes into the oceans in 1970 after twenty years of the practice, most West European countries are still dumping their wastes in the sea, pointing to the lack of suitable on-land sites as their excuse.

Even as thousands of tons of low-level wastes are dumped into the oceans of the world yearly, atomic scientists have admitted they're not really sure what the effects of the radioactive debris might be. In a recent expedition conducted by the EPA, traces of radioactive plutonium 238, plutonium 239 and plutonium 240 were discovered at an ocean-dumping site in the Pacific. Incredibly, although the plutonium 239 and 240 traces were two to twenty-five times greater than the contamination from an atomic weapons testing fallout, an EPA oceanographer stated that he felt the concentration wasn't sufficiently strong to present a health risk "to man and to the marine environment."

There was, however, one element for concern, as it was found that the seabed sediments around the dumping sites were contaminated, thus making conceivable a spreading of the contamination should there be any geologic or undersea current disturbance.

It's also been discovered through an extensive series of studies in the U.S., Canada and Japan that continued exposure to low levels of radiation may well prove to be more deadly to humans than sudden single exposure to high-level doses. Those deadly "low-levels", incidentally, are far higher than the level permitted at radiation plants and dumps.

The disposal of high-level nuclear waste material is another matter altogether. Radiation sickness may not appear to be a going concern, but according to one expert on the subject, Dr. John Gofman, a former group leader for the Manhattan Project once assigned to determine the environmental effects of radiation for the Atomic Energy Commission, currently 10,000 people a year in the northern hemisphere alone are dying of plutonium-induced lung cancer.

Over the next thirty years, Gofman adds, the result of the plutonium fallout at the present-day level will be 160,000 deaths due to lung cancer in the U.S. and 1,000,000 of the same throughout the northern hemisphere. By the turn of the century, he concludes, the plutonium fallout levels will be even greater.

The most recent discovery of an extensive nuclear waste leakage has been at a disposal site in Maxey Flats, Kentucky. Last winter it was revealed that water from the dump—water which contains some of the deadliest and most enduring radioactive isotopes known—has been seeping slowly into the surrounding soil and water.

Included among the radioactive materials found off-site was Strontium 90, an exceedingly lethal element which can travel through soil and water and become absorbed into the grass, which then becomes part of the milk of grazing cows. Similar to calcium in its chemical properties, Strontium 90 moves directly to the bone marrow, often causing cancer or leukemia.

Although the uproar over the discovery of the leakage has been recent, Kentucky health officials actually knew of seepages in the area four years ago, when plutonium and other radioactive elements were found in monitoring stations quite a way from the burial trenches. A subsequent study indicated there were radiation traces in test wells 650 feet off-site.

Further investigation revealed that allegedly impenetrable clay trenches into which the wastes were dumped had filled with water. The Nuclear Engineering Company, Inc. refused for so long to drain the trenches that finally the entire internal management was replaced and the new management ordered to pump the trenches dry. The pumping has gone on for three years and the trenches are still 25% undrained.

The results of these radioactive leakages could be enormously destructive. The danger of producing cancer and other genetic damage especially presents a grave problem.

According to Dr. John Cobb of the University of Colorado Medical School, "Plutonium may have a special affinity for the genital cells which will determine the genetic future of the species. The implications of this are at present unknown because of lack of research in this area, but the possible effect on future generations could be devastating."

"The problem," Cobb goes on, "is that until the critical genetic research on plutonium has been done, we will not know how serious the genetic effects might be. When we find out, it may be sadly too late."

The residents of Maxey Flats have created a furor, nationally as well as locally, and they could even be instrumental in closing down the Nuclear Engineering Company, but their problem is far from solved.

For one thing, even the remaining radioactive wastes must be maintained and watched over for at least 40 times longer than humans have lived on earth.

For another thing, studies have shown that plutonium can and has contrary to previous assurances, migrated through the earth. Another toxic product, americium, was found to move even more rapidly and is one-thousand times more apt to be absorbed into plants and ingested by animals. Scientists have now begun to admit that they've underestimated the carcinogenic effects of radiation by one-hundred to one-thousand times.

In another waste disposal facility in Hanford, Washington, twenty major leaks have been acknowledged since 1958, involving over 420,000 gallons of high-level radioactive material. Fear of spreading the radioactivity was so strong that over eight square miles of contaminated area were paved over after animals capable of spreading the radiation were found to be burrowing in the area. Also miles of chain-link fencing were constructed to keep the tumbleweed from having contact with the high-level wastes.

Towns have even been built using radioactive materials. The whole town of Port Hope, Ontario was constructed on a uranium waste landfill with a radiation content now found in some buildings to be one-hundred times the level considered safe.

In the U.S., Grand Junction, Colorado has some 8,000 homes built with uranium mill tailings in and around their foundations. Six years ago the discovery was made and people were actually warned not to use their basements for fear of contamination. To top it off, the public school was found to have the radioactive level of a uranium mine.

At present there are no known solutions to the problem of the disposal of nuclear waste materials; nor are there any well-defined answers as to what effect radioactive elements will have on animal and plant life already contaminated.

Government and big business are again working hand-in-hand to destroy our lives, all the while assuring us that everything's all right, everything's under control. This time, however, it may be-their ass as well as ours.

See related story in this issue: PBB Found in Mother's Milk

See also: Italian Chemical Disaster by R.F. Fifth Estate #277, October, 1976

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