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Love Canal and the Poisoning of America - Page 2

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When Commissioner Whalen's words hit 97th and 99th streets, by way of one of the largest banner headlines in the *Niagara Gazette's* 125-year history, dozens of people massed on the streets, shouting into bullhorns and microphones to voice frustrations that had been accumulating for months. Many of them vowed a tax strike because their homes were rendered unmarketable and unsafe. They attacked their government for ignoring their welfare. A man of high authority, a physician with a title, had confirmed that their lives were in danger. Most wanted to leave the neighborhood immediately.

Terror and anger roiled together, exacerbated by Dr. Whalen's failure to provide a government-funded evacuation plan. His words were only a recommendation: individual families had to choose whether to risk their health and remain, or abandon their houses and, in so doing, write off a lifetime of work and savings.

On August 3, Dr. Whalen decided he should speak to the people. He arrived with Dr. David Axelrod, a deputy who had directed the state's investigation, and Thomas Frey, a key aide to Governor Hugh Carey.

At a public meeting, held in the 99th Street School auditorium, Frey was given the grueling task of controlling the crowd of 500 angry and frightened people. In an attempt to calm them, he announced that a meeting between the state and the White House had been scheduled for the following week. The state would propose that the Love Canal be classified a national disaster, thereby freeing federal funds. For now, however, he could promise no more. Neither could Dr. Whalen and his staff of experts. All they could say was what was already known: twenty-five organic compounds, some of them capable of causing cancer, were in their homes, and because young children were especially prone to toxic effects, they should be moved to another area.

Dr. Whalen's order had applied only to those living at the canal's southern end, on its immediate periphery. But families living across the street from the dump site, or at the northern portion, where the chemicals were not so visible at the surface, reported afflictions remarkably similar to those suffered by families whose yards abutted the southern end. Serious respiratory, problems, nervous disorders, and rectal bleeding were reported by many who were not covered by the order.

Throughout the following day, residents posted, signs of protest on their front fences or porch posts. "Love Canal Kills," they said, or "Give Me Liberty, I've Got Death." Emotionally exhausted and uncertain about their future, men stayed home from work, congregating on the streets or comforting their wives. By this time

the board of education had announced it was closing the 99th Street School for the following year, because of its proximity to the exposed toxicants. Still, no public relief was provided for the residents.

Another meeting was held that evening, at a firehall on 102nd Street. It was unruly, but the people, who had called the session in an effort to organize themselves, managed to form an alliance, the Love Canal Homeowners Association, and to elect as president Lois Gibbs, a pretty, twenty-seven-year-old woman with jetblack hair who proved remarkably adept at dealing with experienced politicians and at keeping the matter in the news. After Mrs. Gibbs's election, Congressman John LaFalce entered the hall and announced, to wild applause, that the Federal Disaster Assistance Administration would be represented the next morning, and that the state's two senators, Daniel Patrick Moynihan and Jacob Javits, were working with him in an attempt to get funds from Congress.

More disturbing facts continued to accumulate. From the slopes of the terrain, and the low points where creekbeds and swales had been filled, investigators found indication that chemicals had long ago traveled outside of the channel's banks, farther even than the first two "rings" of homes alongside the dump. Nearly a mile from the Schroeder home, to the north, I noticed one such downgrade of land near a small, neat house with a nameplate saying "Moshers" hung on a post in the front yard. I knocked on the door and a thin, pale man

reluctantly received me. We went into the kitchen to meet his wife, Velma, a fifty-four-year-old woman confined to a wheelchair and barely able to speak. She too was pale and fragile. "I'm just so tired all the time," she explained. "I'm just so tired, and I don't think they know what's really wrong with me." She said her great fatigue had set in more than a dozen years before, when she was operating a beauty shop in her basement. "It didn't smell right down there," she added. "Not at all. I'd get headaches all the time. I would go out back at night, to play croquet, and my legs would give way, just collapse." She closed the salon when she could no longer navigate the stairs.

Mr. Mosher was not as candid as his wife. He stepped back from me when I asked about his health, as if I had spoken a blasphemy. The reaction, I soon learned, was out of fear that any publicity would affect his standing at a local carbon plant, where he held a managerial position.

I walked toward the back door leading to the basement. "Do you have a flashlight?" I asked.

Mr. Mosher nodded his head and returned with one promptly. As we descended the stairs, he explained that no one had checked his home for contamination, so he had not worried about it. I stirred the sump pump sediment with a piece of wood and switched on the flashlight; there it was, a red, rubbery substance like that described by another person I had interviewed and which, upon testing, had been found to contain cancer-producing chemicals.

I grew impatient with Mr. Mosher's reticence about his health, warning him that he could be endangered. Having seen, in the sludge of the sump pump, that chemicals might have found a path into his cellar, he said, "Well, I've got some heart problems. And I had an enlarged spleen removed. It was twelve and a half pounds."

Velma heard the conversation and began to speak of the summer nights when strong fumes from the canal rendered their bedroom a trap for pungent air in which they could not properly breathe. As she recounted those many unpleasant nights, the woman weakly cocked her head to one side and stared up at her husband. "Tell him about your problem," she insisted.

Mr. Mosher stood where the hallway met the kitchen and stared at the floor. After a minute's silence, he looked up at me. In a low tone he said, "I've got cancer, in the bone marrow. They're treating me for it now."

Upon returning to the office, I searched through a book on toxicology, *Dangerous Properties of Industrial Materials*, for the symptoms of benzene poisoning. The lengthy list included fatigue, edema, narcosis, anemia, and hypoplastic or hyperplastic damage to the bone marrow. It was nearly midnight and a Sunday, but I felt compelled to call Dr. Axelrod of the state health department to inform him of the Moshers' condition. Dr. Axelrod was concerned and told me that, not far from the Moshers' home, researchers from his unit had detected benzene in the air.

With the Love Canal story now attracting attention from the national media, the Governor's office announced that Hugh Carey would be at the 99th Street School on August 7 to address the people. Decisions were being made in Albany and Washington. Hours before the Governor's arrival, a sudden burst of "urgent" reports from Washington came across the newswires. President Jimmy Carter had officially declared the Hooker dump site a national emergency.

Hugh Carey was applauded on his arrival. The Governor announced that the state, through its Urban Development Corporation, planned to purchase, at fair market value, those homes rendered uninhabitable by the marauding chemicals. He spared no promises. "You will not have to make mortgage payments on homes you don't want or cannot occupy. Don't worry about the banks. The state will take care of them." By the standards of Niagara Falls, where the real estate market was depressed, the houses were in the middle-class range, worth from \$20,000 to \$40,000 apiece. The state would assess each house and purchase it, and also pay the costs of moving, temporary housing during the transition period, and special items not covered by the usual real estate assessment, such as installation of telephones.

Soon the state, coordinating management of the crisis through its health and transportation departments, began the awesome task of mass evacuation. Ironically, their offices were put into the endangered 99th Street School while the

students transferred to classrooms elsewhere in the city. Houses were appraised individually and, one by one, the homeowners were brought in by appointment to negotiate a settlement. Some residents, more worried about their bank accounts than their health, refused to leave, causing an endless cycle of renegotiations until compromises were reached.

First in a trickle and then, by September, in droves, the families gathered their belongings and carted them away. Moving vans crowded 97th and 99th streets. Linesmen went from house to house disconnecting the telephones and electrical wires, while carpenters pounded plywood over the windows to keep vandals away. By the following spring, 237 families were gone; 170 of them had moved into new houses. In time the state erected around a six-block residential area a green chain-link fence, eight feet in height, clearly demarcating the contamination zone.

In October 1978, the long-awaited remedial drainage program began at the south end. Trees were uprooted, fences and garages torn down, and swimming pools removed from the area. So great were residents' apprehensions that dangerous fumes would be released over the surrounding area that the state, at a cost of \$500,000, placed seventy-five buses at emergency evacuation pickup spots during the months of work, in the event that outlying homes had to be vacated quickly because of an explosion. The plan was to construct drain tiles around the channel's periphery, where the back yards had been located, in order to divert

leakage to seventeen-foot-deep wet wells from which contaminated groundwater could be drawn and treated by filtration through activated carbon. (Removing the chemicals themselves would have been financially prohibitive, perhaps costing as much as \$100 million—and even then the materials would have to be buried elsewhere.) After the trenching was complete, and the sewers installed, the canal was to be covered by a sloping mound of clay and planted with grass. One day, city officials hoped, the wasteland would become a park.

In spite of the corrective measures and the enormous effort by the state health department, which took thousands of blood samples from past and current residents and made uncounted analyses of soil, water, and air, the full range of the effects remained unknown. In neighborhoods immediately outside the official "zone of contamination," more than 500 families were left near the desolate setting, their health still in jeopardy. The state announced it would buy no more homes.

The first public indication that chemical contamination had probably reached streets to the east and west of 97th and 99th streets, and to the north and south as well, came on August 11, 1978, when sump-pump samples I had taken from 100th and 101st streets, analyzed in a laboratory, showed the trace presence of a number of chemicals found in the canal itself, including lindane, a restricted pesticide that had been suspected of causing cancer in laboratory animals. While probing 100th Street, I had knocked on the door of Patricia Pino, thirty-four,

a blond divorcee with a young son and daughter. I had noticed that some of the leaves on a large tree in front of her house exhibited a black oiliness much like that on the trees and shrubs of 99th Street; she was located near what had been a drainage swale.

After I had extracted a jar of sediment from her sump pump for the analysis, we conversed about her family situation and what the trauma now unfolding meant to them. Ms. Pino was extremely depressed and embittered. Both of her children had what appeared to be slight liver abnormalities, and her son had been plagued with "non-specific" allergies, teary eyes, sinus trouble, which improved markedly when he was sent away from home. Patricia told of times, during the heat of summer, when fumes were readily noticeable in her basement and sometimes even upstairs. She herself had been treated for a possibly cancerous condition on her cervix. But, like others, her family was now trapped.

On September 24, 1978, I obtained a state memorandum that said chemical infiltration of the outer regions was significant indeed. The letter, sent from the state laboratories to the U.S. Environmental Protection Agency, said, "Preliminary analysis of soil samples demonstrates extensive migration of potentially toxic materials outside the immediate canal area." There it was, in the state's own words. Not long afterward, the state medical investigator, Dr. Nicholas Vianna, reported indications that residents from 93rd to 103rd streets might also have incurred liver damage.

On October 4, a young boy, John Allen Kenny, who lived quite a distance north of the evacuation zone, died. The fatality was due to the failure of another organ that can be readily affected by toxicants, the, kidney. Naturally, suspicions were raised that his death was in some way related to a creek that still flowed behind his house and carried, near an outfall, the odor of chlorinated compounds. Because the creek served as a catch basin for a portion of the Love Canal, the state studied an autopsy of the boy. No conclusions were reached. John Allen's parents, Norman, a chemist, and Luella, a medical research assistant, were unsatisfied with the state's investigation, which they felt was "superficial." Luella said, "He played in the creek all the time. There had been restrictions on the older boys, but he was the youngest and played with them when they were old enough to go to the creek. We let him do what the other boys did. He died of nephrosis. Proteins were passing through his urine. Well, in reading the literature, we discovered that chemicals can trigger this. There was no evidence of infection, which there should have been, and there was damage to his thymus and brain. He also had nosebleeds and headaches, and dry heaves. So our feeling is that chemicals probably triggered it."

The likelihood that water-carried chemicals had escaped from the canal's deteriorating bounds and were causing problems quite a distance from the site was not lost upon the Love Canal Homeowners Association and its president, Lois Gibbs, who was attempting to have additional

families relocated. Because she lived on 101st Street, she was one of those left behind, with no means of moving despite persistent medical difficulties in her six-year-old son, Michael, who had been operated on twice for urethral strictures. Mrs. Gibbs's husband, a worker at a chemical plant, brought home only \$150 a week, she told me, and when they subtracted from that the \$90 a week for food and other necessities, clothing costs for their two children, \$125 a month for mortgage payments and taxes, utility and phone expenses, and medical bills, they had hardly enough cash to buy gas and cigarettes, let alone vacate their house.

Assisted by two other stranded residents, Marie Pozniak and Grace McCoulf, and with the professional analysis of a Buffalo scientist named Beverly Paigen, Lois Gibbs mapped out the swale and creekbed areas, many of them long ago filled, and set about interviewing the numerous people who lived on or near formerly wet ground. The survey indicated that these people were suffering from an abnormal number of kidney and bladder aggravations and problems of the reproductive system. In a report to the state, Dr. Paigen claimed to have found, in 245 homes outside the evacuation zone, thirty-four miscarriages, eighteen birth defects, nineteen nervous breakdowns, ten cases of epilepsy, and high rates of hyperactivity and suicide.

In their roundabout way, the state health experts, after an elaborate investigation, confirmed some of the homeowners' worst fears. On February 8, 1979, Dr. David Axelrod, who by then had been

appointed health commissioner, and whose excellence as a scientist was widely acknowledged, issued a new order that officially extended the health emergency of the previous August, citing high incidences of birth deformities and miscarriages in the areas where creeks and swales had once flowed, or where swamps had been. With that, the state offered to evacuate temporarily those families with pregnant women or children under the age of two from the outer areas of contamination, up to 103rd Street. But no additional homes would be purchased; nor was another large-scale evacuation, temporary or otherwise, under consideration. Those who left under the new plan would have to return when their children passed the age limit.

Twenty-three families accepted the state's offer. Another seven families, ineligible under the plan but of adequate financial means to do so, simply left their homes and took the huge loss of investment. Soon boarded windows speckled the outlying neighborhoods.

The previous November and December, not long after the evacuation of 97th and 99th streets, I became interested in the possibility that Hooker might have buried in the Love Canal waste residues from the manufacture of what is known as 2,4,5-trichlorophenol. My curiosity was keen because I knew that this substance, which Hooker produced for the manufacture of the antibacterial agent hexachlorophene, and which was also used to make defoliants such as Agent Orange, the herbicide employed in Vietnam, carries with it an unwanted by-product

technically called 2,3,7,8-tetrachlorodibenzo-para-dioxin, or tetra dioxin. The potency of dioxin of this isomer is nearly beyond imagination. Although its toxicological effects are not fully known, the few experts on the subject estimate that if three ounces were evenly distributed and subsequently ingested among a million people, or perhaps more than that, all of them would die. It compares in toxicity to the botulinum toxin. On skin contact, dioxin causes a disfiguration called "chloracne," which begins as pimples, lesions, and cysts, but can lead to calamitous internal damage. Some scientists suspect that dioxin causes cancer, perhaps even malignancies that occur, in galloping fashion, within a short time of contact. At least two (some estimates went as high as eleven) pounds of dioxin were dispersed over Seveso, Italy, in 1976, after an explosion at a trichlorophenol plant: dead animals littered the streets, and more than 300 acres of land were immediately evacuated. In Vietnam, the spraying of Agent Orange, because of the dioxin contaminant, was banned in 1970, when the first effects on human beings began to surface, including dioxin's powerful teratogenic, or fetus-deforming, effects.

The ban on herbicidal warfare that involved Agent Orange was sparked by articles in *The New Yorker* under the byline of Thomas Whiteside. I called him for an informed viewpoint. "It's an extremely serious situation if they find dioxin there," he said. "This is most serious. If they buried trichlorophenol, there are heavy odds, heavy odds, that dioxin, in whatever quantities, will be there too."

After our conversation, I called Hooker. Its sole spokesman, Bruce Davis, executive vice president, was by now speaking to the media, but obtaining information from the firm was not the easiest, nor the most pleasant, of tasks. Often, questions had to be submitted days before they were answered; they would be circulated through the legal hands and sometimes sent on to Hooker's parent company, Occidental Petroleum in Los Angeles. I posed two questions concerning trichlorophenol: Were wastes from the process buried in the canal? If so, what were the quantities?

On November 8, before Hooker answered my queries, I learned that, indeed, trichlorophenol had been found in liquids pumped from the remedial drain ditches. No dioxin had been found yet, and some officials, ever wary of more emotionalism among the people, argued that, because the compound was not soluble in water, there was little chance it had migrated off-site. Officials at Newco Chemical Waste Systems, a local waste disposal firm, at the same time claimed that if dioxin had been there, it had probably been photolytically destroyed. Its half-life, they contended was just a few short years.

I knew from Whiteside, however, that in every known case, waste from 2,4,5-trichlorophenol carried dioxin with it. I also knew that dioxin *could* become soluble in groundwater and migrate into the neighborhood upon mixing with solvents such as benzene. Moreover, because it had been buried, sunlight would not break it down.

On Friday, November 10, I called Hooker again to urge that they answer my questions. Davis came to the phone and, in a controlled tone, gave me the answer: His firm had indeed buried trichlorophenol in the canal—200 tons of it.

Immediately I called Whiteside. His voice took on an urgent tone. According to his calculations, if 200 tons of trichlorophenol were there, in all likelihood they were accompanied by 130 pounds of tetra dioxin, an amount equaling the estimated total content of dioxin in the thousands of tons of Agent Orange rained upon Vietnamese jungles. The seriousness of the crisis had deepened, for now the Love Canal was not only a dump for highly dangerous solvents and pesticides; it was also the broken container for the most toxic substance ever synthesized by man.

I reckoned that the main danger was to those working on the remedial project, digging in the trenches. The literature on dioxin indicated that, even in quantities at times too small to detect, the substance possessed vicious characteristics. In one case, workers in a trichlorophenol plant had developed chloracne, although the substance could not be traced on the equipment with which they worked. The mere tracking of minuscule amounts of dioxin on a pedestrian's shoes in Seveso led to major concerns, and, according to Whiteside, a plant in Amsterdam, upon being found contaminated with dioxin, had been "dismantled, brick by brick, and the material embedded in concrete, loaded at a specially constructed dock, on ships, and dumped at sea, in deep water near the Azores." Workers in

trichlorophenol plants had died of cancer or severe liver damage, or had suffered emotional and sexual disturbances.

Less than a month after the first suspicions arose, on the evening of December 9, I received a call from Dr. Axelrod. He asked what my schedule was like.

"I'm going on vacation," I informed him.
"Starting today."

"You might want to delay that a little while," he replied. "We're going to have something big next week."

That confused me. "What do you mean by that?"

He paused, then said, "We found it. The dioxin. In a drainage trench behind 97th Street. It was in the part-per-trillion range."

The state remained firm in its plans to continue the construction, and, despite the ominous new findings, no further evacuations were announced. During the next several weeks, small incidents of vandalism occurred along 97th and 99th streets. Tacks were spread on the road, causing numerous flat tires on the trucks. Signs of protest were hung in the school. Meetings of the Love Canal Homeowners Association became more vociferous. Christmas was near, and in the association's office at the 99th Street School, a holiday tree was decorated with bulbs arranged to spell "DIOXIN."

The Love Canal people chanted and cursed at

meetings with state officials, cried on the telephone, burned an effigy of the health commissioner, traveled to Albany with a makeshift child's coffin, threatened to hold officials hostage, sent letters and telegrams to the White House, held days of mourning and nights of prayer. On Mother's Day this year, they marched down the industrial corridor and waved signs denouncing Hooker, which had issued not so much as a statement of remorse. But no happy ending was in store for them. The federal government was clearly not planning to come to their rescue, and the state felt it had already done more than its share. City Hall was silent and remains silent today. Some residents still hoped that, miraculously, an agency of government would move them. All of them watched with anxiety as each newborn came to the neighborhood, and they looked at their bodies for signs of cancer.

One hundred and thirty families from the Love Canal area began leaving their homes last August and September, seeking temporary refuge in local hotel rooms under a relocation plan funded by the state which had been implemented after fumes became so strong, during remedial trenching operations, that the United Way abandoned a care center it had opened in the neighborhood.

As soon as remedial construction is complete, the people will probably be forced to return home, as the state will no longer pay for their lodging. Some have threatened to barricade themselves in the hotels. Some have mentioned violence. Anne Hillis of 102nd Street, who told

reporters her first child had been born so badly decomposed that doctors could not determine its sex, was so bitter that she threw table knives and a soda can at the state's on-site coordinator.

In October, Governor Carey announced that the state probably would buy an additional 200 to 240 homes, at an expense of some \$5 million. In the meantime, lawyers have prepared lawsuits totaling about \$2.65 billion and have sought court action for permanent relocation. Even if the latter action is successful, and they are allowed to move, the residents' plight will not necessarily have ended. The psychological scars are bound to remain among them and their children, along with the knowledge that, because they have already been exposed, they may never fully escape the Love Canal's insidious grasp.

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