In 1977, Michael Brown, a reporter for the *Niagara Gazette*, the daily newspaper in Niagara Falls, New York, began investigating pollution and illnesses in one of the city's working-class neighborhoods—a neighborhood that would soon be known across the country as "Love Canal." The excerpt below by Brown gives the background on Love Canal.

Michael Brown on Love Canal

(*Laying Waste: The Poisoning of America by Toxic Chemicals*, by Michael Brown, Pocket Books, 1979, pages 3-14.)

At each turn, the schizophrenia of Niagara Falls, New York, is starkly in evidence. It is at once a city of wondrous natural endowments, yet also a workmare for the moguls of energy and industry, beaten often and with a hard hand. There were many ways in which it was seen. In summer the polished tourist limousines moved alongside the soiled tankers: they carried on pavement thick with oil and soot, past large structures of T-shaped steel that string electrical cables to the proper horizon, above the densely wooded ravines. At the southwest, where the city got its name, a rising mist from the downward force of the cataracts fought for prominence in the skyline with the gray plumes of towering smokestacks.

These contradictions stem from the magnificent river—a strait of water, really—that connects Lake Erie to Lake Ontario. Flowing north at a pace of half a million tons a minute, the watercourse widens into a smooth expanse near the city before it breaks into whitecaps and takes its famous 186-foot plunge. Then it cascades through a gorge of overhanging shale and limestone to haystack rapids higher and swifter than anywhere else on the continent. From there, it turns mellow again.

Newlyweds and other tourists have long treated the falls as an obligatory pilgrimage, and they once had come in long lines during the warmer months. At the same time, the churning river provides cheap electricity for industry, particularly chemical producers, so that a good stretch of its beautiful shoreline is now filled with the grimy spiraled pipes of distilleries. The odors of chlorine and sulfides hang in the air.

A major proportion of those who work in the city of Niagara Falls work in those chemical plants, the largest owned by the Hooker Chemical Company. Timothy Schroeder did not. He was a cement technician by trade, dealing with the factories only if they needed a pathway poured or a small foundation set. Tim and his wife, Karen, lived on 99th Street in a ranch-style home with a brick and wood exterior. They had saved all they could to redecorate the inside and to make additions such as a cement patio covered with an extended roof. One of the Schroeders' most cherished possessions was a fiberglass pool, built into the ground and enclosed by a redwood fence. Though it had taxed their resources, the yard complemented a house that was among the most elegant in a residential zone where most of the homes were small frame buildings, prefabricated and slapped together en masse. It was a quiet area, once almost rural in character, and located in the city's extreme southeast corner. The Schroeders had lived in the house only since 1970, but Karen was a lifelong resident of the general neighborhood. Her parents lived

three doors down from them, six miles to the east of the row of factories standing shoulder to shoulder along the Upper Niagara.

Karen Schroeder looked out from a back window one October morning in 1974 and noted with distress that the pool had suddenly risen two feet above the ground. She called Tim to tell him about it. Karen then had no way of knowing that the problem far exceeded a simple property loss—that in fact it was the first sign of a great tragedy.

Accurately enough, Mrs. Schroeder figured that the cause of the uplift was the unusual groundwater flow of the area. Twenty-one years before, an abandoned hydroelectric canal directly behind their house had been backfilled with industrial rubble. The underground breaches created by this disturbance, aided by the marshy nature of the region's surficial layer, had collected large volumes of rainfall, and this water had undermined the backyard. The Schroeders allowed the pool to remain in its precarious position until the next summer and then pulled it from the ground, intending to replace it with a cement one. Immediately, the gaping hole filled with what Karen called "chemical water," rancid liquids of yellow and orchid and blue. These same chemicals, mixed with the groundwater, had flooded the entire yard; they attacked the redwood posts with such a caustic bite that one day the fence simply collapsed. When the groundwater receded in dry weather, it left the gardens and shrubs withered and scorched, as if by a brush fire.

How the chemicals had got there was no mystery: they came from the former canal. Beginning in the late 1930s or the early 1940s (no one could be sure just when), the Hooker Company, whose many processes included the manufacture of pesticides, plasticizers, and caustic soda, had used the canal as a dump for at least 21,800 tons of waste residues—"still-bottoms," in the language of the trade. The chemical garbage was brought to the excavation in fifty-five-gallon metal barrels stacked on a small dump truck and was unloaded into what, up to that time, had been a fishing and swimming hole in the summer and an ice-skating rink during the city's long, hard winter months.

When the hazardous dumping first began, much of the surrounding terrain was meadowlands and orchards, but there was also a small cluster of homes on the immediate periphery, only thirty feet from the ditch. Those who lived there remembered the deep holes being filled with what appeared to be oil and gray mud by laborers who rushed to borrow their garden hoses for a dousing of water if they came in contact with the scalding sludge they were dumping. Children enjoyed playing among the intriguing, unguarded debris. They would pick up chunks of phosphorus and heave them against cement. Upon impact the "fire rocks," as they were called, would brilliantly explode, sending off a trail of white sparks. Fires and explosions erupted spontaneously when the weather was especially hot and odors similar to those of the industrial districts wafted into the adjacent windows, accompanied by gusts of fly ash. On a humid moonlit night, residents would look toward the canal and see, in the haze above the soil, a greenish luminescence.

Karen's parents had been the first to experience problems with seepage from the canal. In 1959, her mother, Aileen Voorhees, noticed a strange black sludge bleeding through the basement walls. For the next twenty years, she and her husband, Edwin, tried various

methods of halting the irritating intrusion, coating the cinderblock walls with sealants and even constructing a gutter along them to intercept the inflow. Nothing could stop the smell like that of a pesticide plant from permeating the entire household, and neighborhood calls to the city for help were unavailing. One day, when Edwin punched a hole in the wall to see what was happening, quantities of black liquid poured out. The cinderblocks were full of the stuff.

Although later it was to be determined that they were in imminent danger, the Voorhees treated the problem at first as a mere nuisance. That it involved chemicals, industrial chemicals, was not particularly significant to them. All their life, all of everyone's life in the city, malodorous fumes had been a tacitly accepted ingredient of the surrounding air.

More ominous than the Voorhees' basement seepage was an event that occurred in the Schroeder family at 11:12 p.m. on November 21, 1968. Karen gave birth to her third child, a seven-pound girl named Sheri. No sense of elation filled the delivery room, for the baby was born with a heart that beat irregularly and had a hole in it, bone blockages of the nose and partial deafness, deformed external ears, and a cleft palate. By the age of two, it became obvious that the child was mentally retarded. When her teeth came in, there was a double row of them at the bottom. She also developed an enlarged liver.

But the Schroeders looked upon these health problems, as well as certain illnesses among their other children, as acts of capriciousness genes, a vicious quirk of nature. Like Eileen and Edwin Voorhees, they were mainly aware that the chemicals were devaluing their property. The crabapple tree and evergreens in the back were dead, and even the oak in the front of the house was sick; one year, the leaves fell off on Father's Day.

The canal was dug with much fanfare in the late 19th century by a flamboyant entrepreneur named William T. Love. Love arrived in town with a grandiose dream: to construct a carefully planned industrial city with ready access to water power and major markets. The setting for Love's dream was to be a navigable power channel that would extend seven miles from the Upper Niagara near what is now 99th Street to a terrace known as the Niagara Escarpment, where the water would fall 280 feet, circumventing the treacherous falls and at the same time providing cheap power. A city would be constructed near the point where the canal fed back into the river, and it would accommodate 200,000 to 1 million people, he promised. Love's sales speeches were accompanied by advertisements, circulars, and brass bands, with a chorus singing a special ditty to the tune of "Yankee Doodle": "Everybody's come to town/Those left we all do pity/For we'll have a jolly time/At Love's new Model City."

So fired by Love's imagination were the state's leaders that they allowed him the rare opportunity of addressing a joint session of the senate and assembly. He was given a free hand to condemn as much property as he liked and to divert whatever amounts of water. But Love's dream quickly became Love's folly, and, financially depleted, he abandoned the project after a mile-long trench, ten to forty feet deep and generally fifteen yards wide, had been scoured perpendicular to the Niagara River. Eventually, in 1947, the site was acquired by Hooker.

Except for the frivolous history of Mr. Love, and some general information on the chemicals, little was known publicly about the dump in 1977. Few of those who lived in the numerous houses that had sprung up by the site were aware that the large barren field behind them was a burial ground for toxic wastes. That year, while working as a reporter for a local newspaper, the *Niagara Gazette*, I began to inquire regularly about the strange conditions on 99th Street. The Niagara County Health Department and the city both said it was a nuisance condition but no serious danger to the people. The Hooker Company refused to comment on their chemicals, claiming only that they had no records of the burials and that the problem was not their responsibility. In fact, Hooker had deeded the land to the Niagara Falls Board of Education in 1953 for a token one dollar. At that time the company issued no detailed warnings about the chemicals; a brief paragraph in the quitclaim document disclaimed company liability for any injuries or deaths that might occur at the site. (Ralph Boniello, the board's attorney, said he had never received any phone calls or letters specifically describing the exact nature of the refuse and its potential effects, nor was there, as the company was later to claim, any threat of property condemnation by the board in order to secure the land. "We had no idea what was there," Boniello said.)

Though surely Hooker must have been relieved to rid itself of the contaminated land, when I read its deed I was left with the impression that the wastes there would be a hazard only if physically touched or swallowed. Otherwise, they did not seem to be an overwhelming concern. In reality, the dangers of these wastes far exceeded those of acids or alkalines or inert salts. The drums dumped in the canal contained a veritable witch's brew of chemistry, compounds of truly remarkable toxicity. There were solvents that attacked the heart and liver, and residues from pesticides so dangerous that their commercial sale had subsequently been restricted or banned outright by the government.

Yet Hooker gave no more than a hint of that. When approached by the educational board for the parcel of property it wanted for a new school, B. Klaussen, then Hooker's executive vice-president, replied in a convivial letter to the board:

> Our officers have carefully considered your request. We are very conscious of the need for new elementary schools and realize that the sites must be carefully selected so that they will best serve the area involved. We feel that the board of education has done a fine job in meeting the expanding demand for additional facilities and we are anxious to cooperate in any proper way. We have, therefore, come to the conclusion that since this location is the most desirable one for this purpose, we will be willing to donate the entire strip between Colvin Boulevard and Frontier Avenue to be used for the building of a school at a location to be determined…

The school board, apparently unaware of the exact nature of the substances underneath this generously donated property, and woefully incurious, began to build the new school and playground at the canal's midsection. Construction progressed even after the workers struck a drainage trench that gave off a strong chemical odor and then discovered a waste pit nearby. Instead of halting the work, they simply had the school site moved eighty feet

away. Young families began to settle in increasing numbers alongside the dump; many of them had been told that the field was to be a park and recreation area for their children.

Around this time, the buried wastes, dumped in broken barrels or as bulk liquids, began moving through a three-foot sand layer that, on the Voorhees property, parted the top soil from the thick, chocolate hard clay forming a barrier beneath. The migration was a result not only of the sloppy dumping, which reportedly included excavations to bedrock, but also primarily because of the poor cover on the canal. According to a former bulldozer operator there as well as local contractors and a former Hooker employee, this was a cover that consisted not of impervious clay, as Hooker later insisted, but of topsoil both from the company's digging and from the original materials Love excavated and left on the canal's west bank. The paltry "cover" at the south end was spread, at least in part, by the city of Niagara Falls. Chemical puddles were forming in the early 1950s, with white powder precipitated when the effluent dried. In 1957, when it heard that the school board was planning to sell off part of the canal itself for private development, Hooker, through one of its attorneys, Arthur Chambers, warned that excavation for basements could be dangerous, and, in fact, no homes had ever been built directly on top of the dump. So surprised was one board member, Wesley Kester, at the sudden warning that he told a reporter, "There is something fishy someplace. Now they tell us it (the canal property) shouldn't be used." When dozens of builders began constructing on the immediate periphery, however, there had apparently been no similar warnings. The reason Hooker had bothered with the vague 1957 signals, it appears, was because it knew that from time to time the canal erupted like a miniature volcano, and the legal staff realized the immediate liability the firm could incur. Subsequently, the city excavated sewers and roads through the site, leading to some additional chemical outflow. But a main problem was the way Hooker planted its residues near creeks and a wetland and near permeable silt and sand, in a fashion Chambers himself described as "willy-nilly."

If the children found the "playground" interesting, there were times they found it painful as well. When they played on this land that Hooker implied was so well suited for a school, they sneezed and their eyes teared. In the days when dumping was still in progress, they swam at the opposite end of the canal, at times arriving home with hard pimples on their bodies. And Hooker knew that children were playing on its spoils. In 1958, the company was made aware that three children had been burned by exposed residues on the surface of the canal, much of which, according to the residents, had been covered over with nothing more than fly ash and loose dirt. Because it wished to avoid legal repercussions, the company chose not to issue a public warning of the dangers only it could have known were there, nor to have its chemists explain to the people that their homes would have been better placed elsewhere.

At a meeting in Buffalo during the summer of 1977, I cornered an independent consultant for the city and requested more information on the dump and the proposed remedial action. "We're not really sure what the final solution should be," he said. "You can't be sure until you know what you're dealing with." Was there a chance of harm to people? He shrugged his shoulders. How were the potential dangers to be searched out? "Someone's

going to have to dig there and take a good look," he answered. "If they don't, your child or your children's children are going to run into problems."

The same questions were repeated for months, with no answers. Despite the uncertainty of the city's own consultant, the city manager, Donald O'Hara, persisted in his view that the Love Canal, however displeasing to the eyes and nasal passages, was not a crisis but mainly a matter of aesthetics. O'Hara was pleased to remind me that Dr. Francis Clifford, the county health commissioner, supported his opinion. Besides making light of the seepage, O'Hara created an aura of secrecy around information regarding the canal. His concerns appeared to be financial and legal in nature. As manager, O'Hara had pulled the city out from under a staggering debt, and suddenly, with hardly a moment to enjoy a widely publicized budget surplus, his city hall was faced with the prospect of spending an unplanned $400,000 for a remedial program at the dumpsite. And it was feared there would be more expensive work to do later on—and lawsuits.

With the city, the school board, and Hooker unwilling to commit themselves to a remedy, conditions between 97th and 99th streets continued to degenerate until, by early 1978, the land was a quagmire of sludge. Melting snow drained a layer of soot onto the private yards, while the ground on the dump itself had softened to the point of collapse, exposing the crushed tops of barrels. When a city truck attempted to cross the field and dump clay on one especially large hole, it sank up to its axles in the noxious muck. Masses of sludge beneath the surface were finding their way out at a quickening rate, forming persistent springs of contaminated liquid. So miserable had the Schroeder backyard become that the family gave up trying to fight the inundation. They had brought in an old bulldozer to attempt to cover pools of chemicals that welled up here and there, but now the machine sat still while their yard, once featured in a local newspaper for its beauty, degenerated to the point where it was unfit even to walk upon. Of course, the Schroeders could not leave: no one would think of buying the property. They had a mortgage to pay, and on Tim's salary, could not afford to maintain the house while they moved to a safer setting. They and their four children were stranded in a wasteland.

That the city might be saddled with large costs was not the sole reason for its reluctance to address the issue directly and help the Schroeders and the hundred or so other families whose properties abutted the covered trench. There was also trepidation of a political sort: the fear of distressing Hooker. To an economically depressed area the company provided desperately needed employment—as many as 3,000 blue-collar jobs in the general vicinity at certain periods—and a substantial influx of tax dollars. More to the point, Hooker was speaking of building a 17-million-dollar headquarters in downtown Niagara Falls. Years before, the city had initiated an urban renewal project that had gone nowhere. It was hoped the new Hooker complex would spark life into the nearly desolate downtown from which custard stands, museums, and souvenir shops had gone, to be replaced by empty lots and an unsuccessful convention center. So anxious were officials to receive the new building that they and the state granted the company highly lucrative tax and loan incentives, as well as a 13.2-million-dollar mortgage, and gave it a prime parcel of property nearest the most popular tourist park on the American side, forcing a hotel owner to vacate the premises in the process.