From a Toxic Economy to Women Activists Taking Care of

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La communauté des activistes-fanatiques de l'environnement à Halifax, Nouvelle-Ecosse, au Canada, nous expose un microcosme des façons dont les émanations toxiques mettent la population en danger selon les sexes. Cet article décrit les combats des femmes activistes à Halifax qui travaillent à instaurer un environnement plus sain pour les travailleurs, les étudiants et le grand public.

One-third of the population report feeling ill from chemical odours, according to several large North American surveys (Miller). Yet, the mechanisms of chemical sensitivity are not understood and many medical specialists debate the validity of chemical sensitivity as a distinct disease entity (Sparks, Daniell, Black, Kipen, Altman, Simon and Terr). Sherry Rogers, however, reports her experiences as a medical doctor and personally with chemical sensitivity:

Each year I treat hundreds of people from all over the world, who, like myself, are allergic to twentieth-century chemicals. Some of the most common causes are natural gas furnaces and stoves, new construction, paint, cabinet glues, new carpeting and furniture. The most common symptoms are unwarranted depression, exhaustion, sudden unprovoked mood swings, inability to think clearly, dizziness, nausea, body aches, arthritis or abdominal pains.

Eighty per cent of people suffering from chemical sensitivity¹ are women (Rogers). I believe environmental sexism² may explain this gender imbalance and answer a question frequently asked: Why me? Environmental sexism is environmental and occupational health policies that focus solely on healthy men in standard setting, disregarding women's biology and the fact that women are at higher risk than men as they typically have less power and means in society. This results in women having less control over their work environment, limited access to safe housing in healthy communities, and fewer resources to resist or cope with health and environmental threats.

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The community of environmentally-ill activists in Nova Scotia, Canada provides a microcosm of the ways that the toxic economy endangers people's health along gender lines. In 1998-2001, I conducted an ethnographic study, applying a structural and gender analysis to identify the interplay between sex (biological) and gender (social status) among women with chemical sensitivities. Based on interviews conducted with eight women³ activists from Halifax, Sydney and Pictou Landing First Nation, this article examines the impact of environmental sexism on the lives of women and the struggles of activists in Nova Scotia to ensure safer environments for workers, students and the public at large.

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Chemical Sensitivity at Camp Hill Medical Centre in Halifax

A focus on chemical sensitivity brought me to Halifax, Nova Scotia due to its infamous history as the capital for environmental illness, being home to the largest recorded experience … very possibly in the world—with symptoms characterized as environmentally-induced or environmental hypersensitivity and attributed to indoor factors in the workplace.” (Advisory Committee on Environmental Hypersensitivity i)

Seven hundred out of 1,250 workers at Camp Hill Medical Centre,⁴ suffered from work-related illness between 1989 and 1993. Of the 300 workers who required long-term leave and the hundred who qualified for disability pensions, over 90 per cent were women. Camp Hill personnel, including dishwashers, cleaners, medical doctors, nurses, and other health professionals, were exposed to a toxic brew of phenols, formaldehyde, carbon monoxide, acids, solvents, caustic sodium hydroxide and amines (Ad-
Sustainability
Environmental Health in Nova Scotia

visory Committee on Environmental Hypersensitivity). Neurological testing of workers demonstrated exposure to solvents. Air testing revealed chemical cross-contamination from different departments, the parking garage and the recycling of exhaust air through the air intake. Major deficiencies in the installation, design, and operation of ventilation systems throughout the complex were also discovered (Advisory Committee on Environmental Hypersensitivity).

The stories of Camp Hill workers are surprising in their portrayal of non-industrial indoor air pollution as life-threatening. Cynthia attributes her depression and breast cancer to her work as a dishwasher bombarded with caustic sodium hydroxide, recirculated from the exhaust through the air intake:

"I was a healthy happy person. Didn't drink or smoke... At Camp Hill I couldn't breathe properly. I had rashes and itching all over. I couldn't think clearly and became depressed. Then later I had pus and blood coming from my breasts. I got breast cancer and had to have one breast removed... I went through hell."

In hospitals, others that "share the air," including newborns and immunosuppressed people, are at risk from hazards, as well as staff. Josephine, a nurse, discusses the dire implications of workers' neurological impairments from toxic exposures on patient care:

"The number of incidents with handling medication went up. Errors resulted in leftover medication or running out [of medication]. I wonder if people were getting the proper medication. Somebody could easily have died as a result with forgetting instructions a minute after being told to do something and mental confusion doing the most routine, everyday tasks. Like do I go to the bathroom with the lid up or down?"

Clearly intoxication from poor air quality has serious ramifications for people driving vehicles or using heavy machinery or, in this case, caregiving. However, Non-industrial sites are not covered by an indoor air quality regulation, only guidelines, in Canada, although Nova Scotia has drafted one. Indoor pollution is a major public-health issue causing allergy-related problems, asthma, bronchitis, coughing, chemical sensitivity, and other respiratory problems experienced not only by those working in Camp Hill, but by people across North America. A Massachusetts Special Legislative Commission (1998) estimated that 50 per cent of all illness in the U.S. is caused by indoor air pollution.

Bias in Standard Setting

Camp Hill illustrates that the air quality guidelines and Occupational Health and Safety Act standards are not sufficiently protective, particularly for women or chemically-sensitive people. Although Camp Hill's air had toxic impacts to staff—90 percent of whom were women—the Ministry of Labour did not find contaminant levels to be unacceptable.

The vantage point of the chemically sensitive, who report strong reactions at levels hundred or thousands of times lower than allowable occupational exposures, turns the government regulatory framework of tolerable dose upside down. By setting occupational health and environmental limits to prevent the worst acute health effects, rather than the no effect level, a degree of harm is accepted as normal. The government's risk analysis approach sanctions, for example, an excess rate of one in a million getting cancer or eye irritation, without asking whether a technological or chemical risk is nec-
necessary. Government permits exposures to carcinogens, neurotoxins, and other toxic chemicals in the workplace and consumer market, rather than taking a precautionary approach. This places everyone at risk, particularly children, women, the ill, chemically-sensitive people, and the elderly.

Studies to determine "safe" levels of exposure to toxic substances are performed on healthy young men, without requiring evidence of their applicability to women and women's health issues, like chemical sensitivity, are given a low research priority:

The types of health problems women have are not recognized or compensated, creating a vicious circle where women's occupational health problems are not taken seriously, therefore not recognized, therefore do not cost enough to matter. (Messing 23)

Risks to women can be higher for the same level of exposure due to differences in the bioaccumulation of fat-soluble chemicals (Kilborn, Messing and Thorbjornsson). Women have thinner skin than men, as do children and the elderly, so chemicals can more easily penetrate into their bodies and trigger allergies and eczema. Also, women have a higher proportion of fat tissue than men, resulting in higher absorption and less excretion of fat-soluble chemicals, such as methyl mercury and chlorinated compounds (Östlin, Dnielsson, Harenstam, Diderichsen and Lindberg).

Although four million chemical mixtures remain untested, research links more than a thousand chemical mixtures to fertility and pregnancy abnormalities (NORA). However, reproductive capacity, in both men and women, and developmental toxicity are mostly disregarded in the setting of occupational standards, which raises concerns about inter-generational effects. Samantha, another nurse at Camp Hill, worries about the long-term health effects on her child:

My son was born in 1990 with all sorts of health problems with asthma, skin problems, allergies, sinus, nosebleeds, and infections to his respiratory, sinus, ears and eyes. He had unreal dental problems — abscesses requiring two root canals and numerous cavities. He's also been diagnosed as having attention deficit disorder…. I wonder if these could be related to me working at Camp Hill during my pregnancy?

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Solvents and formaldehyde, to which Camp Hill workers were exposed, are known teratogens. When a baby's body systems are being formed the baby is vulnerable to malformation by minute toxic exposures. Fetuses grow at a very fast rate and their immune systems and detoxification mechanisms are not fully developed.

Gender bias in standard-setting is a factor in environmental sexism as it renders women vulnerable, as well as the next generation.

Gender, Poverty and Risks to Health

Gender segregation of labour, which occurs worldwide in both unpaid and paid work, also plays a significant role in determining women's and men's social status in society, income, as well as exposure to occupational health and safety hazards. With the exception of agriculture, the world's most hazardous sectors and occupations, such as mining and fishing, have predominately male workforces while women are the large majority of workers in non-industrial settings. In Canada, high levels of gender segregation places more women in public-sector services that include education, health care, child care, and social services (Statistics Canada). This does not mean that women are not at risk for occupational health hazards, as studies have determined that women experience higher rates of violence at work, job-stress, and musculoskeletal disorders than men (NIOSH). Often, women in these sectors are impacted by austerity measures that compromise worker health. For example, ill-conceived cutbacks to save energy costs endangered lives at Camp Hill, not once but twice. Turning the water heater down 20 degrees Celsius to save energy at Camp Hill resulted in an outbreak of Legionella in 1984 (Martin, Marrie, Haase and Sumarach). Legionella bacteria cause about eight per cent of all pneumonia and four per cent of fatal pneumonia. Again, ten years later, economizing on energy led to reduced airflow that concentrated toxic exposures (Advisory Committee on Environmental Hypersensitivity).

Two-thirds of the world's working hours are laboured by women, yet they earn less than ten per cent of the world's income and own less than one per cent of the world's property. Women earn, on average, only 63 per cent of men's wages in Nova Scotia communities and across Canada (Statistics Canada). Aboriginal people and families led by single mothers fare worst of all. In 1997, with the deterioration of the "social safety net", the income of female, lone-parent, no-earner families on government assistance fell from $15,408 in 1993 to $13,373, well below the poverty line (Hurtig). Pov-
Canal, even when soil guidelines are surpassed and unsafe blood levels are found in a number of children and others:

"Can you imagine living in a community where levels of arsenic are 70 times above, not residential standards, but industrial standards? And having the Chief Medical Officer tell you that there is no hazard here: What would happen? What would happen with your neighbours? These levels would not be acceptable in any Halifax neighbourhood.

In a clear conflict of interest at Pictou Landing, the Nova Scotia government repeatedly breached its own standards and ignored community complaints in owning, operating, and regulating the effluent treatment centre for Kimberly Clark Pulp Mill from 1965 to 1990s. This cost taxpayers one million dollars per year, not including the considerable indirect social and health costs that impacted most heavily Pictou Landing First Nation, a low-income community:

The befouling of their formerly pristine natural harbour and the stench, noise, and fumes emitted from the pulp mill and the effluent were almost unbearable for most of the Band members. The suicide rate increased dramatically and a good many moved away in despair of their community ever becoming an environmentally safe to live again. (Paul 222)

Sue, an Aboriginal woman working at the Pictou Landing First Nation, points out the vulnerabilities of First Nations to toxic development:

Native people know that we get all the bad development near our reserve, but white people never talk about it. Almost every reserve has a landfill nearby. Gold River [First Nation] is right across the street from a landfill and downstream from the sewage treatment plant.

Lorilei Lambert Colomeda describes the health impacts of toxic industrial areas and substandard housing for single mothers living in poverty and toxic areas:

Many women, especially Aboriginal women, are poor, single parents surviving in trailers or substandard housing that borders landfills or toxic chemical dumps…. They are the primary victims of industrial pollution. Their children demonstrate the effects of mental retardation from lead poisoning and birth defects and leukaemia from toxic chemicals. (32)

The conflict between the government’s protection of its political and economic interests, in its pact with capitalism, is at the expense of its obligation to safeguard human health. Donna, a pesticide activist in Halifax, describes how close ties between government and industry influenced decision-making in the case of pesticides:

City council wanted and asked for jurisdiction over regulating pesticide use in commercial properties.
but the province at that time wouldn't give us that. At that time the deputy minister of the premier was the owner of Weed Man. He sat through all the public hearings right next to the pesticide companies' representatives and public relations people.

As development is largely driven by industry, corporations wield considerable power over communities—particularly those in need of jobs. With a desire for profits and expansion, corporations replace natural products, like wood, plants and wool, with synthetic products, like chlorinated plastics, which result in more persistent and more toxic pollutants. Many of the most dangerous chemicals are generated by the chlorine industry, including chlorinated fluorocarbons (CFCs) that destroy the ozone layer and pesticides, like DDT.

People without work, single parents, the working poor and children in poverty are at greatest risk of ill health, as well as chronic disease (Statistics Canada). The working poor are disproportionately exposed to toxins on the job, as labourers in manufacturing, mining, service and other industries. People exposed to pollutants at work accumulate higher levels of activities than the general population because exposures are more intense and frequent. The toxic economy that undermines human health is interwoven with the patterns of production and consumption. Although non-toxic alternatives exist, toxic chemicals have become part of "business-as-usual," as well as "consumption-as-usual."

Toxic chemicals are not only in our places of employment, but also in our homes. After a decade of studying indoor exposures to volatile organic compounds, carbon monoxides, pesticides and particles, Lance Wallace found the major sources of toxic exposure are personal activities and use of consumer products: "For nearly all of 50 or so targeted pollutants, personal exposure exceeds outdoor air concentration by a large margin and, for most chemicals, personal exposure exceeds indoor air concentrations" (Wallace, Nelson, Pellizzari, Raymer, and Thomas). Consumer products, not only off-gas toxic chemicals, but also dispense them in hair sprays, deodorants, perfumes, cleaners, paints and pesticides. In the form of aerosols, gas, fumes or dust, toxic chemicals can penetrate the lung's defences to enter the body. Toxic chemicals can be absorbed through the skin or ingested in lotions or cleaners. Many personal and household products contain toxic chemicals, including alcohols, esters and aldehydes and synthetic organochlorines. For example, a number of studies have linked hair dyes and cosmetics with higher cancer and myeloma rates. Alison Anderson comments on the negative health effects on women of the cosmetic industry's advertising message:

Just as the domination of nature often results in its destruction, the advertising imperative that the female body be sanitized, tamed, powdered and redolent only of perfumes has led to dire health consequences. (134)

Toxic chemicals enter into every aspect of our lives, affecting us at the consumer, family, community and work level. But what is one to do?

Environmental Health Activists

At Camp Hill, workers banded together to form Camp Hill Environmental Victims Society (CHEVS). CHEVS staged press conferences, participated in studies, met with the Minister of Labour, pushed for improved air quality and scent-free policies, and functioned as a support group for workers coping with the disease. CHEVS' strong leadership, resistance to co-option, and dogged determination in lobbying for recognition of chemical sensitivity by Worker's Compensation and by the medical community over a decade, finally resulted in a number of workers getting disability pensions.

After Camp Hill many different environmental health campaigns and activists cropped up in Nova Scotia, gaining momentum from CHEVS' campaigns and the long-standing efforts of Nova Scotia Allergy and Environmental Health Association (NSAEHA). Halifax has become a leader in environmental health programming, championed by activists from CHEVS, NSAEHA, and other groups. Activists with chemical sensitivities consider themselves the canaries in the coal mine. Although most activists' concerns originated with their own health, or that of their children, this soon extended to their entire communities.

After Real Alternatives to Toxins in the Environment (RATE) members, with 5,000 letters of support and 600 people signed up to testify, demanded a task force on pesticide use, Halifax Regional Municipality (HRM), recognized the cosmetic use of pesticides to be a community health threat. A by-law restricting pesticide use around schools, parks, and 50 metres around the homes of chemically sensitive people in the HRM was passed in 2000 (RATE). As well, city council approved funding for educating people on the many alternatives to toxic chemicals for healthy lawns. And what a difference it's making. A 2002 survey, found Halifax is an anomaly in pesticide use across Canada, having only 7 per cent of households using pesticides compared to 31 per cent for the rest of Canada (HRM).

A small group of Halifax mothers, whose children's health was harmed by unhealthy conditions in their schools, formed Citizens for Safe Learning Environments (CASLE) in 1994 to create safer conditions for school children and workers. Parents successfully shut down one sick school and then oversaw the building of a "state of the art" $26 million school that merged healthy and sustainable building design. On a larger scale, CASLE was instrumental in retain-
ing HRM School Board public services by breaking up large private contracts both with ServiceMaster, for maintenance and repairs, and with private contractors that build and lease schools. This Public-Private Partnership (P3) was nicknamed P4 due to its profit-imperative, which CASLE found compromised children's and worker's health and safety. Rhonda, a healthy schools activist working with CASLE, describes how private companies built substandard schools and how CASLE's careful documentation of unsafe practices, in the end, curtailed the privatization of school buildings:

The engineers and business people cut corners and did whatever they wanted to in the building and the construction of schools. So, we have schools that have leaking roofs and they are brand new schools, leaking windows and they're brand new schools, and they have leaking sectional boilers. ... We cancelled the P3 schools and the government took over.

CASLE's research showed ServiceMaster applied more hazardous chemicals to save cleaning time and engaged in unsafe practices and research on the risks of current school practices that the government could not refuse to work with them to improve children's health. CASLE identified as key to their success an informed co-operative approach, refusal to be co-opted, and commitment to be part of the solution. By enlisting union support a panoply of activities were financed including obtaining experts to conduct testing and speak at press conferences. According to Rhonda: "Fifteen sister organizations, who are all interested in environmental health issues, will stand with us, work with us and lobby with us as need be."

Women are active volunteering in environmental health groups, against the odds of environmental sexism, advocating for safer and healthier environments for workers, students and the public at large.

Conclusion

In looking through the eyes of the chemically sensitive we realize that environmental sexism places women at risk: 80 per cent of the hundreds made ill at Camp Hill were women demonstrating that current regulations compromise women's health. That environmental and occupational health research focuses on healthy men, not considering women's unique biology or chemical sensitivity—mainly a women's disease—leaves women open to unresearched risk. Environmental risk, power, and resource distribution for women vary from that of men due to gender, rather than biology, defining roles and economic status. The gendered and toxic nature of the political economy places women at risk in "female" occupations and poor neighbourhoods. Together these factors are a recipe for environmental sexism and a plausible explanation for higher rates of environmental illness in women.

Despite environmental sexism, activists in Nova Scotia show that, although demanding, it is possible to reverse trends of privatization, deterioration of public services, and shift toxic technological and production practices to sustainable ones.

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1First described in 1952, the syndrome has since engendered over 20 names, including "environmental illness," "total allergy syndrome," "20th century disease," and "chemical AIDS." These terms refer to recurrent non-specific symptoms referable to multiple organ systems that the sufferers believe are provoked by exposure to low-levels of chemical, biological, or physical agents.

2The environmental racism definition by Chavis in Bullard, Chavis and Lewis (1994) is adapted to environmental sexism to consider the interplay between sex and gender. Although environmental sexism is often described this article is the first to define it.

3All names of interviewees have been changed to provide anonymity. To provide further anonymity job titles and other details that might be recognizable have been modified.

4Camp Hill Medical Centre, which consists of three adjoining buildings, Abby Lane, Camp Hill and Veterans Memorial, has since been amalgamated with two other buildings and...
renamed the Queen Elizabeth II Health Sciences Centre.

Even before Camp Hill, knowledge of chemical sensitivity was quite high due to activists lobbying in the late 1970s for environmental health treatments. This led to the establishment of a part-time pilot Environmental Medicine Clinic at the Victoria General Hospital in 1990. In large part, it was CHEV's efforts to get alternative treatments that resulted in the expansion of the part-time pilot Environmental Medicine Clinic to a full-time clinic.

This bacterium was given its name when an outbreak of respiratory illness caused 29 deaths among American Legion members attending a convention in a Philadelphia hotel in 1976.

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