Feminist Perspectives on Breast Cancer, Environmental Health and Primary Prevention

The Case for the Precautionary Principle

DOROTHY GOLDIN ROSENBERG

Un peu partout dans le monde et dans les pays industrialisés, plusieurs maladies, (le cancer, les maladies cardiaques, le diabète, les allergies, l'athme etc) sont liées aux technologies modernes, à la pollution toxique et aux mauvaises habitudes de vie. C'est en grande partie gräce au cancer du sein et autres cancers gynécologiques, que la santé des femmes et l'environnement entre autres, posent des défis à la croissance exponentielle de l'économie politique et corporative, .de la pollution, du gaspillage, tout en faisant la promotion du respect de la terre et de tout ce qui vit. Le cancer est évitable et la prévention primordiale quand on suit les mesures de précaution qui se jouent de l'incertitude scientifique.

Today, in Canada, the U.S. and other industrialized countries, nearly one in three women, one in two men will get cancer and one in four will die from it. For women, over 35, many of these are cancers of the female reproductive organs. Breast cancer is on the rise to the extent that one in eight women will get breast cancer over their lifespan, up from one in 20 a few decades ago.

Every day, 40 women in Canada learn they have breast cancer and every day 12 women die from it, amounting to more than 5,000 women each year or one in 23.[3] This incidence is occurring in younger women. Breast cancer in women and other cancers (including prostate and testicular cancer in men) are now also increasing in countries of the South. There are also rapidly declining sperm counts, increased infertility, undescended testes, smaller penises in males as well as other related immune deficiency and endocrine disruption conditions (Davis 2005). Social, economic (read poverty) and environmental influences are evident in many marginalized sectors which has led to environmental justice movements. Recent studies indicate that many First Nations communities have particularly high rates of cancer. In addition to social and lifestyle factors, this increase in the incidence of cancer corresponds to an increased build-up during the last forty to fifty years of toxic polluting substances (Nikiforuk).

In response to the increase of breast cancer and other diseases associated with modern technology, toxic pollution, and unhealthy habits, feminist health, environmental, health professionals, labour and other advocates are challenging the political economy of corporate exponential growth, pollution and waste, as well as promoting a more traditional societal paradigm of respect for the earth and all species. They demand a shift by the medical establishment away from its largely singular focus on testing (machines) and treatment (drugs) towards the inclusion of more balanced, just, holistic Indigenous approaches to health.[1]

"Action for prevention" campaigns on breast, children's and other cancers, asthma, environmental sensitivities and other health problems reflect, I believe, a transformative moment in history on environmental health analysis and health promotion. With awareness of climate change, toxic products in air, water, food, toys, cleaners etc., it is evident in recent years that there is movement (albeit not quickly enough), with regard to research and advocacy on public health, the environment and the importance of the precautionary principle.

Analysis, Issues and Problems

It is well known and has been for many years that carcinogens cause cancer. The International Agency for Research on Cancer (IARC) of the World Health Organization (WHO) lists over 100 clearly identified carcinogens or agents that cause cancer in humans and wildlife and this may be considered a drop in the bucket when considering the thousands of toxic chemicals and radionuclides actually present synergistically in the air, water, food, homes and workplaces that people are exposed to on a daily basis. These include chemicals, mixtures of different chemicals, radiation, drugs, electro magnetic fields (EMFS) and industrial processes and/or occupational exposures. The WHO decades ago estimated that 80 percent of cancers were related to environmental carcinogen and mutagen exposures (Proctor).

Canadian Cancer Society Breast Cancer Statistics

Breast cancer is the most common cancer among Canadian women (excluding non-melanoma skin cancer).

In 2010:
- An estimated 23,200 women will be diagnosed with breast cancer and 5,300 will die of it.
- An estimated 180 men will be diagnosed with breast cancer and 50 will die of it.
- On average, 445 Canadian women will be diagnosed with breast cancer every week.
- On average, 100 Canadian women will die of breast cancer every week.

Probability of developing or dying from breast cancer:
One in 9 women is expected to develop breast cancer during her lifetime and one in 28 will die of it.

Trends in breast cancer:
Breast cancer incidence rose steadily from 1980 to the early 1990s, partly because of increased mammography screening. Breast cancer death rates have declined in every age group since at least the mid-1980s.

–Canadian Cancer Society 2010

None of this information is new. In 1962, biologist Rachel Carson wrote Silent Spring, in which she alerted the world to the health hazards caused by pesticides, herbicides and defoliants and the political economy of corporate profit for which she was severely criticized. She warned that these chemicals remain in the soil dozens of years after they are applied. She described how they are stored in the fatty tissues of the vast majority of humans turning up in breast tissue, in mothers' milk and in the tissues of unborn children. What she wrote was telling then and tragically proven now.

This is an era dominated by industry in which the right to make money at whatever cost to others is seldom challenged and we shall have no relief from this poisoning of the environment until our officials have the courage and the integrity to declare that the public welfare is more important than dollars and to enforce this view. (23)

Rachel Carson died in 1964 of breast cancer. Today, rather than decreasing, toxins have increased, as have other environmental dangers and diseases. These problems mirror a growing trend of environmental contamination by synthetic chemicals, specifically those that are toxic, radioactive, persistent, bioaccumulative and hormonally active. Today all biota are simultaneously exposed to multiple contaminants which interact with each other in unpredictable ways. Ironically, the more pollutants in our air water and food, the more difficult is to establish cause and effect. The Ontario Task Force on the Primary Prevention of Cancer described this limitation of epidemiology thus:

> Humans are exposed to an enormous variety of environmental pollutants on a daily basis. In many instances, multiple exposures to ubiquitous toxicants occur within a social context (for example poverty, workplace, environment, unhealthy lifestyles and so on) create added health risks. Assessing the impacts of these confounding exposures is difficult.

It is generally acknowledged that a healthy immune system is essential to good health. Cancer cells are routinely produced in our bodies but can be normally destroyed when the immune system is strong. In the opinion of many environment health researchers, cancer is largely an environmental disease and therefore largely preventable (Clapp, Howe and Jacobs). However, primary prevention, a category of strategies to keep people from getting cancer in the first place, is still often considered a hypothetical or suspect concept by most in the mainstream medical establishment who often disregard or marginalize environmental/health relationships although this is beginning to change. By 1999, in contrast to ten years earlier, most cancer agencies stated that if people stay out of the sun, eat vegetables and high-fibre foods, don't smoke or drink and generally take personal responsibility in their lifestyles they can prevent cancer (Canadian Cancer Society 1999).

Of course this is extremely important and necessary; however, the implication is that if people behave accordingly and still get cancer then it is somehow their fault. This "blaming the victim" is a way of avoiding the larger workplace, environmental and social issues that frame individual experience. Therefore, both the "lifestyles" and "environmental risks" are important. Due to citizen and media pressure, in recent years, this has begun to change in Canada with the Canadian Cancer Society now engaging in pesticide bylaw and toxic use reduction campaigns with cancer prevention groups in more recent years (Take Charge on Toxics).

Military, Ecological and Health Relationships

Epidemiologist Rosalie Bertell has named the "ecopathologies" of militarism and nuclearism warfare agents to attack reproductive, immune, respiratory and central nervous systems of all living things as well as thermonuclear devices of megadeath proportions. The waste spinoff of these destructive forces has spawned a global health and environmental crisis in both the military and civilian corporate spheres. The problems are similar everywhere—carcinogens and hormone mimickers: toxic chemicals,

radionuclides, pesticides, dioxins) (dioxins refer to a class of fat soluble chlorine based carcinogenic chemicals often found in pesticides, products of combustion of pvc plastics and other chlorine based materials frequently emitted from incinerators) furans, products of vehicle exhausts. including those from military supersonic and other jets, ships, tanks, and other munitions that also often contain depleted uranium (DU). They result in climate change, acid rain, ozone depletion, loss of topsoil, forest destruction, desertification, increased radiation exposure, and now particularly depleted uranium, a result of corporate market system. Demands for specific scientific proof of harm are insisted upon by corporations such as the tobacco, pesticide, nuclear, chlorine, oil and other industries. Frequently when evidence of harm is presented, it becomes a game of "your scientist vs. my scientist" and many of the abovementioned industries can engage scientists to counter studies that provide evidence of harm (Davis 2007). Ecological/health crises are both within and without medical science and inextricably linked to larger social and cultural crises precipitated by the thought processes and power structures that shape mod-

Primary prevention, a category of strategies to keep people from getting cancer in the first place, is still often considered a hypothetical or suspect concept by most in the mainstream medical establishment who often disregard or marginalize environmental/health relationships.

military lack of accountability. DU is used in many weapons, missiles, airplanes and tanks. It is a waste product of the uranium enrichment process used to strengthen and add weight to these weapons and planes. It burns and the radioactivity that is emitted is dangerous to the health of people and the environment. It is used in most U.S weapons and has caused cancer and birth defects in areas of bombing in recent wars (Bertell 1985). Unfortunately, the military is not subjected to environmental assessment as is most commercial development in countries of the north (Flounders 2009).

History shows that these combined "ecopathologies" cause loss of species, increases in the rates of cancer, allergies, asthma and a great number of congenitally damaged children. They have produced poverty, urbanization and environmental refugees and made visible the inherent racism and classism of militarism (Bertell 1993).

That environmentally related illnesses such as cancer continue to increase when so much seems evident about causality and prevention leads critics to point to the political economy of corporate control in the competitive market economy where pollution/health links are obfuscated and cancer research, diagnosis, and treatment are a profitable business for some. Genetic research, screening, and intervention are the mainly preferred "prevention" route among most oncologists and other medical specialists. Critics such as Judy Brady, D. Samuel E. pstein, and Robert Proctor illustrate how underlying the (U.S.) cancer establishment's fixation with research, diagnosis, and treatment with new drugs is an institutionalized alliance between interlocking professional and financial interests. They describe the political economy of the wasteful consumer/military market economy and that in them most civic institutions perform to the demands of the imperatives of the ern life (Franklin; Seager; Shiva) such as transnational corporations, militaries, governments, pharmaceutical companies, most physicians and scientists:

> The environmental crisis is not just a problem of physical ecosystems; it is an example of power, profit and political wrangling, of institutional and bureaucratic arrangements, settings and cultural conventions that create conditions of environmental destruction. (Seager 3)

The influence of Transnational Corporations (TNCs) and international trade agreements on economics, governments and banks in the last half century have served to use wealth and economic growth indicators such as Gross National Product (GNP) as the measure of progress rather that those of traditional values of health and well being, equality, education, human rights, environmental security, peace and so on (Barlow; Daly and Cobb; Waring). Once it is understood that health is tied to large-scale economic and political priorities, it becomes clear that these are political issues (Brady; Hynes; Sherwin). Women's health proponents contest decisions that underlie current policies and challenge the notion that environmentally linked conditions be addressed as diseases of individuals. They believe policy options must be evaluated in terms of the alternatives they replace and that policy concentrating on individual responsibility in the absence of efforts to restrict pollution and include more holistic approaches is more a product of power and influence than of ethical deliberation (Sherwin; Rosser; Evans).

Scientific Information

The following lines of evidence from biologist, Sandra

Steingraber, in *Living Downstream: An Ecologist Looks at Cancer and the Enviroment* (1997) indicate that certain chemicals and radiation can cause cancer in living things: cancer in workers exposed to chemicals; studies of non-worker human populations exposed to chemicals out of ignorance or by accident or by misguided public policy; cancer in immigrants who soon exhibit the cancer rates of their adopted countries, rather that those rates of the place where they were born; maps showing more cancer in urban areas than in rural; maps showing more cancers in rural areas with heavy pesticide use than those with low pesticide use; individual studies revealing cancer clusters near chemical factories and near particularly polluted rivers, valleys and dumps; rising rates of childhood cancer—children do not smoke, drink alcohol or hold stressful jobs, yet childhood cancers are steadily rising; cancer in fish and shellfish living in polluted bodies of water. In North America there are now liver tumour epizootics (wildlife epidemics) in 16 species of fish in at least 25 fresh and salt water chemically polluted locations. In contrast, liver cancer among members of the same species who inhabit non polluted waters is virtually nonexistent; many kinds of cancers can be induced in laboratory animals by exposing them to certain chemicals; cellular studies indicating that certain chemicals can cause cell growth and division; studies showing that chemicals can damage the immune system and the endocrine system, promoting cancers.

Despite the abundance of evidence, science may never prove beyond all doubt that toxins are responsible for cancer epidemics. Responding to the demand for more evidence at the First World Conference on Breast Cancer (1997), breast cancer survivor, Nancy Evans told the tribunal "we are the bodies of evidence." However, if more evidence is needed, there is now more of it due to advances in molecular biology. Steingraber describes how cancer grows and how biological markers can inform us on causes of damage, hence indicators for prevention:

> Different carcinogens produce different pattern of mutations in genes which can now be detected by biological markers that are indicators of physical damage caused by the interplay between human genes and environmental carcinogens. In molecular epidemiology they are decoding tools like molecular fingerprints or footprints left at the scene of the crime. They serve as both signals of past exposure and predictors of future cancers. Today it is possible to identify proteins in the blood serum which reveal unmistakable particular chemical exposures. Much as a gunshot wound indicates the firearm used, the particular nature of a certain gene mutation (p53) suggests the type of carcinogen responsible for the damage ie. cigarette smoke leaves one type of lesion, ultra violet radiation another and exposure to vinyl chloride yet another…. (241-245)

Researchers have now found 51 different types of tumours in which damaged p53 genes play a role (Hilts). Therefore, perhaps the question of scientific uncertainty requires asking different questions such as who is uncertain about what? With regard to "we don't know what causes breast cancer," perhaps other questions are needed. Current science tells us that approximately 5-10 per cent of breast cancer is caused by defective inherited genes. This means that 90-95 percent can be related to carcinogens, mutagens, teratogens, endocrine disruptors and electromagnetic fields (emfs) (Havas; Davis 2010; see also Rees and Havas) in utero and during a person's life. Yet the modern trend is to focus on hereditary genetic causes deflecting attention away from preventable causes, the part that we can do something about.

Human Rights and Environmental Justice

Indigenous communities, people of colour and the poor are often disproportionately affected by toxic pollutants. Heavy industries, waste sites, incinerators, nuclear facilities and other industries are frequently located near marginalized communities. The Aamjiwnaang Reserve featured in the film *Toxic Trespass* is one example. Located adjacent to the Sarnia petrochemical plants, this community has a 2:1 birth ratio of girls to boys, high asthma rates, excess cancers and many other serious health issues. It is suspected that these problems may be related to hormone disruptors and other chemicals released by the industrial plants (see MacDonald and Rang).

All over the world, coal, copper, uranium and other minerals are being mined with tragic health consequences, often on lands occupied by indigenous peoples. Such communities are affected both by proximity and by occupational health exposures. As a result of tradition or necessity, indigenous people often eat "country food," such as game or fish, which may have been contaminated by pollutants from industrial sites or agricultural activities.

> Among the poor, exposures are much higher. Children living in poverty are often housed in the poorest quality housing, where exposures to mould, cockroach infestation, pesticides, and lead in paint, are very, very high. And they are often poorly nourished; as a result any exposures that they do have … the impacts are far greater and they become far sicker. (Chaudhuri)

Poverty exposes children living downstream to a heavy burden of toxic contaminants, and this is often combined with malnutrition. For many activists, environmental justice goes beyond unfair distribution of toxic dumping, to communities fighting ecological damage and engaging in restoration of natural resources, while protecting biodiversity ("Taking Action on Children's Health and the Environment" cited in Bullard).

The Precautionary Principle: Acting in the Face of Scientific Uncertainly Again

While there may never be enough proof about specific associations and diseases, considering the chemical soup all biota are exposed to today, many health professionals, scientists and environmentalists and labour are demanding the phaseout of whole classes of toxic substances rather than a chemical by chemical approach which industry prefers. The dangers, hence these recommendations, are corroborated by the International Joint Commission on the Great Lakes (IJC) in its reports (1992, 1996, 1998), which document genetic mutations in the reproductive systems of human and other species, as well as in numerous other studies (Clapp, Howe and Jacobs). It is why the IJC (consisting of independent scientists from Canada and the U.S.) called for zero discharge of persistent toxic chemicals including radionuclides and the principle of reverse onus, reflecting the "precautionary principle" which states that if we are to err, it should be on the side of caution and that lack of full scientific certainty shall not be sufficient reason for postponing preventive or remedial measures (IJC 1994, 1996).

Existing environmental regulations have failed to adequately protect human health; there is compelling evidence that damage to humans and the worldwide environment is of such magnitude and seriousness that new principles for conducting human activities are necessary.

In 1998, a group of scientists, scholars and activists from Canada, the U.S. and Europe, similar to the IJC, called for the precautionary principle based on weight of evidence of a problem rather than only the demand for scientific proof that a particular contaminant causes a specific condition even if some cause and relationships are not fully established (Wingspread Conference). A weight of evidence approach takes into account many kinds of research investigating harm or potential harm to living organisms, for example: data from laboratory, animal, wildlife and human epidemiological studies, clinical evidence and socio-economic data and research. The precautionary principle has become a focus for analysis and advocacy in the discourse of primary prevention, challenging previous acceptance of risk assessment in which standards are set for "acceptable risk." [4]

In 1999, the Massachusetts Breast Cancer Coalition (MBCC) with scientists, physicians and health activists at the conference, "At the Heart of Primary Prevention: Breast Cancer and the Precautionary Principle" stated that existing environmental regulations and other decisions, particularly those based on risk assessment, have failed to adequately protect human health and the environment; that there is compelling evidence that damage to humans and the worldwide environment is of such magnitude and seriousness that new principles for conducting human activities are necessary. Therefore more care must be taken and corporations, government entities, organizations, communities, scientists and private citizens must adopt a precautionary approach to all human endeavours. Key components included: taking precautionary action in the face of scientific uncertainty of harm; placing the burden of proof of safety on the proponents of an activity, rather than requiring victims to prove they were harmed after the activity commences; seeking safer alternatives to potentially harmful activities; public participation in decision-making regarding science and technology.

In 2000, The Toronto Cancer Prevention Coalition (TCPC) brought together several hundred participants to discuss policy and action. The report, *Preventing Cancer from Environmental and Occupational Factors: A Strategy for the City of Toronto* (Stewart), using evidence from studies of toxic exposures in the workplace and the environment, stated that the current system of regulating the use, release, and disposal of known and suspected carcinogens—rather than preventing their creation in the first place—is ineffective; a new approach to assessing scientific data based on the precautionary principle and weight of evidence, will enable policy makers to better protect public health; pollution prevention should start at the source; that environmental and occupational carcinogens must be a much higher priority for policy makers at all levels of governments. It called for a just transition to safer jobs and socially sustainable livelihoods for long-term healthy employment security where the costs of the transition should not be born disproportionately by the workers. It included "Community Right to Know" meaning the right to know about what communities and workers are exposed to and to participate fully in decision making in matters which affect their health (Stewart). In 2008, continuing the work of the TCPC, Toronto passed the community right to know Environmental Reporting, Disclosure and Innovation Program (2008), and legislation was passed in Ontario, *Toxic Reduction Act* (2009).

Patriarchal Science and Research

A feminist examination of medical research reflects that it contains masculinist presumptions of power structures

of the larger society (Sherwin). Questions are now being asked about how topics are chosen, which are neglected, whose interests are served, who controls decisions and to whom researchers are accountable (Brill-Edwards). Nor can the myth of the neutral apolitical scientist be accepted, as research is a social and political activity with repercussions in our collective lives (Eichler).[5] Most research and funding institutions are controlled by members of the dominant class and reflect their class, gender and racial background. Scientists shape their research interests to serve the orientations of the funding sources, a significant amount of which comes from pharmaceutical companies, biotechnology industries and national defence departments. Even public research money reflects the clout of special interests, and although primary prevention promises to save more lives, vastly greater resources are directed at finding cures than prevention, because the former promises greater profits to industry, where the latter threatens to reduce them (Hynes; Sherwin). Women's relatively powerless position in society illustrates how health can be sacrificed to the profits of the pharmaceutical industry as research is geared to high tech solutions where careers are made on technological breakthroughs promising opportunities and profits. Little support is available for holistic approaches and primary prevention, as medical research speaks of fighting wars against diseases, not of avoiding them. (Moss; Sherwin). A feminist health model would be user controlled and responsive to women's and oppressed groups' concerns (Sherwin). It would encourage holistic values and necessities of healthy living rather than trying to correct the consequences of opportunities denied (Sherwin).

Alternative Research Models, Values and Principles

Challenging the medical/pharmaceutical establishment's research fixation with primarily finding new drugs, Tufts University cancer researchers Drs. Ana Soto and Carlos Sonnenschein, propose a vision of what they believe truly prevention oriented health research and policy would look like. Believing that it is feasible and urgent to test and eliminate endocrine disrupting chemicals, they insist that research today must take into consideration complex systems and interactions, observing that our scientific establishment has dealt very well with linear problems, where they go from A to B to C, as has been done for 200 years. In the real world, however there are ecological questions that deal with many species in the ecosystem and interactions among them. Therefore we cannot continue doing only one type of research—looking at one substance at a time—perhaps not the most useful approach for cancer prevention. "The Precautionary Principle" well established in a number of international agreements could provide a more useful framework for making policy decision affecting health and the environment that would put the burden of proof on suspected pollutants and encourage an approach that does not wait for strict proof before taking action (Arditti and Schreiber).

An alternative community participatory scientific research model and relevant policy action is the work of epidemiologist Rosalie Bertell. She believes that basic to survival is the security, health, and well-being of local communities helps many of them develop alternate forms of environmental health and cancer research. She suggests moving towards a citizens' action structure, able to enter into a check and balance dynamism with scientists and leaders. To do so it is necessary to ensure citizen access to accurate information and objective proof of claims that can be done with professional help. Among the many tasks are the design and execution of data banks providing relevant information on sensitive health parameters such as fertility rate, infant death, birth defect, incidence rate, numbers of severe asthmatic or allergic reactions per day per 100,000 people, scholastic ability of children, and the average age of diagnosis of chronic diseases such as diabetes or hypertension, and life threatening diseases such as cancer. factoring in the above criteria, Bertell belives that An honest and complete audit of health is as important to human species survival as a financial audit is to economic health. Such baseline health data can serve as a direct measurement of immediate health loss due to an industrial accident or of slow loss due to routine pollution. It could also measure health gains from the clean-up of an environmentally threatening toxic waste dump. Women at Love Canal, New York, Long Island, New York, the Aamjiwnaang First Nations in Sarnia, Ontario, and other communities demonstrated skill in sleuthing environmentally caused diseases because frequently most public health efforts do not. They still largely focus on infectious disease control. Bertell believes that the knowledge and skill needed to handle global problems is in people (Bertell 1994).

In the U.S., at a 1994 conference in Long Island, "Breast Cancer and the Environment," a new model of collaboration between activists and scientists was initiated whereby "citizens help frame questions of scientific inquiry and scientists work as servants of the public good". That the idea was revolutionary rather than status quo was seen as a commentary on the nature of scientific inquiry into the causes of breast cancer. Women in Long Island have amongst the highest rates of breast cancer in the U.S. and they would not accept the results of epidemiologists from the Centers for Disease Control (CDC) who informed them that their statistics were probably due to a preponderance of women with known risk factors such as delayed child bearing. The CDC in effect told the women to stop worrying about the environment and instead focus on early detection. In response, the women told the CDC that they would find other scientists to address their questions with them. They did so and organized their own research with a door to door

investigation of cancer clusters to attempt to discover root causes (Beane and Steingraber), a process applied at Love Canal for similar reasons. Groups proposed and supported scientific research into potential risk factors that merit further study which included diagnostic radiation in adolescence, smoking (including second hand smoke), alcohol, exposures to pesticides and other fat seeking synthetic organic chemicals that can bioconcentrate in fat etc, (Batt; Evans). In Toronto, participatory research in environmental health promotion at the South Riverdale Community Health Centre led to the production of the booklet, Hidden Exposures. People identified indoor health problems and came up with practical solutions to avoid them (Chaudhuri).

Advocacy at Community and Policy Levels

Partnerships are being forged among diverse organizations to develop and advocate for effective public policies which have primary prevention and the precautionary principle as their centrepiece. They challenge polluting practices that destroy our health and that of the earth which nourishes us and of which we are a part by creating public pressure necessary to stop polluters and their protectors in governments, industry, academia and other structures of political and economic power. They also challenge biomedical/technological research models and their limits of science and insist that they view the right to a safe and healthy environment as basic human rights and believe that together they must create the political will necessary to address these concerns.

Because a healthy environment is critical to health promotion and disease prevention, people in different regions are addressing toxic and radioactive contaminants specific to them as well as those which are airborne, carried in the water, applied to food etc. They are learning about safe alternatives to the use of pesticides, solvents, plastics, nuclear reactors etc. (in addition radiation releases from them, the connection to nuclear weapons non proliferation measures are necessary as more countries have the capacity to build bombs).

The Health Professional Community

While there is still entrenchment in the biomedical technological model geared largely to discovery, treatment and cures, there is a desire for change to more holistic public health approaches. In Canada, health professionals—the Canadian Society for Environmental Medicine, the Canadian Association of Physicians for the Environment (CAPE), Physicians for Global Survival (PGS), the Ontario College of Family Physicians, the Ontario Medical Association (OMA), the Registered Nurses Association of Ontario (RNAO) and others—are advocating for the precautionary principle. Engaged physicians and scientists in the U.S. include the Physicians for Social Responsibility who advise physicians that:

> Protection of the environment and preservation of ecosystems are in public health terms, the most fundamental steps in preventing illness. Physicians should be the health officials most knowledgeable about the environmental factors that cause disease, and should be prominent spokespersons in communicating with the public about environmental hazards.

Thousands of scientists endorse three generally agreed upon principles of ecological integrity which have been enunciated at various international conferences beginning with the first UN Conference on the Environment in Stockholm in 1972 and reiterated since at many other fora including the United Nations Conference on Environment and Development (UNCED) Brazil, 1992.

> 1. We now know what others have known before us: that the health of the planet is the primary context for the health of all life on it.
> 2. That the life support systems of the earth are severely threatened.
> 3. What we do to the planet, we are doing to ourselves. ("Scientists Statement on Survival of Humanity" cited in Rees)

Coalitions of health professionals, occupational health and safety labour representatives, cancer survivors, environmental, women's, health, community, policy, media and other groups collaborate to advocate on environmental and occupational health issues at various levels as seen below.

Government Policy Opportunities

The municipal level is closest to communities regarding opportunities for policy intervention and implementation on the precautionary principle. Areas where actions have occurred in Toronto include: lawn pesticides: sulphur in fuel, a smog plan, coal-fired plants, cellular phone towers, radioactive tritium, a known carcinogen, mutagen and teratogen routinely discharged in the drinking water from nuclear reactors, leading to the Ontario Drinking Water Advisory Council taking up this latter concern through activism by the Toronto Cancer Prevention Coalition (ODWAC).

At federal and provincial levels the Canadian Environmental Law Association (CELA), the International Institute of Concern for Public Health (IICPH), Women's Healthy Environments Network (WHEN), Canadian Autoworkers, United Steelworkers, Environmental Defence, Prevent Cancer Now (PCN), The Canadian Association of Physicians for the Environment (CAPE), Registered Nurses Association of Ontario (RNAO), Ontario Colllege of Family Physicians (OCFP), Ontario Medical Association (OMA) etc. engage in interventions for policy change.

International Mobilization: In recent decades women's health and environmental, peace and social justice

movements have been bringing these concerns into wider public discourse. United Nations World Women's Conferences,(most) notably on these issues was in Beijing (1995): Equality, Development and Peace. From all over the world, women's groups promoted these global concerns throughout the preparatory meetings and conference documents. This work was integrated within the designated sectors at the United Nations Beijing + Five (2000), Beijing + Ten (2005) and Beijing + Fifteen, New York (2010). These UN Women's Conferences illustrate that feminism, peace/justice, and health/environmentalism are social movements where their vision and promise hold the possibility that all personal interactions and institutional arrangements can be transformed into non-exploitative, non-hierarchal, cooperative relationships on a healthy planet.

Education and Awareness

In academia, courses in public health are becoming available in higher education and some health professions, however, we need to interrogate how the disciplines of health promotion, environmental health, environmental studies, public health, education, women's studies, medicine, nursing etc. reflect contexts of primary prevention discussed in this paper. With regard to community education, many valuable resources—films, publications, websites, etc. have emerged in recent years. For example, the documentary, Exposure: Environmental Links to Breast Cancer, evolved from women's health movements such as the Women's Network on Health and the Environment, (Now the Women's Healthy Environments Network (WHEN), Women's Environment and Development Organization (WEDO), the Women's Community Cancer Centre, and others concerned about environmental links to cancer. The guide, Taking Action for a Healthy Future, contains resources for further information and engagement. At "Facilitator Trainer" workshops with "Exposure," WHEN helps participants develop skills for advocacy as well as learn about safe alternatives to toxic products and programs. A similar process is underway with the documentary Toxic Trespass on children's health and the environment.

In a video presentation, *Everyday Carcinogens: Acting for Prevention in the Face of Scientific Uncertainty*, at the Hamilton Cancer Prevention Conference (1999), biologist, Sandra Steingraber, [a nursing mother at the time, closed her talk with a discussion of the toxic chemicals found in breast milk: "My milk contains dioxin from old vinyl siding, discarded window blinds, junked toys, used IV bags, plastic parts of buildings that have been burned down accidentally, these have all found their way into my breasts and there is nothing I can do about this." She emphasized that despite this, breastfeeding is still the best and most important nutrition for infant development for many reasons.

So what I am saying here is that breastfeeding is a sacrament. Its not a lifestyle choice—and by poisoning breast milk, we have committed not a problem with a lifestyle, but a problem with a human right. And if there is ever a need to invoke the precautionary principle, it is here inside the chest walls of nursing mothers where capillaries carry fat globules into the milk producing lobes of the breast. Breastfeeding is a sacred act and I think it is a holy thing. And to talk about breastfeeding vs. bottle-feeding—to weigh the known risks of infectious diseases against the possible risks of childhood or adult cancers, I think is an obscene argument. And those of us who are advocates not only for breast cancer prevention and women's health but also for children and those of us who are parents of any kind, need to become advocates for uncontaminated breast milk. This is where science meets activism. It would be difficult to present a more convincing argument for the precautionary principle.

Conclusion

There is much to be done to prevent the deteriorization of our health and that of the planet which nourishes us and of which we are a part. There will always be those who will resist change and strive to maintain their privileged power relationships. But there is much that we can and must do in our own institutions, communities, families, workplaces and toward policy change. We need to highlight the positive even while we critique and challenge what needs changing. The limitations of patriarchal science do not render us helpless. As with the policy makers who had the courage to act on partial evidence to prohibit cigarette smoking in public spaces in many parts of North America long before there was scientific proof of the cancer-causing component benzo(a)pyrene in it, so too can there be public policies on other carcinogens, mutagens, and teratogens that affect public, occupational, and ecosystem health.

Education and advocacy at local, national, and international levels are required to promote the political will needed for transformation from the dominant biomedical models to the inclusion of holistic approaches and traditional well being. These go together with the need to replace the dominant world view of military industrial exponential growth and social domination with a global cultural ethic that gives highest priority to equality, social and economic justice, public health, demilitarization, peace-making and ecological sustainability. A return to inner meaning and spiritual values are also needed as are development of models of cooperation, conflict resolution, enhanced community relationships and wisdom approaches to values (Nozick; Sahtouris).

Increasingly, experiences of women of the South, First Nations, and other marginalized women are being acknowledged. Movements in the South and the North are producing forms of politics and a new political culture

that is bringing the plurality of these struggles to current work (Shiva). As other progressive movements such as labour, environmental, cultural development, anti-racism, differently-abled and sexual equality are challenging mainstream standards, their constituencies overlap as they seek to reorder private and public priorities towards achieving mutual goals. Parallel to and often integrated within social movements there is also cross cultural and interfaith reclamation of ancient spiritual treasures that have been marginalized by modern culture.

There is much yet to be done in building these bridges, however, health concerns are providing a means by which to bring diverse interests together. Breast cancer and other women's health concerns are creating a new sisterhood all over the world (Davis 2002) where women are demanding a say in health in its widest personal and planetary sense (Arias). We can observe philosophical, spiritual, practical and political strains from the many paths that people all over the world are taking in their efforts to protect themselves and the earth against the encroachments of destructive imperialistic practices. There is also growing evidence of a renewal of Indigenous knowledges and practices, a commitment to the empowerment of women, a central force in the search for equity, justice, and peace between and among the peoples of the Earth and for a balance between all biological species and the life support systems which sustain us (Platform for Action: UN Fourth World Conference for Women: Equality Development and Peace).

Dorothy Goldin Rosenberg holds a Masters in Environmental Studies (York University) and a Ph.D. (University of Toronto). An education and film consultant, she researches, writes and speaks on environmental health, equality, social, economic and environmental justice, peace and energy issues. She has worked with the National Film Board, school boards, non-governmental organizations, health professional and policy groups on these issues. She was principle research consultant and associate producer of the documentary video, Exposure: Environmental Links to Breast Cancer *and researcher/writer of the accompanying guidebook* Taking Action for a Healthy Future. *She has led numerous training trainers workshops using these materials as educational tools. She recently researched and produced Toxic Trespass, a documentary on children's health and the environment as a co production with the National Film Board of Canada. and has co-written the accompanying educational resource guide,* Taking Action on Children's Health and the Environment. *She teaches about environmental and ecosystem health at the Ontario Institute for Studies in Education of the University of Toronto, Department of Theory and Policy Studies.*

[1]Indigneous knowledges are understood as the commonsense ideas and cultural knowledges of local people concerning the everyday realties of living. They encompass cultural conditions, values, belief systems, and world views that in any Indigenous society are imparted to the younger generations by community elders. They refer to worldviews that are products of direct experience of nature and its relationship with the social world (Dei, Hall and Rosenberg).

[2]Primary prevention consists of activities directed towards decreasing the probability of specific illnesses or dysfunctions in individuals, families ,and communities, including active protection against stressors (Pender).

[3]Statistics Canada, Health and Welfare Canada, Canadian Statistics 1995.

[4]Windows of vulnerability are stages, for example, in the development of the fetus or the developing breasts of young girls in puberty when the cells are rapidly multiplying where the tiniest amount of chemicals or radiation can cause havoc in the development of cells or genes causing havoc leading to birth defects, cancers and other developmental conditions in the future. Risk assessment has usually depended on what it would take for a healthy white male to become sick, clearly not an appropriate evaluation in this case (Steingraber 2001).

[5]According to Ross Hall, most of the thousands of approved chemicals have not been evaluated for their effects on pregnancy, hormonal cycles and breast development, nor have their synergistic effects been examined in view of the likelihood that cancers arise from multiple factors. A scientific bias exists in the ways that regulatory agencies review chemicals, relying on exposure in chemical plants where most workers are male, and perform lab tests using male rats. Conclusions drawn are presented as doctrine that the levels of toxins in our bodies present no danger, findings used as excuses for delays and inaction.

References

Arias, M. "Breast Cancer and Pesticide Poisoning in Central America." Speech at the WEDO Forum in Cairo (Conference on Population) September 1994. WEDO News and Views Dec. 1994/ Jan. 1995.

Arditti, R. and T. Schreiber, T. 1994, "Breast Cancer: Organizing for Resistance." *Resist Magazine* 3 (9) (November 1994): 1.

Barlow, M. "On the Road with Maude Barlow." *Canadian Perspectives* Autumn 2009: 4. Online: <www.candians.org>.

Batt, S. *Patient No More: The Politics of Breast Cancer.* Charlottetown, PEI: Gynergy, 1994.

Beane, L. and Steingraber, S. "How the Breast Cancer Activists of Long Island are Changing the Focus of Science." *Sojourner: The Women's Forum* January 1994.

Bertell, R. *No Immediate Danger? Prognosis for a Radioactive Earth*. Toronto: The Women's Press, 1985.

Bertell, R. "Exposing the Agenda of the Military Establishment." *Ecodecision* (September 1993): 81-2.

Bertell, R. Health 2000: *A Guide for the Community Seeking*

to Undertake a Health Survey. Toronto: International Institute of Concern For Public Health, 1994.

Bertell, R. *Planet Earth: The Latest Weapon of War.* London: The Woment's Press, 2001.

Bullard, R. D. *Confronting Environmental Racism: Voices From The Grassroots.* Boston: South End Press 1993.

Brady, J. *One in Three: Women with Cancer Confront an Epidemic.* San Francisco: Cleiss Press, 1991.
Last modified on:19 May 2010

Canadian Cancer Society. "Breast Cancer Statistics." 19 May 2010. Online: <http://www.cancer.ca/Canada-wide/About%20cancer/Cancer%20statistics/Stats%20at%20a%20glance/Breast%20cancer.aspx?sc_lang=en>.

Canadian Cancer Society. *Recommendations for Reducing Environmental and Workplace Exposures to Carcinogens,* 1999. Online: <www.cancer.ca>.

Carson, R. *Silent Spring.* 1962. New York: Houghton Mifflin, 1996.

Chaudhuri, N. *Making Environmental Health Happen in the Community!* Toronto: South Riverdale Community Health Centre, 1996.

Clapp, R., G. Howe and M. Jacobs. *Environmental and Occupational Causes of Cancer: A Review of Recent Scientific Literature.* Boston University School of Public Health and Environmental Health Initiative, University of Massachussetts, Lowell, September, 2005 and New Evidence 2005-2007. Online: <http://www.sustainableproduction.org/downloads/Causes%20of%20Cancer.pdf>.

Colborn, T. *Our Stolen Future: Are We Threatening Our Fertility, Intelligence and Survival? A Scientific Detective Story.* Toronto: Dutton Press, 1996.

Daly, H. and J. B. Cobb, Jr. *For the Common Good: Redirecting the Economy Toward Community, the Environment and a Sustainable Future*. Boston, Beacon, 1989.

Davis, D. *When Smoke Ran Like Water: Tales of Environmental Deception and the Battle Against Pollution.* New York: Basic Books, 2002.

Davis, D. *The Secret History of the War on Cancer.* New York: Basic Books, 2007. Davis, D. *Disconnect: The Truth About Cell Phone Radiation, What the Industry Has Done To Hide It and How to Protect Your Family*. New York: Penguin Group Books, 2010.

Dei, George, S., Budd Hall, and Dorothy Goldin Rosenberg, eds. *Indigenous Knowledges in Global Contexts: Multiple Readings of Our Worlds.* Toronto: University of Toronto Press, 2000.

Eichler, M. "Feminist Methodology." Toronto: Ontario Institute of Studies in Education, Toronto. 1995.

Epstein, S. E. *The Politics of Cancer Revisited*. New York: Doubleday, 1998.

Evans, N., ed. *State of the Evidence: What is the Connection Between Breast Cancer and the Environment?* San Francisco: Breast Cancer Fund, 2008. Online: <www.breastcancerfund.org>.

Everyday Carcinogens: Acting for Prevention in the Face of Scientific Uncertainty. Video. Available from the Saunders-Matthey Cancer Prevention Coalition (formerly the Breast Cancer Prevention Coalition). <www.stopcancer.org>.

Exposure: Environmental Links to Breast Cancer. Video, 53 min. Available from the Women's Healthy Environments Network (WHEN). With resource guide and community handbook, *Taking Action for a Healthy Future.* <http://www.womenshealthyenvironments.ca/>.

Flounders, S. "Pentagon pollution ignored at climate change conference." 2009. <http://www.washingtonsblog.com/2009/12/removing-war-from-global-warming.html>.

Franklin, U. *The Real World of Technology*. Toronto: CBC Massey Lecture Series, 1990.

Hall, R. H. Speech at the "Pollution Knows No Boundaries: Breast Cancer and the Environment" Conference. Niagara Falls, Ontario, November 1995.

Havas, M. "Breast Cancer and Occupational Exposure to Electromagnetic Fields." Response to Request from Heidi Evelyn, Tribunal Counsel Office, Workplace Safety and Insurance Appeals Tribunal, January 7 & 9, 2009. Toronto, Ontario, Canada. Response submitted February 9, 2009. 42 pp.

Hilts, P. J. "Cells May Bear Mark of Each Cancer Agent." *New York Times*, Jan 18, 1994.

Hynes, P. *The Recurring Silent Spring*. New York: Pergamon Press, 1989.

International Agency for Research on Cancer (IARC) and the World Health Organization (WHO). IARC Monographs on the Evaluation of Carcinogenic Risk to Humans, "Preamble" and "Lists of IARC Evaluations." Lyon, France: IARC, May 1993.

International Joint Commission (IJC). *Eighth Biennial Report Under the Great Lakes Water Quality. Agreement of 1978 to the Governments of the United States and Canada and the State and Provincial Governments of the Great Lakes Basin.* International Joint Commission, June 1996. Online: <www.ijc.org/php/publications/html/8bre.html>.

International Joint Commission (IJC). *Ninth Biennial Report Under the Great Lakes Water Quality. Agreement of 1978 to the Governments of the United States and Canada and the State and Provincial Governments of the Great Lakes Basin.* International Joint Commission, 1998. Online: <http://www.ijc.org/php/publications/html/9br/toce.html>.

International Joint Commission (IJC). *Sixth Biennial Report Under the Great Lakes Water Quality Agreement of1978.* 1992. <Online: www.ijc.org/php/publications/html/6bre.html>.

MacDonald, E. and S. Rang. *Exposing Canada's Chemical Valley: An Investigation of Cumulative Air Pollution Emissions in the Sarnia, Ontario Area.* Ecojustice, Toronto, 2007. Online: <www.ecojustice.ca>.

Moss, R. W. *The Cancer Industry: Unravelling the Politics of Cancer.* New York: Paragon House, 1989.

Nikiforuk, *A. Tar Sands: Dirty Oil and the Future of a Continent.* Vancouver: David Suzuki Foundation-Greystone Press, 2008

Nozik, M. *No Place Like Home: Building Sustainable Communities.* Ottawa: Canadian Council On Social Development, 1992.

Ontario Task Force on the Primary Prevention of Cancer. *Recommendations for the Primary Prevention Of Cancer: The Report of the Ontario Task Force on the Primary Prevention of Cancer*, 1995.

Ontario Drinking Water Advisory Council (ODWAC). *Report and Advice on the Ontario Drinking Water Quality Standard Tritium,* May 2009 Online: <http://www.odwac.gov.on.ca/reports/052109_ODWAC_Tritium_Report.pdf>.

Pender, N. *Health Promotion in Nursing Practice*. Norfolk, CT: Appleton & Lange, 1987.

Platform for Action and the Beijing Declaration: UN Fourth World Conference for Women: Equality Development and Peace, Beijing, 1995 United Nations Department Of Public Information, New York 1996 .

Proctor, R. *Cancer Wars: How Politics Shapes What We Know and Don't Know About Cancer.* Toronto, Harper Collins, 1995.

Rees, W. "Whats Blocking Sustainability? Human Nature, Cognition And Denial." *Sustainability: Science Practice and Policy.* 6 (2) (Fall 2010): 13-25.

Rees, C. and M. Havas. *Microwave Radiation: The Shadow Side of the Wireless Revolution.* Post Event Answers and Questions. Commonwealth Club, March 19, 2008, 129 pp.

Rosser S. V., ed. *Feminism Within the Science and Health Professions: Overcoming Resistance.* Toronto: Pergamon Press, 1988.

Sahtouris, E. *Gaia: The Human Journey Form Chaos to Cosmos*. New York: Pocket Books, 1989.

Seager, J. *Earth Follies: Coming to Feminist Terms with the Global Environmental Crisis.* New York: Routledge, 1993.

Shettler, T. *Health Effects of Dioxin.* Online: <www.greenaction.org/zerodioxin/healtheffects.shtml>.

Sherwin, S. "Feminism, Ethics and Cancer." *Humane Medicine* 10 (4) (October 1994): 282-190.

Shiva, V. *Staying Alive: Women, Ecology and Development.* 1988. London: Zed Books, 1997.Steingraber, S. *Living Downstream: An Ecologist Looks at Cancer and the Environment.* Toronto: Addison-Wesley, 1997.

Steingraber, S. *Having Faith: An Ecologist's Journey to Motherhood.* Cambridge, MA: Pergaseus, 2001.

Stewart, K. *Preventing Cancer from Environmental and Occupational Factors: A Strategy for the City of Toronto.* Toronto Cancer Prevention Coalition, Toronto, 2000.

Take Charge on Toxics Campaign. Stakeholders' group of the Canadian Cancer Society, Ontario. Public Consultation: *Toxics Reduction Act*, Regulation (010-7792) 2009.

Toxic Trespass: How Safe Are Your Children? NFB co-production. Dir. Barri Cohen. Prod. Dorothy Goldin Rosenberg. 80 min and 53 min, 2007.

Waring, M. *If Women Counted: A New Feminist Economics.* Toronto: Harper Collins, 1988.

Wingspread Statement on the Precautionay Principle, Wingspread Conference Center, Racine Wisconsin, January 1998.

SHIRLEY ADELMAN

Empathy

My daughter suffers,
for another's suffering.
Shadows of eyebrows
on a mother,
with more tumors
than fingers can count.

Her daughter,
ashamed of suffering,
confides only in mine,
knowing
  I was lucky.
Cancer left me left me

with a scarred breast:
tattooed dots,
a frame to radiation,
beamed
so early in the morning,
birds sang their thanks,
for another day.

Shirley Adelman's work has appeared in academic and literary journals in Canada, the United States, Israel, and South Africa. Most recently her work appeared in Jewish Currents *and* Blue Collar Review.