ACTION FOR PREVENTION: 
FEMINIST PRACTICES IN TRANSFORMATIVE LEARNING 
IN WOMEN’S HEALTH AND THE ENVIRONMENT 
(WITH A FOCUS ON BREAST CANCER) 

A Case Study of a Participatory Research Circle 

by 

Dorothy Goldin Rosenberg 

A thesis submitted in conformity with the requirements 
for the degree of Doctor of Philosophy 
Department of Adult Education, Community Development 
and Counselling Psychology 
Ontario Institute for Studies in Education of the 
University of Toronto 

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ABSTRACT

This thesis is a case study of a feminist participatory research project on transformative learning on health and the primary prevention of environmentally linked diseases such as breast cancer. The circle of women in the study evolved from a desire to build and strengthen knowledge through critical reflection and action. They wished to contribute to theory and practice of social and political change towards environmental health consciousness and social responsibility for a safer, more just world. Believing that a clean environment and health are basic human rights, they promoted advocacy to stop polluters and their protectors in institutions of power. They also worked to shift the dominant medical paradigm from it's focus on "magic bullet cures" to include more primary prevention, holistic, complementary approaches to health promotion. They worked with compassion to support and inform each other and become more effective in their work.
Three particular experiences highlighted these efforts. One, the discovery of ways of working with breast cancer survivors for primary prevention: beginning with practical things they can do in their own lives when they are emotionally ready, and refraining from mixing support and advocacy at the same time; Two, the collective process of creating the resource guide, Taking Action for a Healthy Future (to accompany the video, Exposure: Environmental Links to Breast Cancer). This encompassed a community screening of the roughcut of the video with small group brainstorming ideas for content, the circle reviewing these findings, and their final editorial approval; Three, promotion of the Recommendations of the Ontario Task Force Report on the Primary Prevention of Cancer which included advocacy toward policy change, with which any group can become familiar such as creating a broader community of those with similar interests including health professionals, politicians and social movement actors to engage in these concerns with decision makers.

It is hoped that this study can contribute to transformative learning from feminist perspectives on primary prevention; the understanding of some findings of a feminist participatory research process; and a sense of how social movements can be more effective toward these ends. As many of these relationships are still in formative stages, further work is needed to develop such integrative transformative learning on health.
DEDICATION

In fond memory of my loving father, Azar Goldin
ACKNOWLEDGEMENTS

There are many people I wish to acknowledge for their inspiration, wisdom, love and support on this thesis journey. Many of our struggles together have been my source of learning and transformation over recent decades.

This work springs from a long involvement with dear friends in social movements who strive to create a more just, peaceful healthy world for all our children and grandchildren. The Canadian Voice of Women for Peace has been my foundation and training ground for over three decades, where women such as Ursula Franklin, Nancy Pocock, Muriel Duckworth and Janis Alton have shared their wisdom and understanding of equality, justice, non violence and the knowledge that everything is connected.

Before becoming an academic pursuit, the women's health and environment movement entered my world via a circuitous path. Rosalie Bertell had always inspired me with her vast knowledge, her unwavering concern for and her commitment to public health and primary prevention of environmentally linked disorders. Dian Marino first raised the issue of breast cancer as an occupational disease for many of us, convinced as she was that her own terminal illness was largely related to solvents she used as an artist in earlier years. Lise Beane of the Women's Community Cancer Centre (Boston) sent me the first article I was to read on breast cancer and the environment (by Arditti and Schreiber) as her sister, Mary, was dying of breast cancer. Liz Armstrong returned from the first North American meeting in Texas on breast cancer and the environment and pulled me into the then fledgling Women's Network on Health and the Environment (WNH&E) in 1994. My Voice of Women, folk dance teacher, Raging Grannies, adult educator and dear friend, Lanie Melamed, supported and steered me back to academia to eventually follow in her footsteps at OISE/UT and to dare to do "something different - to be on the cutting edge".

I was fortunate to have a fine supervisory committee to guide me throughout this work. Budd Hall, a founder of participatory research, who has introduced and encouraged this methodology to many students and community based groups, understands and values the importance of linking academia and civil society. He was a helpful thesis supervisor and friend who provided valuable and much needed advice during the complexities of the thesis process. Thanks also to my committee members Margrit Eichler and David Selby who responded so thoughtfully to my work and encouraged me to present it so that it would be useful in the "outside world" as well as in academia. I thank Edmund O'Sullivan who helped me to develop my knowledge of ecology, spirituality and transformative learning in my early days at OISE/UT and Irving Rootman whose knowledge of and advice on health promotion was and is most useful and welcome.

Of course words alone cannot thank Hema Abeygunarwardena, Liz Armstrong, Meryle Berge, and Sabina Nagpal, who as members of "the circle", brought their unique and exceptional knowledge, experience, spirit, humour, affection, caring and culinary contributions to our gatherings. Without them this dissertation could not have been written as they provided the rich material for the data as well as the compassion and caring it reflects. I learned so much from them.
I should note that the cancer prevention issues of concern in the thesis comprise the unceasing work of the Women's Network on Health and the Environment (WNH&E) particularly Liz Armstrong, Frederica Mintz, Meryle Berge and many others working to stem the epidemic of environmentally linked diseases. Valuable contributions in this work are also made by the International Institute of Concern for Public Health, the Campaign for Nuclear Phaseout, the Breast Cancer Prevention Coalition, the NAC Environmental Committee, the Canadian Environmental Law Association (CELA), WEDO, the Centre for Health Promotion (University of Toronto) and Greenpeace to name a few.

I owe a debt of gratitude to my fellow former students, friends and colleagues, Anne Adelson and Jodie MacDonald (who were my support group), and Jo Oppenheimer all of whom read through the dissertation and offered welcome advice and encouragement. (Jo's editorial support was her gift for my sixtieth birthday!) I cannot begin to name the many others who have just always 'been there' for me.

Indeed I must acknowledge the OISE/UT Students on Seven (SOS) and the Greening of OISE/UT Committee who helped build the foundation for ecological knowledge and practice to give meaning to linking the theoretical and the applied within the institution. I appreciate my colleagues in the Canadian Association for the Study of Adult Education (CASAE) Peace Group with whom I have presented scholarly applications of this work at CASAE and at the Learneds. The lonely task of writing was made easier by the companionship and fun with the computer room gang - B.J. Richmond, Edith Smith, Thomas Turay and others. Support staff, Amelia Nanni, Marilyn Proctor and computer maven Jeannie Stewart always made life easier when a need arose.

There are also a number of people who are no longer with us but who have deeply influenced my life and work: my father, Azar Goldin who was a learned, loving, proud father, grandfather and great grandfather; the sparkling Erica Nieder who introduced me to social activism and took me on my first peace march (with baby doctor, Dr. Spock) in the sixties (when my daughter was a year old); dian marino, the superb environmental educator who introduced me to environmental links to breast cancer; Hilda Theisen, my fellow OISE student, whose fountain of knowledge and values around breast cancer issues were remarkable, Bella Abzug of WEDO, who made important, powerful interventions at the UN and elsewhere on equality, health, peace and the earth and Nancy Meek Pocock, who worked for justice all her life and gave of herself completely to help refugees make a better life for themselves and their families. The world is a better place because of them.

Finally I thank my parents Ray and the late Azar Goldin and my children Pamela and Matthew for having faith that I would eventually finish this academic project, and for always encouraging me on. My beautiful little granddaughters Rosie Annabelle and twins, Sydney Helena and Magalie Elianne, future women of the world, now provide the impetus to never give up on the absolute need to create an equal, just, peaceful and healthy world for the generations to come.
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CHAPTER I

INTRODUCTION

We know that learning is often worthwhile just for its own sake. To satisfy individual curiosity, to develop personal capacities, to explore new and varied experiences, these are expressions of our freedom, our full humanity. In these learnings, comprehensive social strategy is not usually a central concern. But education for social change is engaged politically. This is praxis or theory in action. Those of us engaged in this praxis whether in community groups, educational institutions or broad based social movements must reflect daily on strategy. Our educational work must be located...so we can exercise our rights and obligations...about the social impact of the learning we promote (Arnold et al., 1991:2-3).

The above quote reflects the spirit of this thesis which relates to work I have been doing in feminist transformative learning for several decades. In recent years, the increased interest and advocacy related to cancer epidemics and other environmentally linked diseases have provided an important moment in which to bring environment and primary prevention health issues into mainstream women’s, environmental, health, cancer, peace/justice and other social movements. Largely due to breast cancer epidemics, I believe that an educational transformative moment is emerging where feminist understandings of ‘personal is political’ are moving quickly with regard to research, learning and advocacy on health and the environment. New generations and diverse groups of women and men are becoming engaged in these relationships of learning because of their own illness or that of their loved ones (Arditti and Schreiber, 1994; Batt, 1994). Several organizations with which I am involved in the Toronto, Ontario area of central Canada have been providing an opportunity to theorize, strategize and organize around health and the primary prevention of environmentally linked health concerns such as cancer.¹

The case study of the feminist collaborative research project of this thesis is rooted in my work in education, research and policy change on these issues as a global education consultant,² film consultant, researcher and active participant in interrelated social movements. In recent years, as a member of the Women, Environments, Education and Development Foundation (WEED) board I became involved in the Women’s Network on Health and the Environment (WNH&E)
where I began to learn more about power relationships relevant to the discourse on ecology, health and the political economy of biomedical/technological research models and paradigms (Epstein, 1979; Hynes, 1989; Moss, 1989). These power relationships were parallel to the critical discourse on patriarchal military industrial corporate ecological destruction in pursuit of exponential growth and profit in the global market economy (Bertell, 1985; Seager, 1994; Shiva, 1993; Waring, 1992), which have been central to my concerns for equality, peace and justice.

Largely due to breast cancer and other related epidemics, women’s environmental groups, health advocates, some cancer activists, educators, scientists, physicians and politicians have been researching these issues, providing information and holding conferences to promote the broader engagement of people (Arditti and Schreiber, 1994; Davis and Freeman, 1994; Davis and Bradlow, 1995; Wolff, 1993; Gofman 1994). They are attempting to make research, resources and strategies more public, believing that education, advocacy and political action are crucial to stopping cancer and other environmentally linked medical conditions. They are demanding a shift away from the patriarchal biomedical/technological model with its largely singular focus on screening and testing (machines) and treatment (drugs) towards the inclusion of more balanced holistic indigenous and complementary medicine approaches to health. They 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 on it for a more equitable and healthy society. They argue that understanding the politics of primary prevention within this framework is crucial in the work of women’s environmental awareness and transformative political action for prevention. Together with similarly motivated social movements, they provide venues for research, communication and advocacy from feminist perspectives in their efforts to build consciousness and social responsibility on health and environmental issues.

As a participant in these movements, I was interested in exploring how we might deconstruct the different phenomena of these relationships of power in order to reconstruct some pieces of the puzzle in the interests of health in its deepest holistic sense. By this I mean in human personal terms (mind, body, spirit, earth) as well as in community, institutional and political structural change. The
educator, researcher and policy change activist in me wanted to examine theory and praxis of effective ways of learning and advocacy to meet these challenges.

Therefore I believed that those of us engaged in this work might benefit from a case study of an actual group learning experience in understanding how current environmental/health/justice issues can transform us personally as well as others in our communities. While I did not initially enter into this work for the purpose of academic research, as my research and educational work evolved within the Women’s Network on Health and the Environment and the NAC Environmental Committee on primary prevention, I wondered if some of us might improve our efforts if we could develop some tools for analysis and evaluation of our work already under way. Why not incorporate my doctoral research with my personal interest and commitment? As Patricia Maguire advises:

Although the dissertation shouldn’t become a lifetime project, it cannot be disconnected from your values and philosophy...When possible get involved in a "problem" that you feel passionate about. For even if the participatory research you engage in is not ideal, you will have the satisfaction of working on life issues close to your heart, not merely dissertation issues. Your life passions will enrich the process, not detract from it...(Maguire, 1993:176).

Hence, the decision to undertake an examination of a feminist participatory research process of a group of committed women in the Toronto area who see health as an everyday concern that has been and continues to be shaped by forces within our modern era which have to do with patriarchal institutional power, privilege, profit and biomedical/technological research models. We began with the belief that these models must be challenged and changed. To this end, we gathered together as researchers, learners, educators and participants already engaged within our various breast cancer, environment, peace, health advocacy groups to learn, inform and support each other individually and/or in our communities.

Statement of the problem and historical background

In the industrialized countries and now increasingly elsewhere in the world, many diseases are associated with modern technology, toxic pollution and unhealthy habits (chronic and degenerative conditions such as heart disease, cancer, diabetes, allergies, asthma). For example, the International Agency for Research on Cancer (IARC, 1993) has identified numerous environmental agents that cause cancer in humans and wildlife. These include chemicals, mixtures of

Today, in Canada, the U.S. and other industrialized countries, nearly one in three people will get cancer and one in four will die from it. For women, over 40 per cent 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. Canada has the second highest incidence in the world after the U.S. 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. At present, it kills half a million women yearly worldwide, a number expected to rise to a million by the year 2000 (WEDO, 1996). The incidence is increasingly occurring in younger women. Breast cancer in women and other cancers (including prostate and testicular cancer and male infertility) are now also increasing in countries of the South (WEDO, 1996 and Shallat, 1995). This increase in the incidence of cancer corresponds to an increased build-up during the last forty to fifty years of synthetic chemicals, specifically those that are toxic, radioactive, persistent, bioaccumulative and hormonally active (mimicking hormones).

It is generally acknowledged that a healthy immune system is essential to good health. Cancer cells are routinely produced in our bodies but are normally destroyed when the immune system is strong. Toxic, radioactive and other carcinogens and mutagens can weaken and destroy the immune system which then cannot ward off immune deficiency related diseases such as cancer. Our participatory research project evolved from our knowledge that in the opinion of many environment health researchers, cancer is largely an environmental disease and therefore largely preventable. However, primary prevention, a category of strategies to keep people from getting cancer in the first place, is considered a hypothetical or suspect concept by most in the mainstream medical establishment who largely oppose, disregard or marginalize environmental/health connections although this is beginning to change (Batt, 1994; Brady, 1991; Capra, 1982). (For definitions of primary, secondary and tertiary prevention, please see key terms on
Today, most cancer agencies state that if people stay out of the sun, eat vegetables and high-fibre foods, don't smoke and generally take personal responsibility in their lifestyles they can prevent cancer (Canadian Cancer Society, 1995). Of course this is wise practice; 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 convenient way of avoiding the larger environmental and social issues that frame individual experience (Batt, 1994; Brady, 1991; Lorde, 1980).

What has been described as the "cancer establishment" (Epstein, 1979; Moss, 1989) includes most physicians, scientists, pharmaceutical corporations and their public relations firms, governments and others who, because of vested interests, often lack the political will to address primary prevention as a health imperative. It also wields a great deal of power (Batt, 1994; Epstein, 1979; Moss, 1989). In the case of breast cancer, this group generally insists on limiting the risk factors to three: a history of breast cancer in the family (although only 5-10 per cent of women with breast cancer carry the newly discovered hereditary breast cancer gene mutations in BRCA 1 and 2), hormonal and reproductive factors and fatty diet. According to the American Cancer Society, these risk factors alone or in combination account for only 20 to 30 per cent of breast cancer causes. This means that 70 to 80 per cent of women who have breast cancer do not fall into these "official" risk categories.

In analyzing the interdependence of national security and health, epidemiologist Rosalie Bertell (1985) believes that global health problems already spawned by the preparation for war and industrial growth indicate that global healing must involve world attention to military addiction (past and present). Such healing would also involve admission of complicity or passivity, and public involvement in future policy development. She argues that this is necessary to maximize the survival probability of victimized peoples. All over the world, there is immeasurable suffering because of the nuclear age: nuclear workers, those affected by nuclear bombs and the nuclear fuel chain (Robbins, 1991). Bertell states that the hope of healing our human global system rests on their healing. She contends that awareness of impending species extinction has been screened out of the collective consciousness. She notes that the slow erosion of health and genetic
integrity is judged 'acceptable' to policy makers who rely on 'experts' who rely on funding from military strategists or big business.

As the 20th century draws to a close, an example of the cultural crisis of the dominant ideology and its impacts on health is highlighted by the following quote:

It is predicted that by the year 2000, weapons related environmental radiation will produce 90,000 cases of cancer, two million miscarriages and infant deaths, 10.4 million children with genetic diseases, and another 10 million who are physically deformed or mentally retarded (Bertell, 1993:1).

This is an illustration of one of the most pervasive examples of government and corporate political hegemony in our modern era. In addition to violence against women, injuries, death and destruction, the military is the single largest polluter and destroyer of resources in the world. The Research Institute for Peace Policy, Starnberg, Germany, estimates that from 10 to 30 per cent of all global environmental degradation is due to military related activity (Renner, 1991).

To cultural critics, the environment/prevention/health dilemma may be viewed as an example of the cultural pathology precipitated by the thought processes and institutions that shape the modern world and which are reflected in the behavior of the 'cancer establishment' (Moss, 1989). The roots of these concerns are embedded within cultural, gender, social, political and economic issues of this century (Seager, 1993; Shiva, 1989). Several phenomena are underway. On the one hand there is rampant environmental deregulation, a direction toward corporate self-regulation and denial of 'proven' environmental harm by the cancer establishment. On the other, public demands include the halting of environmental contamination related to deleterious effects on health and ecosystems, as well as the challenging of biomedical/technological models of research, decision making and treatment.

The cultural transition proposed by environmental health advocates consists of a dramatic change of values; a 'paradigm shift' or profound change in the thoughts, perceptions and values that form a particular vision of reality (Kuhn, 1962). This shift, according to Capra (1982) and Sahtouris (1989), moves towards ideas and values that differ sharply from those associated with different streams of patriarchal Western culture such as the Scientific Revolution, the Enlightenment and the Industrial Revolution. Such patriarchal theories often include the belief in the scientific method as the only valid approach to knowledge; the view of the
universe as a mechanical system; the view of life in society as a competitive struggle for existence; the belief in unlimited material progress to be achieved through economic and technical growth and competition. During the last few decades, feminists, holistic scholars, First Nations and social change activists alike have found these ideas limited and in need of radical revision as we shall see. The new paradigms call for inner meaning and spiritual values and the development of models of cooperation, conflict resolution and enhanced community relationships (Capra, 1982; Franklin, 1990; Nozick, 1992; Sahtouris, 1989; Mander, 1991).

Thus as evidence increasingly confirms that environmental contamination is an underlying cause in the decline of human health, some scientists (Davis and Wolff, 1993; Davis, 1995; Bertell, 1992; Colborn, 1996; Epstein, 1979) as well as various women's community and environmental groups are calling for an end to the poisoning of our food, land, water and air. With the understanding that a healthy environment is critical to primary prevention, communities in different regions in North America and elsewhere are addressing toxic and radioactive contaminants in communities and workplaces (Paulson, 1993). As more is learned about the combinations of chemicals, radionuclides, EMFs and other such factors that we are all exposed to daily, increasingly scientists (Davis, 1995; Bertell, 1992; Colborn, 1996) as well as activists (Arditti and Schreiber, 1994) are demanding the phaseout of whole classes of toxic substances rather than a chemical by chemical approach which industry prefers (Thornton, 1993). They are also learning about safe alternatives to the use of pesticides, solvents, electricity from nuclear reactors and other toxic processes. Many of these same scientists and activists are also identifying relevant political action and alternative participatory scientific research models for their particular situations (Merrifield, 1993; Seager, 1993). Nuclear non-proliferation measures are more necessary now than ever as more countries have the capacity to build reactors and bombs (Bertell, 1985). Increasingly, activist groups are insisting that a safe environment and health are basic human rights. They believe that with effort, together they can create the awareness and political will necessary to promote prevention in these contexts. Their determination was reflected at a conference in Texas where women declared that they would "no longer be the toxic waste dumps for the chlorine and nuclear industries" (Appendix A).
In both Canada, and the U.S., such advocacy campaigns have gained strength during the 1990s. Following public hearings demanded by breast cancer activists, the House of Commons report, *Breast Cancer: Unanswered Questions* (1993) reflected concerns of breast cancer survivors. Among the recommendations made was the call for alternative and complementary medicine and research into environmental factors such as radiation and exposure to air, water and food related carcinogens such as pesticides.

New initiatives on environmental health research (Brisson, 1994) and the findings reflected in such reports as the *Recommendations for the Primary Prevention of Cancer: Report of the Ontario Task Force on the Primary Prevention of Cancer* (1995) are important steps in that direction. The Report (an independent study) calls for greater focus on assessing the impact of environmental toxins on human health, integration of pollution prevention with industrial policy, stringent standards for controlling environmental carcinogens, setting of realistic and measurable timetables for ‘sunsetting’ persistent bioconcentrating toxic substances that are known or suspected carcinogens, and support of the development and application of safe alternatives to toxic products and processes. The Report, commissioned by the Minister of Health of the New Democratic Party before its electoral demise in June, 1995, was and remains largely ignored by the Conservative government which replaced it. That said, however, many health activists have been distributing it widely and supporting it at every opportunity. In the U.S., the National Cancer Advisory Board of the National Cancer Institute issued a critique of that country’s programs and insists on environmental investigation (Calabresi et al., 1994). These reports promote the ‘precautionary principle’ which calls for consideration of ‘weight of evidence’ of a problem rather than the demand for absolute scientific proof that a particular contaminant causes a specific condition. This is because we are all simultaneously exposed to multiple contaminants which interact with each other in unpredictable ways (see Soto Chapter II:58 and Arnold et al., 1996). The precautionary principle 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 and 1996). This concept has become accepted in some scientific and political circles (Thornton, 1993).
However, environmental health advocacy groups and scientists recognize that despite these important initiatives, still relatively few people in governments, medical/scientific establishments or corporations have demonstrated the political will to demand and implement the recommendations of these reports which include phaseout plans.\textsuperscript{16} It is hampered by the fact that most of the North American public adhere to a biomedical model because they are afraid to examine their consumer lifestyles and be confronted with unhealthy behavior and the need to challenge the status quo (Capra, 1982:162). Rather, they delegate responsibility for their health to doctors and drugs. Many ignore social/political problems thus accepting ever increasing rates of cancer rather than investigating how the chemical industry poisons our food to increase profits (Capra, 1982:162). In addition, there are still relatively few people within the medical/scientific community who are trying to move the medical establishment away from its largely biomedical/technological models which focus mainly on screening and 'magic bullet cures.' Such approaches are preferred by pharmaceutical corporations, some of whom also manufacture pesticides and other toxic products (Arditti and Schreiber, 1994; Proctor, 1996; Clorfene-Casten, 1997). Serious primary prevention initiatives would include the demand to halt the production and release of dangerous materials as recommended by the reports cited above.

**Origins of the study and the women's participatory research circle**

My interest in environmental health grew out of my experience as a Jew, parent, health professional, feminist global educator/advocate in social movements for equality/ecological/peace/economic/social change. I also wished to somehow acknowledge and pay tribute to friends and family who have been diagnosed with cancer and those who have succumbed to it. As a Jewish child, my experience of anti-semitism at an early age led to a profound identification with the horrors of the Nazi Holocaust. These experiences are integral to my longstanding commitment to education for social justice, equality and environmental concerns. I seek a better understanding of how motivation can be enhanced in both formal and non formal settings towards a change of consciousness and ability to integrate analysis and action to stop corporate/military/toxic ideologies and cultural pathologies. In my work, this has meant attempting to understand and challenge frameworks of patriarchal power and domination in order to halt inequality,
militarism, the destruction of the planet and its species, and to help develop a more just, healthy, peaceful and ecologically safe world.

I began to be aware of such issues when my children were born over thirty years ago and have come to understand ecological issues relating to health not only in the context of those of us already born, but that of future generations and the very earth itself. Although I was familiar with issues relating to radiation and various cancers, and while the connection between smoking and lung cancer had gained public notice in recent years, the connection between breast cancer and environmental toxins was introduced to me by Dian Marino, an environmental educator with terminal breast cancer, teaching at the Faculty of Environmental Studies at York University in 1990. She believed that the initiation of her cancer occurred when she was an art student in California some 25 years earlier and was exposed to toxic solvents and paints while cleaning metal plates during the printing process. I was subsequently given further information which helped to explain these and other relevant environmental breast cancer links (Arditti and Schreiber, 1993). When I was trained as a health professional some 40 years ago we never heard of environmentally linked diseases. The troubling news is that this concept is still subject to much ignorance and denial by far too many in health and science fields.

I had become part of a small circle of women from Toronto area organizations engaged in environmental primary prevention health issues. We had met in the course of several years at meetings and in support of programs related to women's health and the environment, breast cancer, environmental justice and other similar issues. These groups and programs included the Women's Network on Health and the Environment, the National Action Committee on the Status of Women (NACW) Environmental Committee and the Ontario Institute for Studies in Education (University of Toronto). Discussions with colleagues in organizations, fellow students, health professionals and the like, led to questioning how we might learn from and contribute to the transformative moment at this time of emerging information and praxis on primary prevention of environmentally linked diseases such as breast cancer.

Thus, the women's health circle which is the focus of this study evolved out of a need for a better understanding of how some women as practitioners might learn to build and strengthen our knowledge through critical reflection and action.
We joined together because we were motivated to explore limitations, successes and opportunities in the specific task of improving the integration of primary prevention of disease (in the context of building more just and healthy communities) in our individual and group practices. This group provided the specific context of the case study of the participatory research project in this thesis. The women included breast cancer survivors, health advocates, educators, environmentalists, feminist activists, policy analysts, those examining multicultural and anti-racist concerns (there are many overlaps among them). Most of us were already involved in women’s health and environment relationships and issues in our own communities and organizations. One group member was not formally engaged in an environmental/health organization at the start, but drew on her history, spirituality, culture and indigenous knowledge as a conceptual framework for holistic well being (see Abeygunawardena, 1995).

We enjoyed our small group of women. We felt that this was a manageable number for supportive, productive dialogue and collaboration in our research and action. In contrast to larger meetings which we all attend, we enjoyed a particular trust and openness which we found to be a valuable asset in our work. No doubt, part of the effectiveness of our advocacy together was due to the intimacy and caring friendship which developed as a result of our gatherings mostly over shared meals. In her own doctoral thesis, Si Chava Transken (1998:420) noted that female friendship and networking turned out to be one of the most enriching factors of the organization she worked with - for her, a surprising finding. This is because for the most part female friendship is taken for granted in our work. (She says that female friendship is not one of the ‘services’ that falls under the mandate of any government funder. There is no ministry of female friendship!) Despite an absence of support in broader society, this work of connecting to each other is an important feature of women’s work together. Transken’s findings suggest that although women work for altruistic and other reasons, many also seek female friendship as a primary motivator.17

Personal relationships are also emphasized in Educating for a Change: Along the way we need to clarify who is with us both in the short term and the longer haul. In deciding who we’re going to work with, subjective factors also come into play. Who do we enjoy? Who challenges us? We like to look for elements of warmth, surprise and fun in our working relationships...This personal subjective side of judgement is less systematic...less often discussed
publicly. But all of us draw upon it as an element of common sense and nourishment in our work over the long term (Arnold et al., 1991:26).

Through our many discussions, stories and actions we worked collaboratively and collectively as we supported and informed each other, developed deeper understandings and discovered ways of becoming more effective and successful in our learning and advocacy. Within this framework we examined what was happening, what was working or not, what we were learning and accomplishing, what the limitations were and what might be done to be more effective. We describe our collective actions as a feminist participatory research project (Maguire, 1987); working towards a paradigm of environmental health consciousness and social responsibility for a safer, more just world.

Overall our intent was to build on existing knowledge and praxis towards social/political transformation from feminist perspectives with regard to health/earth contexts and the politics of prevention. We wanted to contribute to strategies for changing power relationships and promoting alternative ways of thinking and acting. Education and advocacy were and continue to be challenges of this project where our findings (theories and praxis) may contribute to creating public pressure to stop polluters and their protectors in institutions of power. We also wanted to help shift the cultural paradigm from ‘magic bullet cures’ to more holistic approaches including primary prevention. From this we hoped to glean how others in, for example, breast cancer groups, other social movements, the medical establishment and policy makers might similarly contribute more effectively to their own transformation in the work at hand. In the process, new knowledge, programs and materials were generated in ways that responded to what has become a growing demand for greater clarity and advocacy on these issues.

A collective feminist model of participatory research

In considering various research approaches for this doctoral thesis, it became clear to me that as an engaged researcher, educator and activist, I would not wish to study or write about these matters as a detached observer. My interest in the collective research model of participatory research evolved from when I was at the Faculty of Environmental Studies (FES) at York University and read Patricia Maguire on feminist participatory research in a course on participatory research. It was my first academic exposure to the field and its theoretical
framework seemed to fit my research needs and past experience in adult education and social movements like a comfortable shoe. I was particularly inspired by Maguire's feminist analysis of this mostly\textsuperscript{18} inclusive progressive transformative mode of inquiry in which I had been engaged for many years without calling it that. Then, as I read more of feminist and case study theory and methods (Chapter III), it seemed that this combination provided appropriate research approaches for our feminist project on primary prevention.

Participatory research has been described most generally as a process which combines three elements: research, education and action (Hall, 1981). It is a process of collective, community-based investigation, learning and advocacy for personal and structural transformation, and contains overlapping features with feminist research. It is a social action process which is biased in favour of the dominated, exploited or those otherwise left out of the decision making process or in our case, those independent scientists and activists who challenge the dominant scientific biomedical/technological world view as described in Chapters II and III. It supports goals of collective empowerment and the deepening of social knowledge. Concern with power, democracy and justice are central to participatory research as well as being open to transforming participants and their relationships with others. Participatory research as a term was first developed in Tanzania in the early 1970s where much of the early momentum came from groups in the dominated nations who took the ideas as part of the resistance to colonial or neocolonial practices (Hall, 1993). In recent years, the framing of participatory research has come to explicitly state concerns with gender, class, race, ethnicity, affectional and sexual orientation, different abilities, relation to nature and relation to other species (Hall, 1993).

Pam Colorado (1988), in her discussion of bridging Native and Western science, states that the system of considering Western science as the central subject and object of legitimate, important, or serious intellectual endeavor is simply part and parcel of the total European colonial structure - intellectual imperialism. She comments that newly evolved theories such as collaborative and experiential research...and the framework of participatory research can be drawn upon to complement or meet Native science and culture which also applies to our concerns and critique of the biomedical/technological model. She states:
Participatory research views oppression as a problem. It assumes that there is no neutral or objective science and that the dominant, hypothetical, deductive positivists won't give up their power. It validates popular knowledge, asserts that knowledge is power and advances the idea that theory must lead to social action. This suggests that participatory research may be able to recognize the existence of sciences as well as the historical relationship between the two worlds. Such recognition by Western science could become a powerful catalyst towards broad social change, justice and equality...(Colorado, 1988:63).

Participatory research principles relating to our project also include links to social movements, environmental and occupational health.

**Links to social movements**

Participatory research is most closely aligned to the natural processes of social movements (Hall, 1993) where links with contemporary social movements in recent years have begun within such movements as ecological, health, peace and human rights, anti-racist, anti-homophobic, women's movements and labour (Welton, 1993). It is clear to those of us who have been engaged in educational, environmental health and political transformation that in order to move toward these goals we must continue to build alliances and strengthen links with other organizations and indeed with those who are our allies within the structures of power (Arditti and Schreiber, 1994). In the 1990s we talk of alliances, coalitions and working together more than we ever have, while we also speak of building our alliances for change on authentic (indigenous) voices of people (Hall, 1993). Many social movements view transformative action as a strategic goal to be reached in the medium or long term. Rajesh Tandon (1988) sees social movement links with participatory research as historically necessary in their common pursuit of social transformation relating to common themes. These were considerations that led to participatory research as an appropriate approach for our task.

**Environmental and occupational health and people's science**

According to Juliet Merrifield (1995:65), many community and workplace activists have come into head-on collision with the scientific establishment in recent years over threats to people's health from toxic chemicals in the environment and workplaces. These conflicts have cast doubts on some of the most deeply embedded values of science itself, including the central concept of
objectivity. Often applied science itself, or at least applied science and technology, have come to be seen as the cause of the problem rather than as the neutral and benevolent source of knowledge to solve problems. The particular causes of the confrontation are varied but most stem from the relationship of scientists and scientific knowledge to the power holders of our society. Merrifield notes that in practice, science is rarely neutral, value free and above 'politics.' Rather it is seen by many as intertwined with power relationships of late 20th century capitalism. Areas of dispute range from validity of peoples' own knowledge versus that of the scientists with little regard for issues of concern to communities at risk, to problems with gaining access to scientific knowledge, and the way that science is used to buttress political power and keep people silent. She describes cooperative relationships between scientists and laypersons in the fields of environmental health and lists some crucial questions that must be asked in any relationship between them. They include: Who determines the need for the research? Who controls the process of research and makes decisions along the way which affect its outcome? Who controls the dissemination of results? Where does accountability lie? These are some of the very questions we address in our own women's health campaigns (see Chapters IV, V and VI, also Sherwin, 1993).

According to Fals Borda (1980), the creation of knowledge by engaged social activists contributes to the realization of a "people's science" which no longer perpetuates the status quo. "Scientific literacy" like literacy itself may be a tool for social change when it is approached in an empowering way. There has been much participatory research in the realm of popular knowledge, systematizing and analyzing people's knowledge of health and pollution (Gaventa, 1993). Various educational, social and political processes are already becoming apparent in the discourse on primary prevention as described below.

**Challenging biomedical/technological models of scientific inquiry**

Increasingly women's, environmental, health and community groups are coming to believe that what we need to do is break the link between scientific knowledge and elite forms of enquiry, and replace them with new approaches that combine essential elements of scientific research and a process that is accountable to people (Merrifield, 1993:83-4; Sherwin, 1993). Community organized health surveys have allowed women and men to systematize their own experiences with
environmental and occupational problems. The power of this approach as a mobilizing and knowledge production tool has been exemplified for instance by the women at Love Canal in New York state. In their desperate need to find out what was making them and their children sick (after being dismissed as hysterical by scientists and officials), they began mapping toxic hot spots in Niagara Falls, New York. In many such cases, the discovery of health problems came not by the scientists but from 'housewife' and 'worker' researchers and epidemiologists who were led by their own experiences to document and analyze health experiences in communities and workplaces (Merrifield, 1993:76).

Examples exist of communities' attempts to challenge biomedical models with alternative forms of health and cancer research. 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 proposed and 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 among the highest rates of breast cancer in the U.S. and would not accept the results of epidemiologists from the Center 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. The "One in Nine" (Breast Cancer Group) in Long Island then organized their own research with a door-to-door investigation of cancer clusters to attempt to discover root causes (Beane and Steingraber, 1994), a process applied at Love Canal for similar reasons. In Cape Cod a new research body, the Silent Spring Institute (after Rachel Carson's book) was organized by survivors, scientists, physicians, community activists and epidemiologists. An epidemiological study initiated by women activists is underway to investigate the high cancer incidence there. The women raised money from different state and federal sources including money released from the Pentagon with the creative campaign, Breasts not Bombs, to obtain funds released from military economic conversion. There are now numerous other citizen's investigations and programs as well (Arditti and Schreiber, 1994;

Some limitations to a citizen’s approach must also be acknowledged. Gaventa (1988:25) asks, to the extent that such an approach relies on people’s experience as the basis of knowledge, how does it develop knowledge within people which is in their interest to know, but may be outside their experience? Are there not circumstances where there is a need for a science which is democratic, but which does not require all of the people to become scientists in order to control and benefit from it?

In fact this has been happening in recent years as noted above. Learning the process of community health mapping is increasingly beginning to take hold in some communities where women feel they are at risk. With such change we may help develop a constructive and humane science which meets the needs of ordinary people rather than the power holders (Merrifield, 1993). Most of our circle members helped organize the Mapping and Mobilizing: Women’s Health and Environmental Justice conference, March 29-31, 1996, which among other things addressed skills building in participating in community health surveys. Such surveys can be seen as a contribution to limiting the ability of those in power to determine the wants of others, thus, in effect transferring power to those groups such as ours engaged in the production of other kinds of knowledge (Borda, 1980). These examples, where both citizens and scientists have worked for new approaches, serve to move toward citizen control and accountability (Merrifield, 1993). The Highlander Center in Tennessee has devised educational programs that can help people understand and challenge the science used to keep people ignorant and powerless, and to grow more confident about the validity of their own knowledge.

A framework for the methodology

Therefore, with so many of these issues converging, I chose to do a case study of such a collaborative participatory model rather than a quantitative or other investigative approach. I did so as it was to me an extension of my critical practice in women’s, environmental, peace, social and economic justice and educational communities in Canada and elsewhere. My experience has influenced
our work and has helped develop the framework for the methodology which we viewed in the words of Maguire:

...as a way for...people to join in solidarity to take collective action, both short and long term, for radical social change. Locally determined and controlled action is a planned consequence of inquiry (Maguire, 1987:29).

As the findings in later chapters reveal, features in our learning and work together and with others lay in the origins of the issues, the roles with which those concerned with these issues played in the process, the immersion of the process in the context of the moment, the links to the action, the understanding of how power relationships work and the potential for communication with others with similar concerns. Because transformative learning is based on the assumption that knowledge is constructed socially, approaches which allow for social, group or collective analysis of life experience of power and knowledge are appropriate. In our women's circle, both the issues and ways of working flowed from all of us.

There are many views, issues and controversies around cancer, health and prevention. While some of these issues are referred to in the thesis, they are in the context of the main themes of feminist transformative learning, advocacy and strategies for changing power relationships and promoting alternative ways of thinking and acting in the politics of prevention, ecology and health (Bertell, 1994; Franklin, 1990; Hynes, 1989; Brady, 1991; Mies and Shiva, 1993). The work was done against a backdrop of research findings and literature reviewed and provides a broad context for observable trends in the field of feminist transformative learning for primary prevention. This theoretical analysis and knowledge base served to bolster our own experience in the recognition that we were part of a larger phenomenon in other locations addressing these concerns.

The activities of the women's circle took place between April, 1995 and July, 1996, with a follow up review, analysis and future priorities meeting on September 9, 1997. All the organized meetings of the members took place at my home with the exception of the June 25, 1996 community workshop to research the data for the community resource guide, Taking Action for a Healthy Future to accompany the film, Exposure: Environmental Links to Breast Cancer, then in production. There were numerous other meetings, conferences, events referred to in the thesis which took place in various locations (see Appendix B).
While the project was situated and concentrated geographically in the Toronto area, this examination of women's transformative learning can have local, national and international implications as part of a continuing process now underway. It is hoped that this study can contribute to three areas of interest: the role of transformative learning from feminist perspectives in advocacy in the primary prevention of cancer and other environmentally linked conditions; the understanding of some learning experiences, activities and results of a feminist participatory research process; and a better understanding of how social movements towards health changes can be created and supported.

Our activities were not seen as specific recipes for feminist transformation, rather they are examples of the myriad of opportunities for transformative praxis.

**Research Questions**

1. What are some feminist ways of working on promoting environment, health and primary prevention issues?
2. How are some feminist alternatives resisting and challenging biomedical technological paradigms and the cancer establishment?
3. How are some feminist alternatives contributing to other social and political movements addressing these health and planetary concerns?
4. How can women's transformative learning and advocacy contribute more effectively to these changes?

The findings gave rise to another category which I have called "Beyond the Questions", derived from specific outcomes which highlight the work of the women's circle. They include: a) Learning and praxis for prevention with women living with breast cancer, b) The community research process leading to the production of the film resource guide, *Taking Action for a Healthy Future* and c) Support and advocacy work on the *Recommendations of Ontario Task Force on the Primary Prevention of Cancer* (1995).

Some key terms used in this thesis include: feminist perspectives, primary prevention and health promotion, holism and holistic approaches.

1. **Feminist perspectives**

The term feminist perspectives as used here draws on ecological feminist analysis which views all of life as an interconnected web enriched by diversity,
based primarily on the principles of a transformative feminism that critiques structures of oppression including sexism, racism, classism, homophobia and anthropocentrism. It is opposed to hierarchy, domination and violence (Dodson-Gray, 1982; McAllister, 1982; Merchant, 1990; Starhawk, 1982; hooks, 1984; Shiva 1989). This analysis critiques the mechanistic paradigm of Western industrial society often described as dualistic, reductionist, dependent on rationality and exploitative of women, indigenous and other marginalized peoples and nature. Ecological transformative feminisms go beyond the struggle for equality within current structures and challenge patriarchal hierarchal foundations of society where power is seen as domination. Integrated in this way, all forms of domination are seen as interconnected. Empowerment and participation are integral to this analysis in challenging relations of domination and transforming the structures of power (Starhawk, 1982; Shiva, 1989; Seager, 1993; Bunch, 1987), in this case pressuring the cancer establishment, policymakers and the public to address environmental causality and primary prevention (Brady, 1991).

In recent years the concept ‘women’ has itself become problematic in so far as it hides the differences between different categories of women: of colour and white, working class and middle class, third world and first world, disabled and able bodied, lesbian and heterosexual, etc. (hooks, 1984; Harding, 1992). Stanley and Wise, (1990:206) suggest that "feminism should become explicitly concerned with the multiple and continual fractures that occur between experience and categories" while recognizing that all theory is grounded in experience.

2. **Primary prevention and health promotion**

Definitions of primary prevention and health promotion relevant to this discussion are provided by Nola Pender (1987):

a) Health promotion consists of increasing activities of well being and actualizing the health potential of individuals, families, communities and society.

b) 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.

c) Secondary prevention emphasizes early diagnosis and prompt intervention to halt the pathological process, thereby shortening its duration and
severity and enabling the individual to regain normal function at the earliest possible point.

   d) Tertiary prevention comes into play when a defect or disability is fixed, stabilized or irreversible. Rehabilitation, the goal of tertiary prevention is more than halting the disease process itself; it is restoring the individual to an optimum level of functioning within the constraints of the disability or condition.

3. Holism and holistic approaches

In most cultures, indigenous holistic traditions out of which healing evolved, honoured not only the power of the body to heal but that of the mind, spirit and nature in interaction. In early matriarchal cultures, healing was associated with the life-giving capacities of women (Eisler, 1987). Holistic healing was practised largely by women for most of human history passed from generation to generation, working with substances of the earth to fortify health.21 The transition from holistic healing to drugs and technology and the transfer of power from women to men that accompanied it, reflects the worldviews from which both were derived. What has emerged as the dominant biomedical/technological model in modern medicine has acquired the status of dogma, inextricably linked to the common cultural belief system of the day. Critics believe that the limitations of this model must be recognized and research and healing integrated into holistic health approaches, including pollution prevention and accountability (Capra, 1982; Hynes, 1989).
CHAPTER II

REVIEW OF LITERATURE

This chapter contains a review of literatures which relate to conceptual frameworks, theoretical approaches, characteristics and values of feminist transformative learning in the discourse on women’s health and the primary prevention of environmentally linked health problems with a focus on breast cancer. It covers how and what women and men are learning (theory, method and process), the political economy of the medical industrial complex and the limitations of science. It is framed in theory and praxis inherent in the philosophy and basis of activity of our women’s participatory research circle on health.

As this literature reveals, our feminist analysis of health, ecology and primary prevention views these issues as ones of power and domination by the medical establishment, corporations and governments. Our research/learning experience indicates that the causes of health crises can be found both within and outside of medical science and are inextricably linked to larger social, political, economic and cultural crises. Therefore, this literature review also includes a critique of corporate and military ecological destruction and subsequent health impacts of the biomedical/technological research model and paradigm from the perspectives of scholars, researchers and activists holding views different from mainstream thinking (Bertell, 1985; Batt, 1994; Colborn, 1996; Davis, 1994; Steingraber, 1997; Soto and Sonnenschein, 1994). The literature review also illustrates that these alternative, transformative conceptual frameworks and relationships are multidisciplinary, drawing on the social sciences, feminism, ethics, politics, the environment, economics, health, medicine, science, technology and transformative learning towards advocacy for policy change. These frameworks can provide a foundation for comprehension, instruction and praxis towards creating viable community alternatives for a healthy future (Mies and Shiva, 1993, Nozick, 1993; Roberts and Branden, 1996; Seager, 1993). In the interest of definition and clarification, they are described separately; however, in reality they often overlap, feed from and into each other.

Karen Warren (1990) defines a conceptual framework as a set of basic beliefs, values, attitudes and assumptions which shape and reflect how one views oneself and one’s world:
It is a socially constructed lens through which we perceive ourselves and others. It is affected by such factors as gender, race, class, age, affectional orientation, nationality and religious background. Some conceptual frameworks are oppressive such as those which explain, justify and maintain relationships of domination and subordination such as patriarchy which explains, justifies and maintains the subordination...of women (Warren, 1990:127).

According to Denzin, (1988:49), in a conceptual framework, descriptive categories are placed within a broad structure of both explicit and assumed propositions. These frameworks inform both the methodological and the substantive aspects of many qualitative studies, where the entire process with all of its elements is a reflection of the conceptual framework. Some consider the entire research process as theoretical as illustrated in the following example. In describing how they developed a "spiral model" theory in their design and facilitation of educational programs, Arnold and colleagues (1991) developed an approach which was different from what they had learned about theory as being developed by experts and:

something that seemed quite unrelated to the day to day living and working...we are suggesting theory that involves going down to a deeper understanding of our own day to day experience rather than up into the abstract...so theory not only informs our practice but springs from it. In this way we are all theorists (Arnold et al., 1991:38-39).

However, social scientists define theory in different ways. Some of their positions are attributable to their alignment with either a positivist or an interpretive paradigm. Positivists assume that phenomena are best understood by objective observations or objective measurements that produce empirical verifiable results. They view theory as a set of propositions that explain and predict the relationships among phenomena. Theory for positivists refers to a set of propositions that are interrelated in an ordered fashion such that some may be deducible from others, thus permitting an explanation to be developed for the phenomenon under consideration. The ultimate goal of this kind of theorizing is to develop universal laws of human behavior and societal functioning.

Glaser and Strauss, (1967) criticize the positivists' conventional deductive approach to research, opposing the focus on verification for theory development and the a priori definition of concepts and hypotheses. They propose an inductive strategy whereby the researcher discovers concepts and hypotheses through
constant comparative analysis. They advocate theory generation through discovery and call the results "grounded theory." However, they also accept the positivists' position that the ultimate function of theory is explanation and prediction.

Interpretivists (Denzin, 1988) offer yet another understanding of theory which is neither explanation nor prediction. It is interpretation of the act of making sense of a social interaction. Theory building proceeds by description that goes beyond the mere reporting of an act, but describes and probes the intentions, motives, meanings, contexts, situations and circumstances of actions (Denzin, 1988:39).

Interpretivists see the goal of theorizing as providing understanding of direct lived experience instead of abstract generalizations. They recognize that experience is not just cognitive, but also includes emotions. Interpretivists consider that every human situation is novel, emergent and filled with multiple, often conflicting meanings and interpretations of which they attempt to capture the core (Denzin, 1988:18). Feminist participatory research falls under such an umbrella, but has the added directives of empowerment, transformation and explicit social change as illustrated by our women's health circle in the ensuing chapters.

Several conceptual frameworks provided the basis for our analysis, understanding, learning and advocacy. I interpret the dominant ideology as a form of cultural pathology when viewed from perspectives of feminist frameworks of power, women's health and feminist critiques of patriarchal science and research. Another framework I draw on rejects Cartesian belief systems, biomedical/technological research models and paradigms in modern medicine, the political economy of the medical industrial complex and corporate control. It is concerned with the lack of political will, the limitations of science and changing the terms of the social debate on health.

This literature review covers conceptual frameworks I have drawn on in theorizing the discourse of primary prevention. Broad discourses I explore include:

- Feminist transformative learning in women's health
- Primary prevention of cancer: Biomedical/technological research models and paradigms
- Women's health
Feminist transformative learning in women’s health

This moment is unlike any other moment in time...There is a particular relationship of actors, or events of forces that affect your actions at this point in time...political analysis for action is a rigorous examination of the balance of social forces in a given moment that can help us act in ways to advance our short and long term goals. How can we understand what it offers so that we can make the best use of it? (Barndt, 1989:3,8).

Historical dialectical thinking views an historical moment as one which works from an understanding that today’s issues were born in an interplay of forces over time with oppression and resistance knit together. The notion of dialectical thinking refers to the fact that the social and political worlds around us are not fixed and static and we need to analyze their complexity. In the present, our actions join with those that have gone before and those who will struggle in the future. This kind of thinking is dialectical, a way of looking at the dynamic forces at play with all their contradictions and opposing tendencies. Within these inconsistencies we can find seeds of change. According to Dawn Lyons:

Dialectical thinking is a way of trying to understand a particular moment in terms of how particular political, social and economic forces come together and what kind of space there is for change within that moment... (Lyons as quoted in Davis, 1993:28).

I believe that this dialectical transformative moment is one where a convergence of actors, events and forces are in play that can present unique opportunities on health and primary prevention issues as the turn of the century approaches. What makes it different and hopeful is the combination of courageous scientists releasing their studies and speaking out to challenge mainstream thinking; breast cancer, environmental and other social movements advocacy efforts which are creating greater transparency around the issues; the creation of useful, hands-on and visible resources; and from time to time mainstream media disclosing such information to the wider public as well as to decision-makers. Our learning and praxis in our women’s circle were and continue to be part of this moment as will be seen in the ensuing chapters.
a) **Transformative learning, global education, popular, adult, feminist education for health**

What has to be transformed? What are principles of transformative learning? What are indicators of success? (Hall, 1995).

We need to ensure that the health of children is more important than income, GNP (gross national product), corporations, and individuals. My learning from activist groups was that there are many ways for education and alternatives and that GNP doesn’t measure well-being. Working within the system is too slow - we need to work both ways (Sabina Nagpal).

Transformative learning/global education, popular education, adult education for social change and feminist education while having similar conceptual roots and methods also have specific distinctions (Clover, 1995; Maguire, 1987; Weiler, 1988). Some of these roots and methods are derived from the ideas of Brazilian educator, Paulo Freire and Italian socialist, Antonio Gramsci. Freire helped to develop and spread the concept of ‘popular education,’ an approach which starts with peoples’ daily experiences and helps them analyze the conditions of their lives so they can act together to change those conditions. In recent decades it has become an important tool in grassroots movements. Freire declared that education is not neutral, that it either serves the interests of those in power or those challenging that power. Such education is called popular because it takes a stand on the side of those who are marginalized, it encourages a participatory process, peoples’ critical thought, creative expression and collective action. It links analysis and action, theory and practice. Its major aim is to help people to organize more effectively for social change (Barndt, 1989). The International Council for Adult Education has been encouraging and supporting the development of ‘popular education’ since the 1980s. It recognizes mutual learning, stresses the creation of new knowledge and is directed toward social, economic or other forms of justice and democracy (Hall, 1995).

Antonio Gramsci, who spent a large part of his life in prison for his beliefs, described "hegemony" as a concept we need to understand and act on. Persuasion by the powerful goes together with consent by the many. This unequal relationship is hegemony, and it is a virtual monopoly of public truth, value and power using languages of persuasion. The critical educator, dian marino asked:
What are the elites persuading? What is the language they use? How do they get me or those I'm working with to do things that are not necessarily in our best interest?...and how do I consent to persuasion? Now what shifted for me...was the minute I put consent into the persuasion...I had a way out of my problem because to consent means that I can also resist or not consent (marino in Clark and Chrystal, 1997:127).

Because of our own consent and participation, we maintain the status quo by not challenging structures of power and domination. According to Gramsci, we are controlled by both coercion and consent; we often consent to these structures of domination, internalizing the view of what is 'acceptable' resistance, 'realistic' strategy, the natural order of things and thus participate in the maintenance of hegemony. It can be a process of disindoctrination that allows people to detach themselves from the myths imposed on them by those who have prevented them from seeing possibilities for alternative ways of thinking and acting. Gramsci believed that human agency has an important role in constructing counter-hegemonic practices and what is needed are new kinds of intellectuals, what he called "organic intellectuals," who are deeply rooted in and part of the class or dominated structures they come from (Gramsci, 1971). This would include most women and other marginalized people in societal power relationships in recent decades. Our learning and the knowledge produced in our participatory research processes can be seen as part of this challenge.

Popular, adult, feminist and environmental education are philosophies and methods of teaching and learning that have been developed to encourage adults to see themselves as key actors to have the capacity to assess and address their own needs in order to become effective participants in the struggle for change. Adult education recognizes that adults have extensive past experience that they bring to any learning situation, limited time and many responsibilities, specific goals, as well as different learning needs and methods. It takes into account that often adults are independent and self-directed, that they take responsibility for their own learning and that they can learn effectively from each other, leaving the educator to act as a resource person rather than the 'expert' (Camozzi, 1994; Clover, 1995; Hall and Sullivan, 1994).

Popular, adult, environmental and non-formal education techniques show how the knowledge of others can become a basis to create a new vision of the world...incorporating the knowledge of other groups such as women...and
indigenous respect for the natural world into all training projects and curricula. This knowledge provides a wealth of learning which could lead to a transformation in thinking and acting (Clover, 1995). According to Elayne Harris, adult learning is both a process and an outcome (Harris, 1992).

Feminist educators argue that women’s experience and knowledge have been largely ignored in adult and popular education, that power relations are often based on gender and women must be included if true change is to come about. Feminist popular education promotes inclusiveness in decision making, learning and related areas. It promotes the notion that feelings and emotions are an important part of our daily lives, experiences and learning and that a variety of methods are necessary to draw women in. It is based on the principle that the process is as important as the goal (Maguire, 1987; Weiler, 1988). The development of feminist pedagogies arose from the contradictions that existed between women’s experiences, perceptions and knowledge and the more anthropocentric forms of radical pedagogies. The mandate of feminist or gendered popular education has been to work for women as Freire and other critical theorists did for men (Klein, 1983:102).

Theoretical constructs and definitions within the discourse of ‘transformative learning’ are applicable within a feminist framework of power and domination in women’s transformative learning on health and the politics of prevention. The Ontario Institute for Studies in Education (OISE/UT) Transformative Learning Centre (TLC) defines this term as one which:

...embraces principles of popular, adult and environmental education to refer to the process of learning, whether in formal or non formal education settings which is linked to changing the root causes of environmental destruction or damage; changes in relations of power, gender relations and other patterns that allow for a healthy relationship with the earth (OISE, TLC pamphlet, 1994).

Both what is referred to here as transformative learning and global education (which I now often use together²) require critical examination of social values and behavior. They demand radically new ways of thinking and acting in order to break away from current educational practices which maintain and legitimate contemporary patriarchal social orders and practices which global human and ecological systems can no longer sustain (O’Sullivan).³ Pike and Selby, (1995:15) refer to global education as "a proliferation of educations" which include:
development education, environmental education, human rights education, peace education, health education, gender equity education, education for a multicultural society, humane education (referring to animal welfare and animal rights), citizenship education and media education. They recognize that while each "education" has its own particular features and starting points, their concerns are finally mutual and overlapping in holistic health education.

Similar to those who promote holistic approaches to health, proponents of these educational theories maintain that the complexities of contemporary societies and the world can no longer be adequately understood through segmented examination, but require a comprehensive approach. They feel that no individual academic or other discipline can adequately encompass the issues and sectors of activity which affect the world today. These concerns require a global perspective that can demonstrate the interaction among the variables, hitherto considered separate. Thus in feminist approaches to primary prevention, the very nature of ecological/health questions cannot be separated from patriarchal, elitist and often racist power relationships and domination which impact on health, security, development, economics and social justice (Brady, 1991; Brown, 1983; Lorde, 1980; Shiva, 1993). While a feminist anti-racist analysis is increasingly acknowledged and utilized within global transformative education and learning theory by some scholars/writers/educators⁴ (Hoffman, 1984; hooks, 1984), in practice there is often irregular emphasis of these links.⁵ This is particularly related to environment, health and justice according to Bullard (1993) and policy reports which note social contexts such as the International Joint Commission on the Great Lakes (1994), the World Commission on Environment and Development (1987) and the Recommendations of the Ontario Task Force on the Primary Prevention of Cancer (1995). In the case of the patriarchal medical/scientific establishment, this separation is still very much in evidence (Harcourt, 1992; Seager, 1993; Sherwin, 1992).

In a study of transformative learning in the context of global environmental praxis, Hall and Sullivan described transformative learning as follows:

The term "transformative learning" is being used as an umbrella term to refer to a wide variety of action-oriented educational processes which begin with the daily lived experiences of women and men living in communities which have as their goals changes in the structures which are responsible for particular social inequalities and environmental threats. Frequently
personal values begin to change as a result of this new understanding, people begin to view the world differently and therefore the actions in which they are involved, take on new meaning. Transformative learning also includes the process by which individuals within their social locations join with each other and others in order to take action. It aims to strengthen behaviors and attitudes so they can be more confident and take leading roles in formulating strategies that challenge oppressive situations and structures. Therefore it involves a high degree of participation, recognizes mutual learning, stresses the creation of new knowledge, and is directed towards social, environmental economic, or other forms of justice and democracy. It draws on the entire range of learning processes which are the stock and trade of educators working in adult education, community based literacy, popular education, ecological, peace, and or other social movement initiatives. Transformative learning is a label of convenience or an umbrella under which a variety of other concepts might find shelter. This type of learning can be a catalyst in working towards a global paradigm shift and redefining and reexamining values (Hall and Sullivan as quoted in Clover, 1994:4).

b) **Transformative ecological feminisms: new cosmologies in feminist praxis to reclaim traditional paradigms of environmental, health and social responsibility**

The cultural shift required for change reflects principles of transformative feminisms that critique all structures of oppression and domination including sexism, racism, classism, homophobia and anthropocentrism. Ecological feminisms are transformative in that they go beyond the struggle for equality within current structures and challenge patriarchal institutions where power is seen as domination (Dodson-Gray, 1982; Merchant, 1990; Shiva 1989). Women's indigenous knowledges, empowerment and participation are integral to this analysis for the transformation of structures of power (Starhawk, 1982; Shiva, 1989).

Our theoretical framework of transformative learning from feminist perspectives integrates the following ecological feminist analysis and from here on when I refer to transformative learning, I do so within this understanding. In the opinion of feminist academics and activists such as Joni Seager, (1993); Ursula Franklin, (1990); Elizabeth Dodson-Gray, (1982); Vandana Shiva, (1993); and Judith Plant, (1989), the ecological/health crisis is a crisis of cultural pathology precipitated by the thought processes and institutions that shape modern life. They believe that understanding power relationships and domination from feminist ecological perspectives are important in challenging patriarchal institutions of power such as corporations, militaries and governments which are largely responsible for toxic pollution now affecting all life on earth. It often leads to
weakened immune systems, hormone and genetic disruptions, illness and frequently death (IJC, 1994).

Ecological feminist analysis views all of life as an interconnected web and critiques structures of oppression including sexism, racism, classism, homophobia and anthropocentrism. It opposes hierarchy, domination and violence (Dodson-Gray, 1982; McAllister, 1982; Merchant, 1990; Starhawk, 1982; hooks, 1984; Shiva, 1989). This analysis critiques the mechanistic paradigm of Western industrial society often described as dualistic, dependent on rationality and exploitative of women, indigenous and other marginalized peoples and nature. Integrated in this way, all forms of domination are seen as interconnected. In this analysis, empowerment and participation are integral to challenging relations of domination and transforming the structures of power (Starhawk, 1982; Shiva, 1989; Seager, 1993; Bunch, 1987) in this case pressuring the cancer establishment, policymakers and the public to address environmental causality and primary prevention (Brady, 1991). Recognizing this, the Women’s Global Strategies Meeting working group on women, science and technology, prior to the UN Fourth Conference on Women (1995), declared:

Women must be given at national and international levels the opportunity to conceptualize and design science and technology strategies and set priorities in scientific research to support their gender-specific needs, interests and aspirations. There must be recognition of women's indigenous knowledge and traditional techniques as scientific and as a basis for technological development and intervention. Protection of local community knowledge systems from unfair exploitation is needed to ensure mutually beneficial integration of both local and modern knowledge systems and natural resources for the benefit of people and nature...6

Indeed, many women’s peace/environmental/justice and community organizations, critical of destructive capitalist development structures are building alliances in the promotion of holistic, healthy, community economic development models which incorporate the best of the old and the new (Brown, 1983; Bullard, 1993; Nozick, 1992; Roberts and Brandom, 1995; Seager, 1993).

An important conceptual element in the process of our transformative learning in the circle included principles of women’s personal growth in connection with issues of social power, empowerment and support which are described as fundamental to collective action (Gilligan, 1982; Starhawk, 1982; Jordan, Kaplan, Miller, Stiver, 1991). It is often easier to describe the problematic or pathological
aspects of relationships than the positive, growth enhancing, often spiritual
dynamics inherent in them (Jordan et al., 1991).

Another term, 'connected learning' is used as taking the view of another and
connecting it to one's own knowledge, thus building new and enlarged
understanding of broader human experience (Belenky, Field, Clinchy et al., 1986).
Many of these relationships are described in theories of feminist pedagogy and
feminist popular education (Weiler, 1988; Maguire, 1987). Yet another conceptual
model for personal transformative learning describes eight stages starting with
engaging in learning, the awakening of the mind, awakening of the heart, deep
caring for humanity and planet now and in the future, awakening of the soul,
sense of personal responsibility and commitment, finding a personal path of action
and finally personal power and hope (Rogers, 1994).

Ecological feminisms also have much to teach us in theory in an
interrogative rather than in a prescriptive mode. Because of shared concerns for
health and freedom, a new ‘we’ has emerged from feminists, ecologists, peace/
justice and other social activists and scholars challenging institutions of power. For
example, Wilmette Brown demonstrates the value of such questioning by
combining the political insights of the Black civil rights movement, lesbian
feminism, ecology, peace movements and holistic health movements. As a Black
American activist/theorist cancer survivor, the issue is how to transform cancer
from a preoccupying vulnerability into a vindicating power - for herself and for
everyone determined to reclaim the earth. That involves making visible the links
between sex, class and health. Bullard (1993) documents the marginalization of the
poor who are often forced to take jobs with greater health risks, to live in polluted
areas and in many situations to not have access to adequate health care. Brown's
analysis of convalescence from the perspective of a Black working class, lesbian
feminist explores the limitations of (U.S.) holistic health movements which have
been myopic to race, class and gender issues as defined by White, middle-class
heterosexuals. In her view, despite this group's critiques of the medical industry,
they have largely ignored the necessity to struggle against the military industrial
complex. They mostly assume financial access to self-healing experiences as well as
the time, skills and money to obtain healthier diets, and have too often ignored
traditions of herbal remedies that have been practised for centuries among peoples
of colour. Her own site of struggle is the international women's peace movement
which she feels has learned to refuse the sexist and racist assumptions of most peace and holistic movements (Brown, 1983).

Brown's analysis and activism exemplify a politics of resistance that runs counter to the will to totalize. It illustrates the necessity to limit essentialist tendencies which any movement is capable of doing in efforts to develop a 'coherent' theory (quoted in Quimby, 1983:126). This must apply to all voices of subjugation so as to enable us to better question our own political and personal practices. It must also extend to anthropocentric assumptions that only human beings have truths to tell. The cries of factory farm animals, the suffocation of fish in poisoned waters, flood waters over deforested lands are also some of the voices we need to heed (Quimby, 1983:127). In our women's circle, we appreciated these links when they were raised in the context of Buddhist spiritual practice or First Nations' values which respect all life on the planet and our oneness with nature.

c) Structural analysis for political, social and environmental change

If change is to be lasting, a great challenge that faces global transformative educators and learners in both formal and non-formal situations, is to develop forms of analysis and argument which deal with the structural realities of classism, racism, the political economy of exponential growth, the devaluation of women's worth and work and ecological/militaristic destruction (Mies and Shiva, 1993; Waring, 1989). An analysis of global issues must address the root causes and pervasiveness of structural violence (Galtung, 1971) due to inequality in the unjust world order of this century. Those in powerful institutions such as banks, corporations, militaries and governments are largely responsible for the destruction of the health of the planet and its species (Mies and Shiva, 1993; Waring, 1989; Daley and Cobb, 1989). Transformative learning would replace the dominant worldview of industrial exponential growth and social domination with a global ethic that gives highest priority to equality, social and economic justice, demilitarization, peace making as well as ecological sustainability. This learning would help create an awareness of the impacts on people and the earth in the majority of societies worldwide of wasteful consumerism in the North, similar behaviour of elites in the South, and policies that support that behavior. Cheap consumer goods in the North and for the elites in the South are not cheap for all. Export processing and free trade zones are a tragic underside of the expanding
multinational corporate or global economy. Cheap labour and weak environmental standards are used to bring transnational corporations to poor Third World countries. The resulting exploitation of women’s labour and health as well as appalling social, health and environmental conditions have been well documented (Enloe, 1989; Mies, 1993; Nelson, 1989).

An important aspect of transformative learning in the contemporary period is increased public awareness of social, political and economic problems due to instant and mass communication. Images of ecological disasters, disease, wars, poverty, starvation are constantly in the media including crises at home which are less known. For example, in Canada, one out of seven children lives in poverty, food banks have become permanent fixtures in most communities, unemployment, homelessness, violence and injustice to First Nations people have become more visible. However, despite media awareness and citizens’ initiatives to alleviate these grave problems, they continue to persist and will likely increase in the future with the cutbacks to health, education and social services.

Deborah Barndt, (1989) elaborates on structural analysis in Naming the Moment. Using Canada as an example, she describes the political system as a liberal democracy which is part of the Western industrialized capitalist world and dependent on foreign powers. Its economy is run by privately owned market forces, in which a small minority owns the resources, controls the capital and decides what will be produced, how, and for whom. This form of liberal democracy, accepted by most citizens, emphasizes individual rights rather than the common good. According to this theory, it gives the state a role but bows to the needs of business, which helps to explain environmentally degrading development, resource abuse and military spending as instruments of economic development. It also depends on the economic oppression of certain groups, whereby often attitudes and structures of both racism and sexism serve to help maintain this inequality (Barndt, 1989:11).

We need to understand structural analysis for political, economic, social, environmental change in which in market economies, most educational and civic institutions perform to the demands of capitalist rationality and the imperatives of the market system, that is, just about anything goes if it makes a profit (Barndt, 1989). Rather than providing the tools for critical thinking and transformative action, most academic and professional institutions are often reproductive sites
that smoothly provide the knowledge, skills and social relations necessary for the functioning of the capitalist economy. Like the workplace and the realm of mass culture, they have become a device for economic and cultural reproduction (Giroux, 1985).

Peter Mayo believes that in educational institutions and communities at all levels, just about every site can be a site of struggle in cultural politics (Mayo, 1992). Mayo suggests that a radical (going to the roots) pedagogy theory should be grounded in a critique of formal and non formal educational systems and assumptions, an analysis which ties educational systems to systemic and structural forms of domination in the wider society as described above. We need to question and assess the extent to which education and learning are politicized in our systems and expose them as relating to dominant power interests and configurations which dictate growth, production and destructive economic models (Calvert and Kuehn, 1993). According to Arnold et al., (1991), in transformative approaches, education is part of a movement for individual and collective liberation which promotes learning for critical consciousness and collective action. Such education seeks to transform power relationships in society, relations between teacher and learner and relations among learners.

e) Values in Transformative Learning

Environmental educator, David Orr (1990) believes the worth of education must now be measured against standards of decency and species survival. Learning is endless and in itself will never make us ethical people. In the confusion of data with knowledge, it is a deep mistake to think that learning alone will create a better world. We must ask what kinds of citizens our institutions are turning out and what constitutes a successful person. The goal of education is not only competency in the subject matter, but the nurturing of one’s personal values and behaviour - the subject matter is just the tool. Knowledge carries with it the responsibility to see to it that it is well used in the world. Orr (1990) asks, "Are graduates of our institutions of higher learning better planetary citizens or are they itinerant professional vandals?" In the context of health, the environment and primary prevention, we might ask, do most physicians, scientists, politicians, pharmaceutical corporations and their like contribute to the development of a sustainable world or in the name of efficiency and growth do they add to the
processes of destruction of our ecosystems and health? Our women's health action
groups see a need for the questioning of values within such a conceptual analysis
in all locations of learning.\textsuperscript{10}

We also see the need to shift the power base from competition and
domination to equality and power sharing. Among egalitarian processes to shift the
current research paradigm from careerism, competition and corporate influence is
people's common sense and knowledge in cooperation for survival. Ursula Franklin
(1990), Elizabet Sahtouris (1989),\textsuperscript{11} Carolyn Merchant (1990) and Fritjof Capra
(1982) believe that Darwin, Marx and their followers' view of social evolution
overemphasized the role of struggle and conflict and overlooked the fact that all
struggle in nature takes place within a wider context of cooperation. Rather than
the hard competitive struggle among individuals, nations and the like on which we
have modeled our modern societies, Franklin proposes emulating the intricate web
of cooperative mutual dependencies found in nature, the evolution of schemes that
harmonize conflicting interests. Also worth noting is the "earthworm" or wisdom
theory of Ursula Franklin, (1990:120), critical of the putdown of women's and
grassroots knowledge as an implicit attempt to keep people from challenging the
status quo, by making their direct experience appear marginal and irrelevant. This
is a form of disenfranchisement which is a major obstacle to the formation and
implementation of public policies that could safeguard the integrity of people and
nature. Franklin calls for a new social contract where the consent to be governed,
regulated and taxed would depend on a demonstrated stewardship for nature and
people by those who govern. In her critique of governance, decision making,
responsibility and accountability, she maintains that we now have a bunch of
managers who run the world to make it safe for technology. Therefore change must
only come from the bottom up (earthworms fertilizing the soil). A creative means of
dissolving margins in patriarchal thinking in her image of a peaceful world is:

\textit{...a society that might work somewhat like a pot-luck supper, where
everyone contributes and everyone receives, and where a diversity of
offerings is essential. In such a world there would be no one who could not
contribute their work and care - and no one who could not count on
receiving nourishment and fellowship (Franklin, 1994).}\textsuperscript{12}

This is an appropriate metaphor and description of the nourishing
relationships of our circle.
f) Some Transformative Learning Processes

In primary prevention organizations and communities, learning processes are participatory and varied, usually starting with the women themselves, their families, friends, colleagues, communities and organizations. They develop their analysis and directions, often depending on the literature they read, the people they meet, the resistance they encounter, the groups they work with, their involvement with local initiatives and other projects.

There are few methodologies that could be termed ‘universal’ in transformative learning in either formal and non formal situations. There can be ambiguities and controversies in the many different issues and contexts in particular areas and sites of practice. The methods usually employed may not be new or revolutionary. What is different is the recognition of the interdependent nature of the world today and the necessity to recognize that the process is as important as the content. The following are some general guidelines for global education or transformative learning processes (Choldin, 1992; Macy, 1983).

(1) Transformative learning nurtures people’s concerns about justice/equality/health/human/earth issues and conditions. It helps motivate the will and develop skills to move beyond despair to empowerment (Macy, 1983).

(2) It is cooperative. Working in small heterogeneous groups, participants learn group-work skills and respect for differences. They learn how to help one another and enjoy each other’s successes as their own. They develop conflict resolution skills, self confidence and self esteem (Choldin, 1992).

(3) It is democratic and as such, participants make their own decisions wherever possible. They learn methods to reach decisions satisfactory to all members of the community where rights are respected and responsibility is taken (Choldin, 1992).

(4) It helps learners identify their responsibilities in order to ensure that they remain lifelong learners. In this regard, facilitators, organizers, educators and others consult the participants with respect to process organization and management. They work out methods of arriving at group consensus whenever possible and when not, methods of democratic decision making that protect the rights of the minority (Choldin 1992).

(5) Transformative learning is community based - weaving its lessons around resources of the community and relating global issues to community issues.
It utilizes the multicultural nature of the community to impart international understanding and local environmental issues in thinking about wider global implications (Choldin, 1992).

(6) Transformative learning starts from personal experience which makes it more effective, more powerful and more interesting. This is particularly significant in health advocacy movements where people need to relate the issues to their own lives. Experience with group work, despair, grief and anger can be confronted, experienced and creatively channeled into new energy, creativity and empowerment (Macy, 1983).

Some practical features of transformative learning include that it be both institution and community based; be connected to social movements and political parties; relate to equality (power relationships), ethics and ecology; have a critical analysis of militarism, consumerism and growth; evaluate the prominent role of the media in shaping desires, creating wants and needs, purveying information and images of the dominant culture (Chomsky, 1989); contain languages of critique and possibility - hegemony, resistance, counter-hegemony; recognize that we can all be agents for social transformation; and embrace learning as lifelong and transformation as ceaseless.

Anne Camozzi believes that educators must show enthusiasm and knowledge about environmental matters. She finds that many adult educators are lacking knowledge in the area of environmental content while environmental specialists may be lacking skills in educational fields. This presents opportunities for interdisciplnary and teamwork approaches, resource people and materials as content specialists (Camozzi, 1994:13). With regard to changing behaviour, Camozzi notes that recommendations which have emerged from behaviour studies are to: a) help citizens understand how their individual actions will make a difference, rather than tell them how bad things will be if they don’t change, and b) take advantage of existing social structures to provide an avenue for new information (Camozzi, 1994:25).

**g) The need for inspiration, empowerment, motivation and vision**

While feminist activism is seen as one of the most powerful forces for the transformation to equitable sustainable societies (Seager, 1993), it is important to develop theory and means to maintain positive energy and strength for the work at
hand. When committed people burn out, despair and give up, it is often because the forces against us are strong and because our theoretical framework does not provide a sense of how our individual activities can contribute to significant victories in the future (Bunch and Pollack, 1987). Transken (1998) notes that not enough is known about how precisely women come to be involved in feminist (anti-racist, grassroots) organizations and groups as activists. She comments that not enough is known about what keeps some women vigorously involved for years while other women quickly drop out and disappear from the activist scene.

Feminist organizational insiders’ own telling of their experiences and perceptions will enrich the existing body of knowledge. She believes that when activists proceed with an absence of background knowledge derived from helping professions, community organizing, organizational theory, volunteer management material and the like, they are functioning with a dangerous blind spot that could result in damaging the organization as a whole, damaging other activists, doing emotional harm to themselves. In addition, Bunch and Pollack (1987) believe we need to have a larger vision of our work in the context of thousands of activities and projects moving our agenda forward. In order to avoid fragmentation and discontinuity, we should not work in isolation. We need to know what is happening in other communities, share resources and support each other emotionally.

**Primary prevention of breast and other cancers: Biomedical/technological research models and paradigms and the political economy of the medical industrial complex**

**a) Dominant ideology and cultural pathology: belief systems, Cartesian thought and modern medicine.**

If all you have is a hammer then everything looks like an nail! all they know is drugs and screening, they don’t know about the environment. Prevention for them is usually another drug (Meryle Berge, June 22, 1995).14

Current medical research models and paradigms are firmly grounded in Cartesian thought which refers to the separation of mind and body with the body functioning as a machine made up of many parts. The history of modern medical science reveals that reductionism is not sufficient for understanding health and illness (Capra, 1982:39). The rational and intuitive are complementary modes of functioning of the human mind. Rational thinking is linear, focused and analytic. It
belongs to the realm of the intellect, whose function is to discriminate, measure and categorize. Thus rational knowledge tends to be fragmented as is evident from most of the current scientific mode of scientific thinking and research (Hynes, 1989; Moss, 1989; Rosser, 1986). Intuitive knowledge is based on a direct non-intellectual experience of reality arising in an expanded state of awareness. It tends to be synthesizing, holistic and non-linear. Capra suggests that:

From this it is apparent that rational knowledge is likely to generate self-centered activity whereas intuitive wisdom is the basis of ecological activity (Capra, 1982:39).

This may be seen as a framework for an explanation of cultural values and attitudes affecting imbalances in social and political structures. It is important to pay particular attention to these values as they affect health in a broad sense which includes individual, social and ecological health (Capra, 1982).

Principles of ecological integrity and health acknowledge that the health of the planet is the primary context for the health of all life on it, that the life support systems of the earth are severely threatened, what we do to the planet, we are doing to ourselves (UNCED, 1992), and indeed how the planet is retaliating. These principles are largely ignored in the linear or segmented thinking of military/corporate/government decision makers and in the cancer establishment, including those who decide on research based on biomedical/technological models (Bertell, 1985; Capra, 1982; Moss, 1989; Sherwin, 1993). The mechanistic view of the human organism and the resulting engineering approach to health has led to an excessive emphasis on medical technology, which is frequently seen as the only way to treat illness (Capra, 1982; Rosser, 1986; Sherwin, 1993).

Confronted with environmental or social problems, medical researchers often argue that these problems lie outside the boundaries of medicine. Medical education, they argue must by definition be dissociated from social concerns since these are caused by forces over which physicians and scientists have little control (Seldin, 1977). When physicians talk about disease prevention, they often do so within the mechanistic framework of the biomedical/technological model, but the preventive measures within such a framework are limited. This applies to the prevention of illness as well as healing. According to Batt (1994), Brady (1991), Capra (1982), Epstein (1979), Moss (1989) and Hynes (1989), primary prevention has never been the central preoccupation of most scientists engaged in cancer
research. Biological scientists tend to do basic biological research they are trained in. They are not usually interested in primary prevention which involves public education and social policy change. They argue that diseases cannot be prevented or cured unless their biological processes are understood. This argument is contested by primary prevention advocates who use the example of clean water as the most important public health measure in history. Sanitation works as a method of disease control, the reasons why matter less than the practical benefits (Capra, 1982; Davis and Freeman, 1994).

For the most part "cancer prevention" research has focused on screening and drugs. Adrienne Fugh-Berman (1994), Sharon Batt (1994) and Samuel Epstein (1994) are among a number of critics who believe technical and chemo-prevention procedures such as high resolution mammography, blocking estrogen with tamoxifen, genetic testing, double mastectomy and the like only represent a loose, perverted use of the word 'prevention.' Now often included is advice to eat broccoli, not to eat fat, not to smoke and to make other lifestyle changes. Many feminist environmental health critics want to include environmental contaminants in a prevention focused policy. They question the millions of dollars spent on treatment and biological research at the expense of a long-term strategy to understand how women (children, men and non-human species) can live their lives without ever getting cancer in the first place (Arditti and Schreiber, 1992; Batt, 1994).

Nonetheless, according to Moss, the cancer establishment's recent yielding on the diet-cancer link is one of the most important developments of the decade. Although some dietary approaches continue to be listed as unproven methods, some cancer societies now advocate special foods such as the cruciferous family of vegetables (cabbage, broccoli, brussels sprouts) to prevent cancer. This is a far cry from the days when anticancer diets were considered the very hallmark of quackery (Moss, 1989:342).

And the not yet heeded voices of progressive physicians and other health professionals must be supported. They include those such as the Canadian Association of Physicians for the Environment (CAPE), the Environmental Health Committee of the Ontario College of Family Physicians and the Physicians for Social Responsibility (U.S.) who believe 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 (Chivian et al., 1993:1)

b) The Political Economy of the Medical Industrial Complex

There's lots of money for breast cancer right now - a lot is raised for treatment, cures, support. Groups like Willow and the Canadian Breast Cancer Foundation raise and get millions of dollars...it has to do with the medical establishment which drives the Breast Cancer Foundation. Breast cancer has become a big business...what we are saying is challenging the cancer establishment (Liz Armstrong).

In 1962, biologist Rachel Carson wrote Silent Spring, in which she alerted the world to the health hazards caused by pesticides, fungicides, insecticides and the political economy of corporate profit. 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. She challenged the right of corporations to make profit over people's health:

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 (Carson, 1962:23).

Rachel Carson was called an ignorant woman by the chemical industry (Hynes, 1989). She was dismissed by them as a "priestess of nature" and her credibility as a scientist was attacked by her opponents who financed the production of propaganda that supposedly refuted her work. As U.S. Vice President Al Gore noted in the introduction to the 1994 edition of Silent Spring:

Carson was writing against the grain of an orthodoxy rooted in the earliest days of the scientific revolution: that man (and of course this meant the male of our species) was properly the center and master of all things and that scientific history was primarily the story of his dominion - ultimately, it was hoped, to a nearly absolute state. When a woman dared to challenge this orthodoxy, one of its prominent defenders, Robert White Stevens replied in terms that now sound not only arrogant but as quaint as the flat-earth theory: "The Crux, the fulcrum over which the argument chiefly rests, is that Miss Carson maintains that the balance of nature is a major force in
the survival of man, whereas the modern chemist, the modern biologist and scientist, believes that man is steadily controlling nature" (Gore in Carson, 1994:xvii).

Gore notes that the very absurdity of that world view from today's perspective indicates how revolutionary Carson was. The assaults from the corporations were to be expected, but even the American Medical Association sided with the chemical companies. After all, the man who discovered DDT had been awarded the Nobel Prize. Carson died in 1964 of breast cancer. In that same year, the World Health Organization estimated that 80 per cent of cancers were due to synthetic carcinogens (Proctor, 1996). In 1979, the U.S. National Institutes of Health Report estimated that environmental factors were generally thought to be the major causes of most cancers including those in food, water, air, our homes and workplaces. Rather than decreasing, toxins have increased, as have other environmental dangers and diseases.

In recent years, cancer research, diagnosis and treatment have become a major business where screening and intervention are still the preferred 'prevention' routes among most oncologists, surgeons and pharmaceutical corporations. In Canada in the 80s, nearly all the federal "prevention" dollars spent on breast cancer research went into the National Breast Screening Study (NBSS) to evaluate early detection methods. In the U.S. in the 1950s, basic lab work pushed aside epidemiological studies and investigations into environmental and occupational carcinogens. With the rise of the pharmaceutical giants, the National Cancer Institute shifted to treatment, mainly testing of chemotherapy regimens. In 1990, the NCI funded 900 studies on treatment and only twenty-seven on prevention (Batt, 1994).

No discussion on health promotion and disease prevention can ignore the powerful role of the "cancer establishment" (Moss, 1989) as essentially the political economy of the powerful cancer industry.17 As seen, it includes transnational corporations in the pharmaceutical and other industries which manufacture drugs as well as expensive diagnostic and treatment units, most scientists and physicians. This topic has been the subject of numerous publications since Dr. Samuel Epstein's groundbreaking 1979 book, the Politics of Cancer (see also Moss, 1989; Batt, 1994; Proctor, 1996; Clorphene-Casten, 1997). 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 (Epstein, 1979; Moss, 1989). In the U.S., the close ties between industry and the National Cancer Advisory Board and the President's Cancer Panel, two of the most influential groups determining the American National cancer agenda have become well known. Moss (1989), Epstein (1979) and Hynes (1989) point out that the cancer establishment is reluctant to put money into research on efforts toward "zero discharge of toxics" genre of prevention because of its incestuous relations with multinational pharmaceutical corporations and their public relations operations. According to Epstein (1993), the best estimate on cancer's overall cost is more than $100 billion a year in the United States alone, about $6 billion for breast cancer.  

An example of industry's denial of responsibility is in the case of exposure to electromagnetic fields (EMFs). These fields can come from many sources, including high tension electrical transmission wires, working in such fields, operating a video display terminal (VDT) or sitting to the side and to the left of a VDT while in operation, lying under an electrical blanket, and using certain other electrical appliances. It is believed that EMFs affect the pineal gland which regulates melatonin production (Raloff, 1993). Melatonin is a known estrogen inhibitor. As well, because of their quickly growing cells, children are particularly vulnerable to brain cancer, leukemia, lymphoma and other conditions (Wertheimer and Leeper, 1987). Male breast cancer is more common among electricians, power station operators and telephone linemen as well as railroad and tram drivers (Manotowski et al., 1991; Tynes and Anderson, 1990; Loomis, Savits and Ananth, 1994). This evidence is routinely dismissed by most governments, electrical utility companies and the military (Brodeur, 1993).

c) Corporate control, political will and the limitations of science.

That cancer epidemics continue when so much seems evident about causality and prevention has led critics to point to the dominant political economy of corporate control in the competitive market economy (Moss, 1989; Proctor, 1996). The limits of science and political will are illustrated by the fact that emissions of known carcinogens are permitted daily with limited abatement in most societies while scientific/government/corporate policy makers demand proof of evidence of harm. More epidemiological and toxicological studies are called for to prove that a
substance causes cancer or other health problems. Data showing that a particular substance causes cancer in laboratory animals, for example, are not regarded as sufficient to prove carcinogenicity in humans. Epidemiological evidence is considered more reliable than toxicological data because it provides direct information of human health effects. Ann Miche (1994) notes that the very terms used by epidemiologists betray the limitations of their science as they speak of "associations" instead of "causes." As well, epidemiological studies often miss the small contributions of a pollutant among all the competing explanations for higher disease rates. But it is also the result of another weakness of many epidemiological studies - the lack of statistical power. Detecting small increases in risk, such as one in a million increase in the incidence of cancer is practically impossible in most cases since a very large population would have to be studied for a long period of time. This is difficult because cancer latency is often 20 years or more and all members of large populations do not stay in the same location. It is also difficult to evaluate the effects of slight exposures of toxicants on health because they can be subtle in combination with others and it can be difficult to reconstruct exposure that happened many years ago. But the biggest disadvantage of epidemiological studies is that they only measure ill effects once they have occurred and so can furnish no predictions for future effects given present combinations of exposures. This limitation can be offset by toxicological studies which can provide some warning of risk, but there are many gaps in these evaluations as well. A major limitation is that most substances are tested individually, in isolation, however, people rarely encounter chemicals one at a time. There is still little proven evidence of the health effects of various combinations of chemicals but what there is suggests that chemical interactions may affect toxicity, profoundly producing synergistic, additive or antagonistic effects (Mische, 1995:74; IJC, 1994; and Arnold et al., 1996).

With regard to radiation, John Gofman (1995) documents in his well referenced book, Preventing Breast Cancer, that up to 75 per cent of breast cancers in post menopausal women are largely due to medically induced radiation. Others note other forms of ionizing radiation from the whole nuclear fuel chain which includes uranium mining, refining, reactors, waste management, transportation, nuclear weapons testing and so on. There is no "safe" dose of radiation as all exposures of radiation cause some cellular damage (Bertell, 1985). When radiation
exposure is added to some conditions, the dangers can increase. There is good evidence of the interaction between radiation and estrogens in that rats given low doses of estrogen show a slight increase in breast cancer, but when additionally given x-rays they show a massive explosive incidence of breast cancer (Segaloff and Maxfield, 1971; Epstein, 1994). A recent study has revealed a significant increase in breast cancer mortality rates among American women living near nuclear facilities due to accidental and routine radioactive emissions from the whole nuclear fuel chain (Gould et al., 1995 and Salzman, 1995).

Despite this knowledge, corporations, governments, scientists and so on usually insist on proof of harm by individual substances before agreeing to legislate sunsetting or stopping toxic emissions. Joni Seager posits this behavior as evidence that science has primarily served as a prop for the status quo. In her opinion:

the problem with reliance on scientific certainty is that science is seldom certain about anything. To the contrary, uncertainty is central to the nature of science. For every theory there is a countering theory, for every piece of evidence there is an opposing piece of evidence (Seager, 1993:91).

She believes that exclusive reliance on scientific rationality is a slippery slope. This regulatory stance presupposes that science can define acceptable environmental quality: it also presupposes that scientists are disinterested neutral players who can arrive at 'objective' truth. Both of these presumptions are seriously flawed (Seager, 1993:163).

In recent decades, risk assessment, a form of evaluation has been used by government, industry and science to indicate allowable emissions of toxins. It is basically permission to pollute - the question is: how much? It measures the number of deaths per million from a quantity of pollutants tested individually on rats bred for the purpose of research, unlike most people who are exposed to many contaminants acting synergistically. This led Joan D'Argo to declare:

If a friend tells you that you are one in a million, it is a compliment and it means that you are special; however if a risk assessor tells you that you are one in a million, it means that you are probably going to die (D'Argo, 1994:1).

There are ongoing, seesaw-like debates reflecting a "my scientist vs your scientist" competition which can be very confusing for those uninitiated in this discourse. We hear repeatedly from the medical establishment that environmental links to breast and other reproductive systems cancers are not proven, (the
Canadian and American Cancer Societies' official literature maintains there are no known causes of breast cancer), and/or that only a tiny per cent of cancers can be attributed to environmental carcinogens. In November, 1996 in a highly publicized but ambiguous Harvard Center for Cancer Prevention (HCCP) Report, one of its goals, according the authors was to counter the excessive worry the public has about the threat posed by environmental carcinogens. The report focused on the big four causal factors - tobacco use, diet, obesity and lack of exercise and said that only two per cent of U.S. cancer deaths can be attributed to environmental pollution. According to the report, changing lifestyle factors - reducing fat, eating more fruits and vegetables and exercising more - could reduce cancer deaths by a third. However, critics noted that you can read the same studies and come up with an opposite conclusion: that if we want to prevent cancer and protect human health we should make the elimination of hazardous chemicals and radionuclides from the environment a top priority. According to Tatiana Schreiber (1997), the Harvard Report put a spin on the subject that symbolizes the current debate between those who believe individual change is all that's needed to reduce cancer risk and those who demand social and political action to stop pollution. Her critique of the report includes many factors ignored in it such as the concept of synergism between estrogenic chemicals. In 1996, a groundbreaking study revealed that individual tests on four pesticides believed to be very weakly estrogenic - dieldrin, endosulfan, toxaphene and chlordane - showed little or no response. But when chemicals were paired, the estrogen-like activity was 160 to 1,600 times greater than when the chemicals were applied singly illustrating the synergistic effects of combining chemicals (Arnold et al., 1996). Also when chemicals and other elements are added to radionuclides they combine to form radioactive compounds such as for example, in the case of iodine, to form radioactive iodine.

Many believe that given these toxic combinations, we cannot wait for absolute "proof" of the effects of a single contaminant, and we must not allow this to be used as an excuse for delays and inaction. Those who call for more studies and delays usually have vested reasons to do so. According to Ellen Leopold:

Shifting responsibility for cancer on to individuals must be seen as an attempt to privatize cancer causation...the Harvard and other similar studies represent a concerted backlash against the environmental arguments, where corporate and governmental responsibility for disease prevention virtually disappear or are lost in vagueness (Leopold, 1997:1-4).
In fact, "Follow the Money" (Crowley, 1997:1-2) lists a number of donors to the Department of Health Policy and Management in the 1996 Annual Report of the Harvard School of Public Health which published the HCCP Report. It includes major polluters and pharmaceutical corporations some of which are both: ARCO Chemical Company, Alcoa Foundation, American Automobile Manufacturers Association, American Crop Protection Association (read pesticides) Ashland Oil, Chemical Manufacturers Association, CIBA-GEIGY Corporation, Glaxo Wellcome, Hoffman-LaRoche, Upjohn Company (four major pharmaceutical corporations), Dow Chemical Association, DowElanco, E I Dupont de Nemours and Co., Eastman Chemical Company, Exxon Corporation, General Electric Foundation, Goodyear Tire and Rubber Company, Grocery Manufacturers of America, Dow Chemical Company, Kraft General Foods Inc., Minnesota Mining and Manufacturing Company, Mobil Foundation, Shell Oil Foundation, Texaco Inc., Union Carbide Corporation, Monsanto Company, New England Electric System, Proctor and Gamble, to mention a few. It seems unlikely that these companies would support criticism of their own polluting practices or fund studies that do so.

Manifestations of the dominant political economy and cultural pathology patterns within the cancer establishment reflect a procedural formula described by Patricia Hynes (1989). It includes descriptions of public relations campaigns and strategies to undermine environmental impacts on health which include devaluing studies, denigrating scientists and assuring the public that everything is under control. Canadian policies and cultural practices are closely intertwined with and are often similar to those of the U.S. cancer establishment. The actual prevention of the generation of carcinogens would require a massive reorganization of the priorities of industrial and financial elites. Instead of preventing the production and discharge of toxic materials, the strategy of the industry and governments has been one of "management" and promotion of screening and treatment using sophisticated techniques in public relations (Epstein, 1979; Hynes, 1989).

In recent years, there have been reports and studies noting the good news that many forms of cancer are preventable. The Report of the Ontario Task Force on the Primary Prevention of Cancer (1995) urged that cancer causing agents (carcinogens) created by industrial pollutants in the community and the workplace, such as widespread pesticide use, polyvinyl chlorines (PVCs), vehicle emissions and
nuclear fission be reduced or eliminated, highlighting safe alternatives to most toxic production. The Report recognized that our knowledge of the causes may be imperfect, it may take time before the benefits are evident, there may be resistance to change, but we have no excuse for delaying action. The chairman of the Task Force, Dr. Antony B. Miller, examined the high cost of diagnosis and treatment, noting that prevention would also save money:

Prevention of cancer is likely to be more cost effective than many other approaches because many causes of cancer are also causes of other chronic conditions in our society...and many of the recommendations relate to factors which will have a wider impact in improving health...than just the prevention of cancer (1995d).

In the U.S. as noted, there has been criticism of the dominant ideology and practice from within the cancer establishment. In September, 1994 the National Cancer Advisory Board (NCAB), an official body of the National Cancer Institute (NCI) issued a stinging indictment of U.S. cancer programs, declaring that industrial chemicals that mimic hormones and pesticides need to be investigated as causes of cancer. It said that:

While individuals have a responsibility to change high risk behavior, government and society have responsibilities to identify and prevent workplace and environmental hazards, restrict advertising of unsafe products, require accurate product labelling, and provide culturally targeted education about cancer risk and prevention (Calabresi, 1994:17).

Throughout the report, the NCAB made references to chemicals suspected as causes of cancer. Until then the NCI had taken the position that chemicals played such a small role in causing cancer that they were not worth investigating. In a turnabout, the NCAB now says the elimination or reduction of exposure to carcinogenic agents is a priority in the prevention of cancer. It said:

We are just beginning to understand the full range of health effects resulting from the exposure to occupational and environmental agents and factors...lack of appreciation of the potential hazards of environmental and food source contaminants and laws, policies and regulations protecting and promoting tobacco use worsen the cancer problem and drive up health care costs (Calabresi, 1994:B-6).

It names carcinogens, calls for research into hormone/cancer links and urges primary prevention in certain cases. The report also deals with cancer in the contexts of poverty, social and race issues and calls for health care reform (Calabresi, 1994:17). It specifies poverty as a major obstacle in the ‘war on cancer.’
It says that unless proven advances in cancer prevention and care are made available to people in all walks of life, the cancer burden will never be reduced. Bringing existing knowledge and technologies to all people will achieve the greatest impact on cancer incidence, suffering and death. This statement reflects the fact that over 38 million people in the U.S. have no health insurance at all and 80 million more have health insurance insufficient to cover the costs of catastrophic illnesses such as cancer. African Americans represent one third of the poor although they comprise only 12 per cent of the U.S. population. The poor, who typically experience substandard living conditions, lower educational levels, risk-promoting lifestyles and insufficient access to health care, have a higher incidence of many cancers, are diagnosed with more advanced disease, and have lower survival rates than the more affluent. There is evidence that even those with insurance may delay seeking medical help for fear of employment discrimination, future uninsurability and financial ruin should cancer be discovered (Calabresi, 1994:18). As there have been hearings, conferences, workshops, environmental assessment panels, demonstrations, lobbying political representatives, volumes of studies and other resources such as books, journals, films and web sites produced on environmental health issues in recent years, it may be that these concerns can no longer be completely ignored by all within the medical establishment.

Indeed, increasingly some physicians such as McMaster University researcher, Martin S. Taylor, conclude that while the burden of proof about the public health risks of environmental contaminants may often elude scientific research, the burden of prudence based on the best available evidence, is a compelling argument for policy initiatives on pollution prevention and control. In the Great Lakes region, the benefits are evident in improvements in air and water quality and the stringent regulation of waste disposal. These are very positive developments toward ensuring a healthy environment, a healthier population and a sustainable future (Taylor, 1994/95).

However, in political economy terms, the relatively unchallenged prevalence of production-based models in the mindset and political discourse of our time is an indication of how science and technology have modified our culture. The exponential economic growth production based models and metaphors are already so deeply rooted in our social and emotional fabric that it is almost sacrilege to question them. For example, the automobile has been part of many societies for the
last hundred years or so. Physicist and cultural critic, Ursula Franklin, offers a critique and creative proposal. She notes that nearly everywhere, support systems for cars have been put in place such as roads, bridges, service stations, garages, parking lots and other facilities. While there is discussion about population control for women in many countries (in China they even have a one child per family policy), she asks, Where is the discussion of one car per family policy? Although we now know about global climate change, poor air quality, smog and negative effects on health, birth control for cars is not an agenda item in public discussion. She says now may be the time to take machine demography seriously and enter into real discussions about machine population control for the sake of the future of the countries of the world! (Franklin, 1994:30).

The limits of linear thinking and proposals for increased integration of issues

Health and environmental issues have tended to be treated separately due to traditional institutional arrangements (both in government and academic areas). At the global level, the World Health Organization (WHO) has sponsored healthy cities and healthy communities programs such as the "Integrating Health and the Environment" conference (Canberra, 1990), bringing together a wide variety of people from health and the environment professions and backgrounds. At this conference some key points included the need for greater integration of these issues.

The conference said that the new public health model, which emphasizes well being and the prevention of illness as much as treating sickness, has re-established the link between the medical sciences on the one hand and the natural and social sciences on the other. Health and environmental impact assessments both need to be integrated into the decision making process, but it should be recognized that documentation is used both as technical instruments and as components of political decision making. Much also needs to be done in developing strong networks between health and environmental professionals. This is a task that is just beginning and will be both difficult and complex because of the traditional institutional barriers.

At the conference, a single "public health voice" could not be identified due to the institutional barriers in the health area itself. A public health component is missing from environmental assessment; the health component usually deals with
risks of illness while social factors are dealt with either in the social impact assessment component or the economic evaluation component. A public health synthesis is clearly required; a major challenge for future integration.

The lack of major community involvement and representation by umbrella organizations was also identified. While the required form of such input arises on a case by case basis, an assessment process which does not allow for it in its methodology would be seriously flawed. Therefore appropriate negotiating and public participation strategies need to be closely examined (Chu and Simpson, 1994).

Ecological Public Health: From Vision to Practice (Chu and Simpson (eds.), 1994), the report of the Canberra conference, is dedicated to the promotion of intersectoral cooperation and international links in the pursuit of a healthy and sustainable future. In her introduction to the report, Dr Ilona Kickbusch, Director, Division of Health Promotion and Education, WHO Headquarters notes: "We are in full process of moving public health into the 21st century" (1994:v). The report illustrates that the challenge set by the Ottawa Charter for Health Promotion in 1986 - to move towards a new understanding of public health - is being put into action. It offers the rationale, theories and concepts necessary to understand ecological public health, it introduces methods and conceptual models for integrating environment and health and gives examples of projects linking the two in a variety of settings including healthy cities and communities, workplaces, schools, training institutions and health sectors. Although, according to the authors, there has long been recognition of the need to integrate environment and health by ecological health promoters, in reality, in politics, in administration and in science they continue to be treated separately. Valerie A. Brown proposes a common framework and a common set of professional practices for public health and environmental scientists so the two fields can be treated as one (Brown in Chu and Simpson (eds.), 1994:53). However, Kickbusch suggests that for public health to contribute to a more sustainable future it must: develop proposals for legal and institutional reform that strengthen the promotion and protection of health; ensure that the potential health effects of environmental risks are seriously considered in policy decisions at all levels; ensure that health and environmental impact statements are part of governmental planning and accountability; ensure that the public is fully informed on risks to their health; give priority to closing the health
gap and open the debate on the sustainability of health development by giving serious concern to developing methodologies and mechanisms that stress accountability to the public and support integrative strategies (Kickbusch, 1989:27). Implementing these recommendations is easier said than done, but at least that is being proposed and enacted by some health policy advocates worldwide. For example in Ontario, there has been government funding for Healthy Communities educational and advocacy programs in recent years. The Centre for Health Promotion at the University of Toronto is working with others to promote the Report of the Ontario Task Force on the Primary Prevention of Cancer at the city level and in 1998 held a conference to put together a structure to do so.

3. WOMEN'S HEALTH

a) Feminist conceptual frameworks of power and women's health

Whatever else it is feminism is at least the movement to end sexist oppression. It involves the elimination of any and all factors that contribute to the continued systemic domination or subordination of women. While feminists disagree about the nature and solutions to the subordination of women, all feminists agree that sexist oppression exists, is wrong and must be abolished (Warren, 1990:126-7).

Historically, feminists argue that most major ecological harm can be traced to modern patriarchal cultural, scientific domination beginning with the age of the enlightenment which viewed women and nature as passive, worthless and dispensable and therefore to be controlled, exploited and disposed. This was exemplified by the witch burnings and the commencement of the destruction of ecosystems in that era (Merchant, 1990; Shiva, 1989). In most cultures, indigenous knowledge in women’s (witches’) hands was integral to the maintenance of health - caring, midwifery, herbalism and other modalities included the interplay of body, mind, spirit and the earth. Aboriginal peoples survived over centuries with their ecologically evolved indigenous knowledge systems (Colorado, 1988; Shiva, 1989). The disappearance of such knowledge in recent decades is linked to the imbalances in social, economic and political structures affecting societies all over the world.

In modern Western society, for the most part, women have lost the knowledge of their own bodies as ‘experts’ dictate health and other procedures to be followed. The so called ‘old wives tales’ herbal recipes, listening to our own bodies are all arts which have been negated by modern medicine. The increasing
dependence on complex technologies has accelerated the trend toward specialization and has enforced a tendency to look at particular parts of the body neglecting to deal with the whole person or with the impacts of the environment on health (Harcourt, 1992). Feminist health advocates criticize the medicalization of the female body and the lack of focus on the broader social and political questions in women’s lives. The development of medical specializations, gynecology and obstetrics by mostly male doctors during the 20th century has led to a high degree of medical intervention with the development of such procedures as synthetic contraceptives, genetic engineering, manipulation of eggs, sperm and embryos outside the human body. According to Wendy Harcourt:

In the name of science, vast sums of money are spent which have a narrow focus while women as complex social beings are reduced to a particular condition. The development of these practices is often determined by the technical feasibility, scientific ingenuity, and funding available (based on the proven record of the scientist, medical institute or lab) rather than on the needs or acceptability of these techniques for women (Harcourt, 1992:26).

The ‘pill’ and other medical treatments are all part of a modern ‘technical fix’ which have led to a host of side effects at times greater than the problem they were designed to solve. According to Hynes:

Despite evidence of demonstrated risks of uterine cancer from hormone replacement and strongly suspected risks from the pill and menopausal estrogen at all stages of women’s reproductive cycles, doctors continue to treat women with synthetic hormones (Hynes, 1989:28).

Such concerns have led women to increasingly take control of their health and their bodies. They frequently seek alternatives such as returning to traditional health practices of earlier times as well as holistic well being (mind, body, spirit, earth relationships) and prevention of disease (Harcourt, 1992; Weed, 1996; Women’s Action Agenda 21, 1991). Throughout the world, a new questioning is growing, rooted in the knowledge and experience of women - the production and renewal of life. This is seen as part of an evolution of feminism which over the past 30 years, has undergone enormous growth in many respects: the number of women and men who identify themselves as feminists (or pro-feminism), the geographical and ethnic dispersion of self proclaimed feminists, the range of views incorporated under the feminist label and the variety of activities carried out in the name of feminism (Adamson, Briskin and McPhail, 1988). In addition, feminism is
responsible for many significant personal, political and legal changes in many parts of the world. It is a multifaceted and diverse movement with so many distinct and overlapping dimensions that it has become almost impossible to sum up (Sherwin, 1992:1).

Some of these changes are evident in the area of intellectual pursuits where feminist theorists and activists have been critiquing old patterns and shaping new ways of thinking (Franklin, 1990; Dodson-Gray, 1982; Bunch, 1987; hooks, 1984). Researchers have brought their feminist consciousness to bear on their respective academic disciplines and have revealed that male bias operates as an implicit element in many traditional lines of thought. In the social sciences, for instance, feminists have shown that male standards have been consistently taken as the norm from which theories have developed and against which they are tested. This has left women in the position of being ignored or treated as deviant. Hence what has traditionally been referred to as ‘human’ psychology, history, anthropology and so on is more accurately described as that of men (and often of white, middle-class, able-bodied Western men). Carolyn Merchant (1990), Sandra Harding (1986), Frances Fox Keller (1983) and Joni Seager (1993) are among those who argue that these oversights are seldom benign because such thinking is instrumental in the maintenance of patriarchal arrangements. In other words, this biased intellectual focus is supportive of oppressive practices. In several important critiques of science, feminists have challenged some of the methodological assumptions and practices that define all of the sciences (Bleier, 1984; Longino, 1990; Merchant, 1980).

Many feminist theorists and activists view ecological/health crises as situated within and outside of medical science and inextricably linked to social, political and economical crises related to the patriarchal power structures that shape today’s world (Franklin, 1990; Seager, 1993; Shiva, 1993). Pharmaceutical, chemical, nuclear corporations, militaries, governments, banks, universities, most physicians and scientists comprise these power structures. Seager notes:

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...it is a crisis of the dominant ideology (Seager, 1993:3).

Vandana Shiva (1989) refers to the current imperialistic, ecologically destructive models of economic development as "maldevelopment," the outcome of
patriarchal science. In the eyes of Shiva and other cultural critics, as people have lost touch with nature, they have lost an important link with themselves. They view the understanding of power relationships and domination from feminist ecological perspectives important in challenging institutions of power, largely responsible for toxic pollution (Seager, 1993; Shiva, 1989). In addition to present health implications, they are also create devastating repercussions on future generations as described in Our Stolen Future (Colborn et al., 1996).

b) Feminist critiques of patriarchal science and research

One of the central insights of feminist work is that the greatest danger of oppression lies where bias is so pervasive as to be invisible. Hence it is necessary to ask questions about all sorts of practices that have been heretofore accepted as normal (Rosser, 1988; Sherwin, 1992). In a feminist critique of patriarchal science, Sherwin, (1992:170) argues that an examination of the foundations of most disciplines has revealed that they contain previously invisible masculinist presumptions which reflect the power structures inherent in the health field. These in turn reflect the power structures of the larger society. Here decisions project and reflect a belief that the physician’s work is the most difficult, most important and most worthy of study.

Indeed, feminism encourages us to explore the place of medicine itself in society. Sherwin believes that medicine has become one of our most powerful and significant institutions; generally it is treated as an unqualified good, because it is almost universally regarded as the best instrument for protecting and restoring health. As a group, physicians have held on to their own power and privilege by defending the primacy of the authoritarian medical model as a necessary feature of health care. The biomedical/technological model organizes our current attempts at defining and responding to health needs. It has been conceived as a structure that requires a hierarchically organized health care system, in which medical expertise is privileged over other sorts of knowledge. It grants licence to an elite class of experts to formulate all matters of health and to determine the means for responding to them (Sherwin, 1992:238). Speaking with the authority of a discipline devoted to improve the human condition, medical practitioners have been granted the status of the new priesthood within secularized Western culture (Raymond, 1982; Capra, 1982). Their view of reality is seldom challenged even
when the subject matter on which they speak extends beyond their scientific evidence (Sherwin, 1992:5).

Similarly, a feminist examination of medical research, reflects such masculinist presumptions of power structures (Sherwin, 1992:159). Thus, today women are questioning how research topics are chosen, which are neglected, whose interests are served, who controls decisions and to whom researchers are accountable. This is crucial in the context of primary prevention in which a major problem is that 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 breast and other cancers arise from multiple factors (R.H. Hall, 1995).

In addition, a scientific bias against female biology exists in the ways regulatory agencies review chemical substances for toxicity, relying on reports of exposure in chemical plants, an industry in which workers are overwhelmingly male, and perform lab tests using only male rats and mice. Conclusions are drawn from such methods and presented as official doctrine that the levels of toxins in our bodies present no danger. These findings are used as excuses for delays and inaction (R.H. Hall, 1995).

Women’s relatively powerless position in society illustrates how health can be sacrificed to the financial profits of the pharmaceutical industry as research is geared to high tech solutions where careers and reputations are made on technological breakthroughs promising opportunities and profits. Little support is available for primary prevention as medical research speaks of fighting wars against diseases, not of finding ways of avoiding them (Ratcliffe, 1989:172; Sherwin, 1992; Moss, 1989). Research is controlled by investigators, who may care personally for the well-being of their subjects but who also have other interests, for example contributing to the growth of scientific knowledge, helping humanity, or achieving fame and professional advancement; these other interests may cause conflict in their approaches (Sherwin, 1992:171; Moss, 1989). Needing to attract grant money and produce results, scientists shape their research interests to serve the orientations of the funding sources, a significant amount of which comes from national defense departments and is linked to military interests. Funding also comes from pharmaceutical companies and more recently the newly developing biotechnology industries. Even public money spent on research reflects the political
clout of special interests, and although primary prevention promises to save far
more lives than treatment, vastly greater resources are directed at finding cures
than prevention, because the former promises greater profits to industry, whereas
the latter threatens to reduce them (Hynes, 1989; Moss, 1989; Sherwin, 1992).

As proponents of an alternate vision of what truly prevention oriented
research would look like, Tufts University cancer researchers Drs. Ana Soto and
Carlos Sonnenschein believe that it is feasible and critically important to test and
eliminate endocrine disrupting chemicals immediately. Soto believes that research
today must take into consideration complex systems and interactions. She writes:

Our scientific establishment has dealt very well with linear problems, where
we go from A to B to C, we have been doing that for 200 years. In the real
world, however there are ecological questions, questions that deal with
many species in the ecosystem and interactions among species...we can’t
continue doing only one type of research, the one that tries to look at the
molecular solutions and molecular causes for everything. This may not be
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 decisions that may affect
health and the environment. This would put the burden of proof on
suspected pollutants and encourage an approach that does not wait for strict
proof before taking action (Soto, quoted in Arditti and Schreiber, 1994:5).

As well, the principle of ‘reverse onus’ recommended in IJC reports (1994,
1996), is a view shared by many wildlife biologists and ecologists. Dr. Jerry Westin,
epidemiologist and co-author of a well known Israeli study documenting a
reduction in breast cancer following the banning of several organochlorine
pesticides, says:

we don’t have to wait for more people to get sick in order to push for a
prudent avoidance strategy...to find ways to grow food that is less harmful
to the general public and the workers who are in the front line.22

Soto queries what to do as citizens: study the problems and act 50 years
from now and if so how will you explain that to your children when they cannot
reproduce (Soto and Sonnenschein, quoted in Arditti and Schreiber, 1994:3).

Sonnenschein reflects concern about values and motives often underlying scientific
research:

No one gives you a prize when you prevent something from happening,
because you can’t demonstrate that it didn’t happen. Those are the kinds of
problems that require people to act, not for prizes, but because of concern
for the environment in which we all live (Soto and Sonnenschein, quoted in
Arditti and Schreiber, 1994:3).
In addition, research institutions and funding agencies are far from representative; they are controlled by members of the dominant class of society and the values they pursue inevitably reflect the class, gender and racial background of the powerful (Hynes 1989). According to Sherwin, the research community needs to develop respectful lines of communication with community health groups that act in an advocacy capacity for the populations they represent. Feminist ethics demand that representatives of all oppressed groups be included in the setting of our medical research agendas (Sherwin, 1992:173-5). There is a need for a focus on process, seeking innovative, egalitarian ways of defining processes and policies that ultimately shape health priorities, options and practices to meet the demands of feminist concerns in cancer approaches (Sherwin, 1994; Rosser, 1986).

c) **Changing the terms of the social debate on health: challenging cultural mindsets. What might a feminist ecological health model look like?**

We are now asking the right questions but to the wrong people. How can we look at health without the minister of the environment there even though they (the ministers of each) may converse with each other. Over 70 per cent of the risk factors are unexplained (Meryle Berge, June 22, 1995).23

Feminist analysis suggests that we change the terms of the social debate and recognize the complexity of human existence; social need should not have to be screened through the filter of medical values and authority. Until the late 60s the medical establishment presented the view that "cancer is widely believed to consist of hereditable and therefore a genetic problem." That thinking continues today but with added emphasis on the personal responsibility individuals take for their lifestyles.24 Little or no acknowledgment of the larger environmental context is usually presented. Arditti and Schreiber, (1994), Brady, (1991), Hynes, (1989) and Sherwin (1992:194) maintain that the linguistic question of the scope of the term "health" cannot be settled in isolation from the social structures surrounding the debate; concerns that are central to primary prevention in this discussion.

Sherwin offers a description of a feminist model which would involve society's recognition of this more comprehensive way of thinking and develop the means to respond to the many different kinds of human needs without having to force every sort of problem into the medical model. She envisions a feminist model which would resist hierarchical structure and challenge the current health system
organized around the central ideal of pursuing a "cure", interpreted with most of the requisite agency for health care. A feminist alternative would recommend that the health system be principally concerned with empowering consumers with the relevant information and means to bring about the changes that would contribute to their health. The existing system, modeled as it is on the dominant structures of an oppressive society, is closed to many innovative health strategies that would increase the power of patients. A feminist model would be user controlled and responsive to women's concerns. Such a change in health care organizations would require society to direct attention to providing the necessities of healthy living rather than trying only to correct the serious consequences that occur later when these opportunities are denied (Sherwin, 1992:239).

The need for further integration in discourse and praxis

The reviewed literature in this chapter was helpful in locating theoretical, scholarly, scientific and political work allied to the philosophical perspectives and frameworks of the particular questions and arguments of this study. The theoretical and applied perspectives within the literature offered useful analysis and instruction in developing and clarifying my understandings of the problems and challenges of the questions of the thesis. There are indeed many overlapping components within the specific themes referred to above. As noted, in recent decades there has been a steady growth of literature on environmental analysis, information and action from feminist perspectives (Seager, 1993; Merchant, 1989; Shiva, 1989; Mies and Shiva, 1993), on women's environmental learning (Lechte, 1993; Seager, 1993; Clover, 1995) critical scientific information on the particular cancer, hormonal, endocrine disruptors, radiation and other related issues (Bertell, 1985; Carson, 1962; Colborn, 1996; Proctor, 1996; Steingraber, 1997).

Within governments, industry and social movements alike, learning and praxis relating to issues of militarism, ecology and health frequently address each of these sectors and their components separately. In their praxis, non government organizations (NGOs) in the health sectors usually concentrate on factors affecting women's health such as health services and programs to women, HIV prevention, reproductive rights, poverty and the like but infrequently on primary prevention related to environmental exposures. Ecology groups usually concentrate on issues such as climate change, deforestation, ozone depletion, women's resource
management, environmentally sound technologies, consumer and science education (Seager, 1994). Militarism/peace/justice sectors usually focus on the devastating impacts of war on women and children, rape and other human rights abuses, halting arms sales, the need for non violent conflict resolution and the promotion of women in decision making. Rarely are concepts of transformative learning and participatory research a significant presence in them. Of course all these components are singularly important but for radical structural change regarding health, greater integration within and among the various players and sectors needs to be encouraged.

Several recent publications illustrate this dilemma. As noted in Chu and Simpson (1994), health and environmental issues have tended to be treated separately due to traditional institutional arrangements both in government and academic areas. The new public health model, which emphasizes holistic well-being and the prevention of illness, as much as treating sickness, has re-established the link between the medical sciences on the one hand and the natural and social sciences on the other (Chu and Simpson, 1994). However, while issues of inequality are raised in several of the chapters in this otherwise comprehensive literature on public health, missing from it are a feminist ecological conceptual analysis of power and transformative learning theory and methods referred to in this thesis.

Similarly, missing in several recent excellent publications on the critical issues of primary prevention, political economy, carcinogens, toxins and health, (Clorphene-Casten, 1996; Steingraber, 1997; Colborn, 1996; Davis, 1995), is evidence of participatory research or feminist transformative learning processes. While all suggest and or describe actions women are taking or must take, they do not explain educational theory and process by which to do so. As another example, in Participatory Research in Health: Issues and Experiences (De Koning and Martin, (eds.), 1996), numerous authors cover a wide range of case studies including various women's health issues, sustainable development, empowerment, the work place, group process, feminism and power relationships, community education and so on. Participatory research and transformative learning theory are seen to fit well together with their similar roots based in the recognition of legitimizing experience as a basis of knowing. The editors and contributors draw on the popular education and feminist participatory research theories of Paulo Freire, Rajesh Tandon and Patricia Maguire among other scholars in the field. However,
nowhere do any of the case studies presented address environmental health in the critical context of transformative learning for primary prevention within a patriarchal, political economy, biomedical/technological framework. The implications for praxis imply that future programs need to be more widely integrated within the context of these relationships to draw in the missing sectors for a more comprehensive analysis and praxis (Chu and Simpson, 1994).
CHAPTER III
METHODOLOGY

The method chosen for this research project was a case study of a feminist collective, participatory, educational and action process relating to health promotion and the primary prevention of environmentally linked conditions such as breast cancer. It is a case study of a process undertaken by a particular group of socially engaged women who view health issues as shaped by forces related to patriarchal institutional power, privilege, profit and biomedical/technological research models that we feel must be challenged and changed. As such, it is an examination of some women’s transformative learning as a catalyst for change within a framework of global justice. The work of the women’s health circle which was studied for this thesis is reflected in the language and spirit of transformative learning:

we view our work as part of a larger discourse on emancipatory, liberatory or transformative practice, which includes such oppositional and resistance interventions as critical pedagogy, popular education, integrative feminism, anti-racist and multicultural education, research as praxis...(Hall, 1993:xiv).

This chapter consists of a discussion of 1) theoretical issues (case study research, feminist research, and validity and reliability), 2) data collection methods and 3) an introduction to the participatory research circle and its work.

1) Theoretical Issues

Our collective research, education and action process explored how some women’s learning experiences and actions provided a means for transformative change and empowerment in their lives. We gathered together as learner/educator participants already engaged within various organizations to inform, educate and support each other in multiple ways. Delle Small reflects our understanding when she says:

Feminists interested in bringing about change cannot rest with the notion that the goal of social science is to discover the nature of social phenomena. Not only does that goal fall short of our aims but we have learned that it is only in action for change that the phenomena come to be fully revealed. What participatory research offers is both politically and academically promising: the empowerment of women in a process that brings theory and practice together, allowing a political development, as it leads to the generation of a new theory (Small, 1988:90).
Similarly, Patti Lather (1986), believes that women need to experiment, document and share efforts toward emancipatory "praxis-oriented" research. In her view, "praxis-oriented" clarifies the critical and empowering roots of a research paradigm openly committed to critiquing the status quo and building a more just society. It means "activities that combat dominance and move towards self organization and that push towards thoroughgoing change in the practices of the social formation" (Benson, 1983 as quoted in Lather, 1986). Lather uses praxis to mean the dialectical tension, the interactive, reciprocal shaping of theory and practice which she sees at the centre of an emancipatory social science. An emancipatory social research calls for empowering approaches to research whereby both researcher and researched become "the changer and the changed" (Lather, 1986:263). As this study illustrates, in our circle we were all both changers and changed in the process.

a) Case Study Research

A case study approach is often the best methodology when understanding is sought in order to improve practice. Most case studies in education are qualitative and hypothesis generating rather than quantitative and hypothesis testing studies (Merriam, 1988). Merriam focuses on the qualitative case study because most case studies in education approach a problem of practice from a holistic perspective. That is, investigators use a case study design in order to gain an in depth understanding of the situation and its meaning for those involved. The interest is in process, rather than outcomes, in context rather than in a specific variable, in discovery rather than in confirmation. She notes that such insights into educational practice can have a direct influence on policy, practice and future research (Merriam, 1988).

Case Study methodology has been described as an "intensive, holistic description and analysis of a bounded phenomenon such as a program, an institute, a person, a process or a social unit" (Merriam, 1988:9) and fitting for investigations concerned with "complex social phenomena...and holistic and meaningful characteristics of real life events (Yin, 1989:14). The exploratory, descriptive and explanatory characteristics tend to overlap although some elements in each are more pronounced than others (Yin, 1989).
Case studies concentrate attention on the way particular groups of people confront specific problems, taking a holistic view of the situation. They are problem centered, small scale...endeavors (Shaw, 1978:2).

The central characteristic of case studies in general is that they try to illuminate a decision or set of decisions, why they were taken, how they were implemented, and with what results (Schramm in Yin:22-23). Schramm describes three characteristics of case study approaches:

1. Investigation of contemporary phenomena within real-life contexts
2. Circumstances in which there is no clear distinction between phenomenon and context
3. Abundance of sources for evidence

The above conditions fit the nature of our project which was a process of research, learning and action in various ways.

The investigation was grounded in real-life contexts. It concerned our lives, our health, our learning experiences with others in our communities, in women's health, breast cancer, environmental, diversity organizations, with health professionals, policy makers and so on. The women in the circle developed learning processes, created tools for education, organized conferences, participated in programs in which we attempted to be more effective in health promotion and primary prevention of environmentally linked diseases. The processes in which the women in the circle learned, worked together and supported each other as well as organized within our respective organizations and other affiliations provide evidence of relationships with each other, accomplishments, as well as limitations.

Secondly, the lack of clear distinction between phenomenon and context, revealed in the removal of the traditional separation between knowing and doing, is observed by linking knowledge about social reality with concrete learning and action, as our experience reveals. The exploratory, descriptive and explanatory nature of the study topic is reflected in the questions and problem statement in Chapter I. The exploratory considerations are reflected in the transformative learning investigation and methods, the descriptive elements are revealed in the "how, who and why" in this and in Chapter IV, and the findings and conclusions of the project in the remaining chapters.
Finally, the abundance of sources for evidence is illustrated by the extensive literature reviewed in Chapter II and in the reflections and findings cited throughout the thesis.

Choosing a case study

Merriam considers conditions to be met in choosing the case study as a research method. The nature of the research questions; the amount of control which is possible over the conditions and issues of the study; the desired end product of the inquiry; and whether the phenomenon under study can be characterized as a bounded system (Merriam, 1988:9).

The nature of research questions

According to Yin (1984), "how" and "why" questions are appropriate for case study designs. The questions of this study were situated and rooted in our personal and observed experiences, stories, challenges, frustrations, accomplishments and visions for the future. They emerged from both the theoretical and applied phenomenon of the participatory research process and methodology and were congruent with our desire to learn about and thus change certain conceptual and operational phenomena in the discourse of women’s health and in particular breast cancer. Our conceptual frameworks included feminist frameworks of power and women’s health and our location in this educational transformative moment in history related to feminist transformative learning.

The questions asked about feminist ways of working to promote environment, health and primary prevention issues in the context of how feminist alternatives can resist and challenge biomedical/technological paradigms and the cancer establishment; how feminist alternatives can contribute to other social and political movements addressing these health and planetary concerns; and how women’s transformative learning and advocacy can contribute more effectively to these changes (Chapter I:19). Therefore the nature of the questions were compatible with those for which the case study research method can serve (Merriam, 1988).
Degree of control

Merriam's second condition for suitability of the case study in research design relates to the amount of control that is possible over factors and events one is studying. The more control one has, the more experimental the design. In this participatory project, there was little attempt at experimental control as this was a process of learning, producing knowledge and acting together and with others towards our goals. The participants were present in a voluntary capacity in the spirit of feminist, adult, environmental and popular education philosophies and methods of research and learning (Camozzi, 1994; Clover, 1995; Eichler, 1995; Hall and Sullivan, 1994).

Scope for bounding

Merriam's third condition for considering the case study method as appropriate for a particular research interest, what she calls a deciding factor, is whether a bounded system can be identified for the research. The bounded system or case might be selected because it is an instance or an examination of a specific phenomenon such as a concern (our project), an issue or a hypothesis. It asks whether or not there are boundaries around the phenomenon to be studied so as to be able to clarify what would be inside the research task and what would be outside it.

Our project necessitated boundaries in time, location and subject matter for practical reasons. While the nature of the issues we were examining was both local and global in scope, our meetings had to be in Toronto (although one member of the group came from St. Catharines) and had to be somewhat constrained by people's schedules, their health and the desire to come up with some useful observations and findings. This had to be done in a reasonable length of time, knowing that we needed completion so that this thesis could be written. Our original intent was to meet together over a year’s time from spring 1995 to 1996. That timing had to be extended because of events in which we were each engaged which interfered with our plans, or in the case of one participant where her health required her full attention. We met for the last time in the fall of 1997 to review and assess the findings. The finishing point for the case study was the report of this thesis (although our work continues without stop). The inside/outside question about the nature of the research is reflected in the definite learnings, findings and
accomplishments within the circle itself while there were simultaneous and complementary learnings, findings and accomplishments with others outside it. These relationships are more clearly described in Chapter IV. With regard to Yin's reference to a lack of distinction between phenomenon and context, the phenomenon we wanted to study was feminist transformative learning and knowledge production as related to power relationships and domination regarding health, biomedical models and politics. It was done in the context of participatory research for primary prevention and prevention of recurrence of environmentally linked diseases such as breast cancer and the building of just and healthy communities. As the study reveals, phenomena and context are closely interwoven.

The desired end product

The fourth condition of Merriam's criteria relates to clarity about the desired end product of the research in order to make an appropriate choice for the methodology to be used. She asks whether the end product will be a holistic intensive description and interpretation of a contemporary phenomenon. Therefore the nature of the research questions have an important bearing on the desired end product. Merriam describes three possibilities of end products - description, interpretation and evaluation (Merriam, 1988:27). Elayne Harris adds a fourth possibility - one whose purpose is primarily illumination (Harris, 1992:57).

A descriptive case study in education is one that presents a detailed account of the phenomenon under study and one in which the end product is a rich 'thick' description of that particular phenomenon. Thick description is a term from anthropology and means the complete, literal description of the incidence or entity being investigated. It also means interpreting the meaning of...descriptive data in terms of cultural norms or mores, community values...attitudes and notions (Guba and Lincoln, 1981:119 as quoted in Merriam, 1988:11). As opposed to quantitative findings, case studies usually use prose and literary techniques to describe, elicit images and analyze situations.¹

Interpretive case studies also contain rich thick descriptions, however these data are used to develop conceptual categories to illustrate, support or challenge theoretical assumptions held prior to the data gathering. An interpretive case study would be undertaken for an explanatory conceptualization after studying the
phenomenon carefully. The purpose is to interpret the data according to a theory or hypothesis (Merriam, 1988:28).

Evaluative case studies involve description, explanation and judgement. An evaluative case study is used to understand the issues under scrutiny where judgement is the only new addition to either the description or interpretation of the first kinds of case study reports. "Judging is the final and ultimate act of evaluation" (Guba and Lincoln, 1981:375 as quoted in Merriam, 1988). This type of case study has the advantage of addressing complex relationships and links.

Harris suggests that illumination adds to the above in that it would be particularly apt for initial research on certain kinds of educational innovation where the task is to provide a comprehensive understanding of the complex reality (or realities) surrounding the program, in short to "illuminate". She believes that a feature of the illuminative case report is that description and interpretation are both essential. Description is necessary because the cultural setting of the original phenomenon is assumed to be a potentially important context for presentation of an illuminating agenda. Interpretation is the key means for creating explanatory frameworks and is required so that the illumination is rich enough to begin...to generate understanding of how future practice might be informed by past experience. However, in an illuminative case study, the data are not interpreted by a priori theory or hypothesis but arise from reflections on the data itself through grounded theory (Harris, 1992:57). Such an understanding and conceptualization was inherent in this research process in, for example, the learning processes toward the development of recommendations for approaching women with breast cancer on primary prevention as well as other issues as seen in Chapters IV and V.

The final product of a case study is shaped by the data that are collected and the analysis that accompanies the entire process. One level of analysis involves a process of making inferences and developing theory, moving from dealing with observables to moving to a conceptual overview of the landscape. Thinking about one's data, theorizing, is a step toward developing theory that explains some aspect of our practice and allows one to draw inferences about future activities. Theorizing is defined as the cognitive process of discovering or manipulating abstract categories and the relationships among those categories (Goetz and LeCompte, 1984:167). It needs to be contextual rather than linear. A
theory grounded in the data also contains elements of control and prediction, both of which can be interpreted in terms of the applied nature of the research.

b) Feminist Research

Feminist research has a particular subject matter and a commitment towards improving the situation of women. In general feminist researchers strive to work in a non hierarchal manner (Maguire, 1987:90-92). In describing feminist methodology in research, Margrit Eichler (1997) notes that there are as many definitions of feminist scholarship as there are feminist scholars. She presents a minimal definition as:

feminist scholarship is oriented towards the improvement of the status of women and is undertaken by scholars who define themselves as feminists. Hence it is engaged rather than supposedly value neutral research - which is one of the sources of the debate with respect to its methodology - and is carried out within the context of a community of scholars who is some manner take note of and respond to each others’ work (Eichler, 1997:10).

When feminist research first emerged, very little was known about women since men had been taken to signify the universal norm. Feminist scholarship re-emerged in the 1970s in opposition to most mainstream research, described by critics as sexist, patriarchal androcentric, gender blind, status quo oriented, positivist, objective, quantitative, alienated and alienating (Eichler, 1995). One part of feminist scholarship has moved towards the creation of women’s studies with its own ‘fuzzily defined’ important works, concepts, theoretical approaches, while another portion understands itself as a perspective that is brought into existing disciplines (Eichler, 1995:10). It is within this second conceptual framework of a multi disciplinary approach that we locate the project of our women’s circle on health.

Reinharz (1992:240 quoted in Eichler, 1997:12) describes numerous methods used by feminist researchers such as interviews, ethnography, survey or statistical methods, experimental or cross cultural approaches, oral history, content analysis, case studies, action research, multiple approaches and original research methods. She concludes that feminism is a perspective rather than a research method, that feminists use a multiplicity of research methods, that feminist research involves ongoing criticism of non feminist scholarship, is guided by feminist theory, aims to
create social change, strives to respect human diversity, frequently includes the researcher as a person in interactive research.

As Eichler notes, one of the major issues in the debate concerns objectivity which has different meanings to different people. The Feminist Dictionary (1985) defines it as "a mode of knowing, analysis, interpretation, understanding which is opposed to the values of subjective knowledge, understanding, art, communion, craft and experience...For many feminists, it exemplifies the methodological stance of which objectification is the social process."

Harding, (1992:458) argues that we should not dismiss objectivity as a goal because it is hopelessly tainted by its use in racist, imperialist, bourgeois homophobic and androcentric scientific projects. Rather she believes we need to replace the weak objectivity of non feminist research with "strong" objectivity of standpoint epistemologies. These are characterized by a strong reflexivity which requires that the subject of the knowledge be placed on the same critical causal plane as the objects of knowledge." While not all feminist researchers subscribe to these ideas, they include a significant segment of feminist research (Eichler, 1997).

Two aspects of feminist research described by Longino (1993:259) which are relevant to our project include: 1) identification and elimination of masculinist ideologies in the content and methodologies of scientific inquiry and 2) identification and realization of liberatory and emancipatory potential in the sciences or at least a transformation of the sciences for feminist ends. These principles are relevant to our goal of changing the terms of the social debate on health where from such a feminist analysis we suggest that the debate recognize the complexity of human existence and that social need should not have to be screened through the filter of medical values and authority. As noted, in our project, a feminist ideal would involve society's recognition of this problem and develop means to respond to the many different kinds of human needs without having to force every sort of problem into the medical model. Arditti and Schreiber (1994), Brady (1991), Hynes (1989) and Sherwin (1992:194) maintain that the linguistic question of the scope of the term 'health' cannot be settled in isolation from the social structures surrounding the debate; concerns that are central to primary prevention in this discussion. We recognized research as a social and political activity which has repercussions in our lives reflecting that the myth of
the neutral apolitical scientist can no longer be accepted (Rosser, 1986; Eichler, 1997).

Eichler, (1997:24) concludes that while there are distinct methodological practices that have become associated with feminist research, there is no one method that is solely owned by feminist researchers. However, feminist scholarship has made great contributions to our understanding of the meaning of objectivity in the social sciences, has enriched our methodological tools by elaborating various methods, has provided a critique of sexism and presented alternatives that could profit all of sociology (and other disciplines) if widely adopted.

**Feminist Critiques in Participatory Research**

Feminist critiques of research have contributed to the understanding and practice of participatory research. Both feminist and participatory research are concerned with knowledge creation in ways that empower those engaged rather than maintaining the status quo (Maguire, 1989). Both seek to shift the centre from which knowledge is generated. Patricia Maguire developed a feminist framework for participatory research when she became aware of the invisibility of women in the emerging discourse of this new field. She found that gender was usually rendered indistinguishable by terms such as ‘the people’, ‘the villagers’ and ‘the oppressed’ and that feminist theory and issues were absent from theoretical debates. While participatory research highlighted the centrality of power in the social construction of knowledge, it largely ignored the centrality of male power in that construction. Maguire found indications of male centered language, unequal access for women to project participation and inadequate discussion about the obstacles to women’s participation. Exploring male biases in participatory research led her to develop a feminist critique and framework for change which she described as a necessary part of a planning and evaluation tool to help create participatory research projects more likely to recognize and meet women’s emancipatory needs.3 They complement Sherwin’s ideas on accountability and responsibility in describing what a feminist health model would look like (see Chapter II:59) as well as provide a framework for understanding power and domination in this particular project of learning about and challenging the status quo on issues of environmental health and primary prevention.
c) **Validity and Reliability**

According to Patti Lather (1986), an emancipatory social research calls for empowering approaches to research whereby both researcher and researched become "the changer and the changed." For researchers with these aims in mind, doing empirical research offers a powerful opportunity for praxis to the extent that the research process enables people to change by encouraging self reflection and a deeper understanding of their particular situations (Lather, 1986:263).

Lather believes that if illuminating theory grounded in trustworthy data is desired, we must formulate self correcting techniques that check the credibility of data and minimize the distorting effect of personal bias upon the logic of evidence (Kamarovsky, 1981 as described in Lather). Currently, paradigmatic uncertainty in the human sciences is leading to the reconceptualization of validity. Inquiry is increasingly recognized as a process whereby tacit (subjective) knowledge and propositional (objective) knowledge are interwoven and mutually informing (Heron, 1981:32 as quoted in Lather). For praxis oriented researchers, new techniques and concepts are required for obtaining and defining trustworthy data which avoids the pitfalls of orthodox notions of validity. Lather suggests a reconceptualization of validity appropriate for research that is openly committed to a more just social order.

To ensure validity, Mathieson (1988:17) suggests that there be a reliance on one's holistic understanding of the situation to construct plausible explanations about the phenomena being studied. Merriam (1988:169) notes that there are several basic strategies an investigator can use to ensure internal validity. They include member checks, that is taking the data and interpretations back to the people from who they were derived and asking them if the results are plausible; long term observation or repeated observations of the same phenomenon - gathering data over a period of time in order to increase the validity of the observations; participatory modes of research - involving participants in all phases of research from conceptualizing the study to writing up the findings; researchers biases - clarifying the researcher's assumptions, worldview and theoretical orientation at the outset of the study; by leaving an "audit trail", that is by describing in detail how the study was conducted and how the findings were derived from the data. Finally, the extent to which the findings of a case study can be generalized to other situations - external validity - are still the object of much
debate according to Merriam (1998:184) who suggests that working hypotheses and user or reader generalizability can be discussed as alternatives to the statistical notion of external validity. This involves generalizing from a sample to population from which it was drawn.

Second, construct validity according to Lather, must be dealt with in ways that recognize its roots in theory construction (Cronbach and Meehl, 1955:281-302). Lather feels that our empirical work must operate within a conscious construct of theory building. A systemized reflexivity which reveals how a priori theory has been changed by the logic of data becomes essential in establishing construct validity in ways that contribute to the growth of illuminating and change enhancing social theory. Indeed, as seen in later chapters, there are some cracks appearing in how the medical establishment views the precautionary principle and primary prevention.

Lather also believes that face validity needs to be reconsidered. "Research with face validity provides a click of recognition and a 'yes of course' rather than a 'yes but' experience" (Kidder, 1982:56). Face validity is operationalized by recycling description, emerging analysis and conclusions back through a subsample of respondents. "Good research...goes back to the subjects and with the tentative results and refines them in light of the subjects reactions (Reason and Rowan, 1981:248).

She also proposes catalytic validity which represents the degree to which the research process reorients, focuses and energizes participants toward knowing reality in order to transform it, a process Freire terms conscientization. This flies directly in the face of the positivist demand for researcher neutrality. The argument for catalytic validity is premised in a desire to consciously channel this impact so that respondents gain self understanding and ultimately self determination through research participation (Lather, 1986:272).

With regard to subjectivity in this case study, all of the data were gathered by me as a participant researcher. Since I was the primary individual (instrument) for both data collection and preliminary analysis, the issue of subjectivity should be raised. Case study research is one of the modes of scientific study that admit the subjective perception and biases of both participants and researcher into the research frame. One of the philosophical assumptions underlying this type of research is that reality is not an objective entity, rather there are multiple
interpretations of reality (Merriam, 1988:39). This also includes Harding's (1992:458) belief that we need to replace the weak objectivity of non feminist research with "strong" objectivity of standpoint epistemologies as noted earlier. While perhaps not appropriate in all cases, I believe these theories have well served the work of our women's circle in this project where I heeded Maria Mies (1983) who suggests that feminist research intended for liberation must actively include participants in the research process. In her experience, the researcher openly states her biases and acts as a feminist committed to change and active involvement in the women's movement, which I am.

Lather's description of face and catalytic validity as described above prevailed in our circle's process as illustrated in our findings. I provided a preliminary review and analysis of my findings based on the transcripts as sources of data to our circle for their analysis and additional insights. I then refined the findings. We later met to both review and make observations and recommendations in September of 1997. Following that, everyone reread the final edition of our findings. Therefore, this thesis, written by me in consultation with the women in the circle, provides an example of the criteria for validity and reliability such as member checks, face and catalytic validity described by Lather (1986) and Mathieson (1988) as will be seen in the following chapters.

Ambiguities

Applicable to this case study, Tandon (1988) mentions some ambiguities worth noting. He says that social transformation requires several types of intervention: research, organizing, mobilizing, educating, control over knowledge production, power in decision making, community involvement inter alia. The research project in which we engaged was but one aspect of many contributions to such paradigm shifts for social transformation. There can also be ambiguities in the roles of the researcher and the participants especially when traditional dominant research values and practices are prevalent. Generally, participatory research does not encompass the rigid control over the research process normally utilized in conventional social science research and therefore may be more ambiguous in its results (Tandon, 1988). In our circle, the determinants of participation included: the group's role in setting the agenda, their participation in
the data collection and analysis, and their control over the use of the outcome of the whole process.

**Limitations**

There are several limitations in this research. The generalizations from the findings of this case study are not easily transferable to large numbers of the population. But perhaps as more people make the links to the impacts of environmental pollution on their personal, workplace and community health, our findings will be increasingly valued and utilized. Of course we hope that our findings will be of use in the transformative learning processes for many of the groups and individuals we identified in our goals. This was the point of undertaking the project initially. However, we recognize that our women's health circle was already particularly knowledgeable, concerned and active in many contexts of transformative learning in women's health. This is not generally the case for the population at large. Our ways of knowing, networking and acting reflect particular aspects of our experiential learning grounded in our own communities and areas of interest. These often combined to put us in the forefront or the cutting edge of some exciting trend setting changes at this moment in history. While powerful roadblocks still exist, some of us have been contributing to the development of useful interrelationships in the fields of women's health, environmental activism, multicultural and environmental justice, science and media. The roadblocks are still extremely influential and control the research agendas, the money and mindset, all of which require thoughtful analysis and strategies before major change will come. We know that it takes special commitment and staying power for the long haul, not always a given, even at the best of times.

Other limitations include the small size of the circle which meant that our work was not as widely encompassing or known as it would have been, had it been a larger group; and secondly that we did not set ourselves up to work solely on our own in the circle, but usually engaged in the wider community context as well. Therefore, there are frequent overlaps between what we did in the circle and what we went on to do outside it, sometimes making it unclear where one part began and/or one ended. One example of this is the creation of the first Women's Network on Health and the Environment pamphlet where the idea for it and first draft
originated in the circle, was completed by one of the members of the circle and went on to be used as the official pamphlet of WNH&E (Appendix C).

Despite these ambiguities and limitations, I believe that this participatory research method has been appropriate for our work as it has met the criteria of researching, learning and acting together to create knowledge for transformative learning with regard to the politics of prevention, ecology and health, of women's advocacy, leadership and strategies for changing power relationships and promoting alternative ways of thinking and acting (Maguire, 1987).

Fun, camaraderie, hard work

Corrine Glesne (1989:xiv) notes five themes characteristic of collaborative qualitative research which reflect our participatory experience. Heeding these themes may prevent frustration and burn out which are important for the long term work ahead. She concludes that learning collaboratively develops camaraderie; moderates, redirects, and helps make use of the anxiety associated with doing the research; involves humor; is enhanced by diversity, and takes time. In our group, as we deepened our relationships as well as our collective knowledge, we also engaged in building stronger coalitions among the various related sectors to better integrate our common goals within them. And, as she recommends, we had some fun and good times doing this work.

2) Data collection

The activities of the women's circle took place between April, 1995 and July, 1996 with a follow up review, analysis and future priorities meeting on September 9, 1997. All the organized meetings of the circle took place at my home with the exception of the June 25th, 1996 community workshop to research the data for the resource guide, Taking Action for a Healthy Future. Numerous other meetings, conferences, events are referred to in the thesis (see Appendix B). During the project, as a researcher, educator and participant, I was able to help catalyze critical questions within the circle during our meetings and activities, however my role was seen by the participants primarily as an activist and educator, rather than that of an academic researcher.4

Our first two meetings were described in notes but not taped, however we reviewed our introductions and personal stories when the taping began at our third
session. As each participant told her story or raised an issue, others would often pick up on points following from it in a free flow conversation. These tapes were transcribed by me and for the most part I have used the singular pronoun, I, when referring to my own comments. I have tried to represent the gist of what was said, omitting only what was redundant or not relevant to the issues. We always talked about what was happening in our own lives and families, current events and political news before getting down to our questions. Our way of working encompassed a process of education, reflection and action. Our sessions comprised both information sharing and discussions of how and what we were learning. Often we planned and organized programs together and/or supported efforts of one of us who was engaged in a particular project.

All meetings took place over potluck meals where we shared information, experiences, laughs, concerns, pains, hopes and strategies for change. Of course neither the notes nor the transcripts could illustrate the laughter, the singing of happy birthday on several occasions (very loud on the tape!), the expressions of delight at some delicious dish prepared and brought by one of us, the sadness when there was bad news and the depth of caring and support we gave to each other.

Although it was always abundantly rewarding to be with the circle, it required additional effort on my part. I had to organize the meetings, coordinate the various materials (information on the issues, background on feminist transformative learning and participatory research theory), type out the transcripts of our meetings for review and discussion to be distributed throughout our year of our meeting together. While the women often brought food, informational articles, newspaper clippings, journals to share, because we met in my apartment, I had to ‘get ready’ for each of the sessions by sorting and clearing away papers, preparing food, setting out the dishes and doing a general clean up afterwards, although most often one or more of the women stayed to wash up. It was certainly not a great hardship but it did take some time and planning. Over the course of the time we were meeting I was also fully engaged with a graduate assistantship position at the Ontario Institute for Studies in Education (OISE/UT), organizing weekly seminars with the Transformative Learning Centre and meeting regularly with my film partners, planning and fundraising for the film, Exposure: Environmental Links to Breast Cancer. In the summer of 1996, I became a grandmother for the
first time (Rosie Annabelle) and because my daughter and her family live in France I had to take time off a number of times during the year to be with them there as well as when they came to visit at home in Montreal (usually for a duration of at least two weeks). Again while these aspects of my life were sources of pleasure, these chunks of time were interruptions in the work of the study. (During the course of our meetings Meryle's daughter, Brenda, got married and a year later also had a baby girl (Hunter) - more rejoicing!)

Although I knew that the general themes of our discussions dealt with the framework of the values, questions and goals we had initially set out, at the time I was transcribing the tapes, it wasn't always clear to me how the data would unfold in the final analysis. As well during the process of our meetings, as several new categories emerged, additional questions became part of the analysis of the findings such as the ones about barriers and constraints. Appropriate to this experience was Merriam's (1988) description of "devising categories as largely an intuitive process but always systemic and informed by the study's purpose, the investigator's orientation and knowledge...and the constructs made explicit by the participants of the study" (Goetz and LeCompte, 1984:191). And as noted, the categories or themes describe the data and to a certain extent they interpret the data (Merriam, 1988). Then, including Hall's (1995) indicators of successful transformative learning in framing and assessing the impacts and implications of the data became a fascinating and illuminating experience. This evolved as the findings emerged in the context of the questions and indicators relating to implications for praxis for the identified sectors such as social movements, breast cancer groups, policy makers and others as described later.

At this stage, Merriam's description of data analysis as "the process of making sense of the findings, the goal of which is to come up with reasonable findings (1988:127-130)" seemed appropriate for this project. Here, the data analysis could be identified as content analysis in that we were looking at the content of the data in developing the various categories for the findings according to those congruent with the research goals and questions. The categories were exhaustive, that is all relevant items under study were capable of being placed into a category; the categories were mutually exclusive, that is, no single unit was placed in more than one category and all categories derived from a particular classification principle (Holsti, 1969) although the major ideas cut across the data.
In addition to our original questions, information from the transcripts served as the basis for defining other categories and questions described in Chapter IV.

Data collection methods

Note taking of our research ideas and discussions, observations, reflections and evaluations from workshops and other activities: This included the process of feedback and evaluation on our work together and the recording of our findings:

I kept a dated journal with reflections of the meetings throughout the whole process. We began with my note taking as the data recording of our first two sessions until Hema, also a doctoral student at OISE/UT, suggested taping the sessions to provide a richer more fully documented recording of everyone's words and ideas. This turned out to be indispensable in terms of being able to retain the specific data for the study. I had never previously documented research findings for an academic undertaking such as this project. My previous involvement with participatory research had been in the doing of it but not recording it. My written notes of the meetings became the framework for the transcripts initially, but as I began to code the material thematically, I drew selections of quotes from the sessions in which they appeared.

Tape recording all the group's meetings after our second session:

In order to be certain that the quality of the sound of the tape was clear, for each session I would borrow a tape recorder with a remote microphone (a flat plate) that was extremely efficient at picking up sound even when someone was speaking softly (as one of us was prone to do). I had to package it carefully in my bicycle basket so that it wouldn't be damaged as I made the ten minute trip between OISE/UT and my apartment and back! I typed out (using the foot pedal tape transcriber) only the information relevant to our work, otherwise it would have been a much longer process as we had become good friends and always had to hear what was happening in everyone's life.

Group generation of questions:

We decided that we would pose a question to think about for each of the following sessions, so during the interim between meetings we could think about issues framed in the questions decided upon. We asked ourselves about feminist ways of working on promoting environment, health and primary prevention issues; ways of resisting and challenging biomedical/technological paradigms and the
cancer establishment; and how we could contribute more effectively to other social, cultural and political movements addressing these health and planetary concerns. The questions about barriers, constraints and impediments in our work and what were some ways of overcoming these barriers were basically related to our research questions.

I transcribed the data to disk and hard copy for distribution to the group after the fifth session together so that we could begin to review the data for accuracy and possible emerging themes, questions and strategies. Reflections on them were brought to meetings by some but not always all members of the circle as at least one of us was not able to have read them. They were long - two hours worth of discussion...so it depended on their ability to find time to do so. Everyone at least scanned them for accuracy, but we didn’t effectively get into full detailed discussion and analysis of the data until we began to apply the data to the questions which we had developed earlier.

Group identification of learning processes:

This evolved throughout the discussions as we often "learned by doing" beginning from where each of us was in our "head, guts, feet" stages (analysis, thoughts, emotions, actions (see Figure 2)) as we told our stories, worked together on conferences, seminars, provided advice for the contents for the film (Exposure) and the resource guide (Taking Action for a Healthy Future), helped and supported each other with resources for public speaking, preparing deputations, assisting others outside of our circle in the development of their programs, networking with other groups, talking to policy advisors and so on.
Data analysis

Referring to Merriam’s description of data analysis as the process of making sense of the findings, the goal of which is to come up with reasonable findings (1988:127-130), my first task was to organize and code the data into responses to the categories of the specific questions of the thesis. This was for me a revealing experience. I did this by going through all the typed transcripts of our meetings several times, underlining with a red marker all the highlights of our discussions that were relevant to the four questions of the thesis. I put a number beside each marked phrase to indicate which question it referred to. I then set out each question separately on a page, following which I blocked, moved and placed the relevant comments, reflections, suggestions for actions and so on under the specific appropriate heading. It was quite a challenge to place the quotes under their question categories as there were some overlaps in the themes and I wanted to avoid repetition, tempting as it was to do so. During this process, several new themes and questions arose. When I learned of Hall’s (1995) description of indicators of successful transformative learning (so much in sync with our own), I thought it would also be useful to integrate them into our analytical framework. Therefore, the process I developed for this next stage was one of reading and rereading the data as pulled together for a search and integration of his questions with ours following our September 7, 1997 review meeting. This time I did so for analysis, impacts, implications and recommendations, again, by underlining key concepts, color coding highlights with a yellow marker and, writing notes in margins. By the time I was finished the pages looked like a modern art sketchbook or a child’s creative efforts! While I transcribed the data and pulled together the agreed upon themes and categories of our findings, it was all of us together in the end who agreed upon the analysis, achievements, lessons learned and recommendations for actions.

I then developed a ‘roadmap’ to help the reader understand how and in what order the story unfolded, whereupon I went back to the transcripts to pull out the chronological tale and significance of our key activities and process (see Dates and significance of key events referred to in thesis in Appendix B).
3) The life and work of the women's health participatory research circle

I had met the women in our circle at various meetings and programs on women's health and the environment, environmental justice, breast cancer and other related issues, either through the Women's Network on Health and the Environment, the NAC Environmental Committee or the Ontario Institute for Studies in Education (U of T) where another member of the group was also a doctoral student. Several of us had been discussing how we might learn from and contribute to this rich transformative moment in history with regard to emerging information and praxis on primary prevention of breast cancer and other environmentally linked diseases.

The women, who included breast cancer survivors, health advocates, educators, environmentalists, members of women's groups, policy analysts, those examining multicultural and anti racist concerns (there are some overlaps among them) began to meet regularly over approximately 15 months in the spring of 1995. They included Liz Armstrong, a co-author of Stop the Whitewash, editor of Connections, the newsletter of the Women's Network on Health and the Environment and member of the NAC Environmental Committee; Hema Abeygunawardena, board member of the Willow Breast Cancer Resource and Information Centre and an OISE/UT doctoral student; Meryle Berge, chair of the Breast Cancer Research and Education Fund; Sabina Nagpal, a member of the NAC Environmental Committee, a founding member of Multicultural Network for Environmental Justice (MNEJ), then with the Local Employment and Trading System (LETS) and the West Toronto Green Community Initiative; and myself, a member of the Women's Network on Health and the Environment, the NAC Environmental Committee, Women for a Just and Healthy Planet, Voice of Women for Peace and then just initiating the process of the film, Exposure: Environmental Links to Breast Cancer. These women have given permission for their names to be used. There were two other women in the circle earlier. One moved away, the other, a student also moved away and changed her focus of interest.

Prior to our first gathering, most in the circle were familiar with the work of Devra Lee Davis, Rita Arditti and Tatiana Schreiber, Rosalie Bertell, the International Joint Commission (IJC) and others on breast cancer, the environment and advocacy in primary prevention. They also had a brief review of definitions of transformative learning and participatory research before the
meeting as I had distributed the relevant literature to those who were not acquainted with it.

The following is a chronological overview of the life and work of the participatory research circle. I have only briefly outlined the meetings because the contents are more fully covered as actual data in the findings.

The meetings

Our first sessions on April 22 and May 31, 1995 revealed our personal narratives. We began with the question: "What got you started in your learning on health and environmental relationships?" The highlights of these stories are found beginning on page 88 of this chapter. Other comments are drawn upon throughout the thesis as evidence of analysis, transformative learning and advocacy. At the first meeting, Hema Abeygunawardena, Meryle Berge, Liz Armstrong, the two women who left the group and myself, Dorothy Goldin Rosenberg, were present.6 We introduced ourselves by way of our stories; discussed what we knew; talked about what we needed; and what we wanted to do on women’s health and the primary prevention of environmentally linked immune system depletion and diseases. There was general agreement that we wanted to develop analysis and actions together to support the statement, "We are Rachel’s Daughters" (see Appendix A) and develop fuller possibilities for creative learning and advocacy towards its goals which were similar to those of the Women’s Network on Health and the Environment (WNH&E). Our overall intent was to help build WNH&E and work to support its principles reflected in the WNH&E publication, Connections as well as those of the National Action Committee on the Status of Women (NAC) AGM workshops and resolutions on prevention. We also talked about the need to promote the Recommendations of the Ontario Task Force on the Primary Prevention of Cancer, which had been released in March, 1995 and was being ignored after the change of provincial government from the New Democratic Party to the Progressive Conservatives.

Also at these meetings, we discussed why it would be useful to explore how we learn, what we learn and what this might lead to with each other as well as within our respective groups and communities. We all saw ‘health’ and ‘prevention’ as part of a larger context of societal power issues. However, we recognized that each of us had a different ‘take’ on the issues because of our various backgrounds,
cultures, experiences as well as the fact that two of the women were breast cancer survivors, two were actively engaged members of visible minority communities and two were environmental social justice activists, all with overlaps.

Our circle’s activities together began at our first meeting when we decided that we needed a pamphlet on these issues for public distribution. As noted, this led to our preparing the first draft of what was completed by Liz to become the flier for the Women’s Network on Health and the Environment (WNH&E), used widely today (Appendix C). It was a harbinger of things to come. Very early on, a pattern emerged within the circle where we would develop ideas together and frequently go on to implement them within our organizations and or communities. The pamphlet was the first of several projects that transpired as a result of our coming together, others will be referred to later on.

At the May 31st (second) meeting, we decided that it would be useful to have questions to think about in our meetings such as what we were learning, the way we were learning, what was useful, the problems, the resistance...to figure out how our discussions could be more productive. Next time we were to look at challenges and problems as well as what positive things were happening.

By the June 22nd, (third) meeting, we thought it would be good to make a list of these questions for our use which I offered to compile. These questions became the basis of the questions of the thesis. At the end of this session we learned that one of the group was moving to Cuba and another was leaving to pursue other interests and return to the north. We decided to invite Sabina Nagpal to join our group. At our next meeting, our questions would relate to strategies and skills.

At the July 27th (fourth) session, we welcomed Sabina Nagpal to our circle and heard her story. That day, we discussed strategies and skills and the need to create a popular adult education game and group process for social and political action. (This was later done and used at Meryle's conference, see Appendix D.)

Our August 10th (fifth) session included a discussion on barriers, education, organization, strategies and implementation, much of which is the substance of our findings in the following sections. As we closed, we agreed to meet again in the fall after the United Nations Fourth World Conference on Women in Beijing (Aug./Sept., 1995).
Our April 9, 1996 (sixth session) took place after a long gap. Due to the numerous activities we were all engaged in, it was only then that we were able to come together again. At the information sharing go around we recognized that it had been a long time since we had met in our circle although we had actually worked together in various projects in the duration. We reviewed specific actions we had been involved in that helped raise community and political awareness over the last year. Also at this meeting we did some 'official business'; I handed out the transcripts of the highlights of our previous meetings for review together with the official letter of invitation to participate in the project, the letter of acceptance for the ethical review and the brief article I had written on the Report of the Ontario Task Force on the Primary Prevention of Cancer.

For our May session, our agenda questions would include: "what have been some important changes and learning experiences since we last met in August? What are new learnings? old learnings? new happenings with ourselves and our groups on primary prevention? Have we created new knowledge? What is our unfinished business?" We agreed what we wanted from this exercise if possible was to illustrate some valuable ways and means that people can learn about and become engaged in these concerns.

At the seventh session, May 22, 1996, we all looked at the blown up picture of us taken on the Niagara Falls bridge by Lise Beane after Meryle's conference, Pollution Knows No Boundaries (Nov. 1995). After sharing news, as Sabina had to leave early, we got right into our discussion starting with the above questions and evaluation of work we were doing; we acknowledged the need to develop more good communicators on environmental health in the breast cancer movements. Recommendations and proposals for other programs are elaborated in the next sections.

At this time, I offered my observation that when reading through the transcripts of our meetings, it was apparent that they reflected the learning and knowledge we'd all gained through the work with each other and within our groups...they constitute the data of the findings for our participatory research case study. It was fascinating to go through the tapes and pick up on these themes. I noted that we talked a lot and I enjoyed transcribing, even though it was time consuming, because I valued everybody's contribution. As I began to think of how to compile the data and write it up, I realized that it had been over a year since we
began meeting together, sharing information, organizing events and that at some point soon I would have to get on with writing my thesis. But we still had a task ahead; that of the development of the resource guide to go with the film.

Our eighth session, June 25, 1997, was the community workshop screening of the roughcut of the video (at that time, the working title was Burden of Proof: Breast Cancer and the Environment). The purpose was to come up with ideas for the film resource guide. The development process of that project is described in Chapter IV:127).

In our introductions to each other, our narratives reflected what initially motivated us to become involved in breast cancer and environmental issues. Stories were a special phenomenon for us by which we illustrated our deepest learning experiences, our past connections to the issues and the emphasis of particular phenomena. These stories enabled us to understand where each of us was coming from and very naturally provided a jumping off point for the many rich discussions which followed:

At the Niagara Falls (1995) conference (epidemiologist) Devra Lee Davis told the story of the Rabbi and the starfish (it's in the film too)...thousands of starfish are stranded on the beach and they will die because they must be in the water, the Rabbi is throwing them back one by one and a child says to him "there are so many starfish it won't make any difference if you throw some back"...so as he throws another one back in the water he says, "it made a difference to that one!" That's what people remember - the stories...(Meryle and Dorothy, May 22, 1996).

As Hema noted, stories give voice to our personal and practical knowledge, make meaning of our lives and look for specific connections between events (Polkinhorne, 1988). In cultural learning, stories help us to understand shared beliefs and to communicate values as people are story tellers and are characters in their own stories (Connelly and Clandinin, 1990). Meryle linked our stories with learning and knowledge creation:

We are creating something special when we get together...it is powerful the way we exchange information and give support. We produce and gain new knowledge when we meet...we are always taking in something new which enhances what we may already know. Each of us makes another aware through our stories and information. Each one of us has a particular focus and we learn from each other. Clearly we have to deal with what is external as well as lifestyles. We are reflecting the true meaning of "gossip" which means women telling stories, sharing information and planning activities around mutual concerns (Meryle, August 10, 1995).
While I have only provided some highlights of our introductions here, other issues, relationships and actions excerpted from them are used later to illustrate examples of responses to the questions of the thesis which follow.

The stories of the women in the participatory research circle

Liz Armstrong, who had a dear friend die of breast cancer said, "What happens with personal friends and family makes a difference", and that was her motivation. She learned that the statistics were alarming. She read Rachel Carson and observed how people like Carson and David Suzuki make a difference. Liz usually asks, "Where were you in 1962?" She lived by a beautiful ravine in Toronto. The planes came and sprayed DDT, the goldfish in the pond died. She read Margaret Visser’s book on food which gives the origins and history of chlorine and chlorine gas - a volatile poisonous gas violently reactive described by Sir Humphrey Davy. So many of the toxins are invisible - carbon tetrachloride, radionuclides such as tritium. There are known alternatives that are clean and safe - we should be promoting them.

Her grandmother, her mother’s mother, died of breast cancer. She was diagnosed in her thirties and died in her fifties - a pre-menopausal, long survival rate. Her mom would tell her how her own mother, in the 1930s had to get on the train from New Brunswick to Montreal for her treatments at the Royal Victoria Hospital. She had a Halstead mastectomy and radiation...it was experimental at the time. Her grandmother died in 1944...her mom would go canvassing for the Cancer Society believing in hopes for "the cure." When Liz and Adrienne (Scott) were researching and writing the book, Stop the Whitewash, she learned about the effects of chlorine on the immune system. Dioxin was only named as a carcinogen in recent years. She observed that the one thing people who are well always sit up and listen to is cancer rates. She reread Silent Spring for the book because of chlorine products and described why they were so toxic.

At that time (1992) there wasn't such an awareness of the current high statistics and cancer rates as there is now. They kept hearing of cures for leukemia, and successes with other cancers although lung cancer was certainly a serious problem. One day she heard on the radio that one in four would get cancer or one in five would die of it. She called the Cancer Society, now it is one in three or one in two if you include non melanoma skin cancer. She followed the train of
thought from Rachel Carson. If there are that many toxins in the environment we’re moving away from that holistic sense that Hema talks about - that all life is to be honoured. Having written the book, it was clear that women’s chlorine bleached menstrual products were one important symbolic part, but not too many people took it seriously because it was only women’s menstrual products...it became clear even early on, if you wanted people to take notice you had to link it to human health problems. She read about such relationships in Judy Brady’s book.

Less than six months after the publication of *Whitewash*, Megan Williams, who was working with Liz on the campaign, went to a Greenpeace conference in Chicago in October, 1992 following which they began to incorporate breast cancer statistics and issues in their "Stop the Whitewash" workshops along with chlorine issues. Very quickly information became available from Devra Lee Davis, Carlos Sonnenschein, Anna Soto and others. Then the information just kept coming. The advantage of not being a scientist means that you don’t have to feel constrained and have irrefutable proof. You can appeal to peoples’ intellect and emotion to respond. She went to the Greenpeace-Women’s Environment and Development (WEDO) meetings in Austin, Texas in 1993 - a new network of women was coming together in the U.S., they were organizing all over the country...now there’s been a lot of activity since the Albuquerque and Boston conferences and tribunals. People kept in touch and that led to the Great Lakes Health Effects Program (GLHEP) sponsored Women, Environments, Education and Development Foundation (WEED)/Women’s Network on Health and the Environment (WNH&E) initial meeting in Toronto in the spring of 1994 (organized largely by a woman with the allergy association) out of which WNH&E has been evolving. It seemed important to keep the thing going...to get hands-on activity quickly. We all go to meetings and want to know what to do next. Liz became a founder of WNH&E and editor of *Connections*. She said she always makes three points: prevention, prevention, prevention and the fourth is action for prevention (Liz, April 22 and June 22, 1995).

**Hema Abeygunawardena** is a Buddhist from Sri Lanka and a breast cancer survivor. She never took birth control pills or any drugs. Health for her was a way of life, eating rice, curry and vegetables. There is a high literacy rate in her country. No one can rob you of your education. Lifelong skills and education were always important. As a Buddhist she believes in rebirth and the importance of
improving your knowledge. Now, since her diagnosis, she feels she has a mission. As a healing process, she speaks out. When she had her chemo she lost all her hair and she thought she lost everything. It took her two years to talk about it. Now she is helping and promoting a culturally specific support group with visible minority perspectives, an Ismaili support group encouraging early detection and mammography.

For her the environment is an important issue because in Sri Lanka, where there aren’t many resources, you do not waste or destroy anything. All creation is equal in Buddhism. All forms of life are respected. All live together, the philosophy is live and let live. Every one and every thing has a place in the world:

We use everything, it is coordinated in such a way animal wastes...there is a plan in the way it is done. We always use resources wisely. If it is raining you let the cow in the house because the cow gives you milk. As a child you are told don’t break a branch of the tree, leave it for the tree. The world belongs to all creatures. In Sri Lanka whether poor or rich, everyone has a little piece of land where you grow herbs and spices, there is a mango tree which gives fruit and shade. You use cloth and recycle everything, nothing is thrown out, you can’t afford not to save everything. You washed everything by hand, it is a hot country, things dry fast (April 22, 1995).

Hema left Sri Lanka ten years ago. When she got breast cancer she thought it might be the result of living in the Western world and the larger environment. She had to learn to cook fast and not take time stirring the pot and enjoying family relaxation, cooking and relaxing over meals. "When you cooked curries in Sri Lanka, you stirred." Here she learned to boil it quickly. In the preparation of food, she found cutting vegetables with different colors calmed her down. There was increased stress in North America. She thought that maybe she didn’t have the skills to organize herself. "In Sri Lanka the neighbors would come by and you would visit and slow down. There you didn’t make sharp appointments." They soaked the cloth sanitary pads. It takes double the time. They washed the pads in soap and water and put them in the sun, they would become very clean, they didn’t use chlorine bleached products. She learned about our campaigns from our ‘Stop the Whitewash’ literature.

When she was diagnosed, she wondered why she got it. When she had to take chemo, she knew it was toxic. She had to believe it would help her. Normally, she only uses natural herbal remedies such as coriander for a cold. Now she feels
that although she hasn’t read much environmental literature, she believes the environment is everything, all the living things, the artificially made things, the materialistic things, our attitudes and so on. She doesn’t have a lot of specific information, but she feels we in the group are real resource people. In her culture women respect each other and that is how we learn. We all bring different perspectives. She feels we learn by narratives - our stories - and that learning is powerful. She’s happy to be involved with us and feels she is learning to improve her knowledge on environment/health connections. She comes from another culture where things are very different. She is still struggling to talk about breast cancer. Sometimes she still is shy. We joked about the way, as a speaker, she shared her story with over 900 people at the June, 1995 Willow event and was featured in the Toronto Star. When she told her sister at home that she told 900 women she has only one breast, her sister was surprised she did so and remarked "maybe when you say it in English, it doesn’t sound so bad!" (Hema, June 22, 1995).

Hema (who is also an OISE/UT doctoral student) asked what our role was in this research project, what data are we collecting, what do we need? She felt we needed skills building workshops on environment and health...that we women need to empower ourselves to talk about all these issues because things are changing quickly. We need the information and appropriate ways to introduce it in culturally specific communities. This is always a challenge.

When Mervle Berge was first diagnosed with breast cancer, she went with her daughter, who has a Ph D in audiology, to McMaster (University) to research MED LINE to find out more about it. What she learned was very upsetting. The question for women when they are diagnosed is always "why me?" She read everything she could get her hands on and learned from people. She went on a rapid learning curve devouring environmental information from any and all sources. She believes that networking is how we learn about these issues... She had started her treatments and was volunteering at the Burlington Breast Cancer Centre which was just opening at the time. The thing that you heard first was the genetic connection, her daughter was 25 at the time and that was her first concern. She knew some people who had it, but they survived. She became interested in the environmental issues because she was reading the literature and wanted to know why she got it. She went to a conference in Chicago in 1993 where Devra Lee Davis was a keynote speaker, where they made the environment a vital issue. For
her Devra’s article “An Ounce of Prevention” (1994) said it all as a rationale and overview...it’s different when you focus on women with breast cancer. We’re talking about our lives. We are doing research, taking action, making transformations. We have to stop the polluting corporations. It’s beyond the animals and fish now. Men are getting prostate cancer. The biologist Theo Colborn makes the animals/human link. Meryle said:

An important commonality exists in both sexes, cancers of the reproductive systems and conditions related to hormone disruptors. Compromising the immune system also leads to such conditions as Epstein Barr and fibromyalgia etc. Many women with breast cancer have other health problems as well. Younger men are getting prostate cancer mirroring breast cancer in numbers. It outnumbered lung cancer in occurrence in 1994, not in mortality but in incidence. They focus on death, not incidence. Oncologists should be making connections between breast cancers and prostate cancers, infertility - one out of six couples can’t conceive. There are major effects from environmental toxins (Meryle, June 22, 1995).

Meryle learned that Health Canada produces cancer maps of Canada which reveal elevated rates of cancer and leukemia in particular areas. Niagara is one of those areas close to St. Catharines where she lives...it probably has to do with high levels of pesticides used in the fruit orchards...

In Montreal at the National Forum on Breast Cancer (Nov., 1993) Meryle did a poster session on the environmental connections studied by the International Joint Commission on the Great Lakes (IJC). Although it was the only environmental presence there, she had thought it would be more visible, but it was given a low profile and treated as though it was not critical. She memorized the report of the Israeli study which illustrated that when they stopped the use of DDT, lindane and chlordane, there was no change in the mortality rate of the older women but a 30 per cent drop in that of young women, illustrating the difference when the exposure takes place, when the hormones are developing (Westin and Richter, 1989). She noted many other issues for discussion:

There are challenges to the conventional treatment model as it turns out that most women are using alternatives as well as the chemical treatments. They are going through the toxic treatments and often dying of the disease. There are children to take care of. The disease puts stress on family relationships...if it’s fragile it can be enough to flip it into the dysfunctional. There are many issues here...social, economic, community implications. When you have cancer your life is threatened. I want to be there for my family (Meryle, May 31, 1995).
When Meryle first meets people, she doesn't say she's a breast cancer survivor. When people hear that, it becomes the stereotype of how they think of you and the rest of your education doesn't matter. She first met Rosalie Bertell at our Women for a Just and Healthy Planet Health and the Environment Day at Metro Hall in the Spring of 1993 and the information about health related nuclear issues "blew her mind" as did Rosalie's knowledge of overall health problems and implications for change in a caring alternative way. Meryle learned that North America was blanketed in radioactivity from the atmospheric bomb tests in the 1950s and 1960s. If you were 10 years or under you were at 39 per cent risk - her age - and her daughter is in the second wave according to Rosalie's information. That information is what made her stay working in this area. The Kaiser Permanente (a large private health system in the northwestern U.S.) records indicate that it is not aging that gives you cancer. People have been growing old for many years and not dying of cancer. Except for scientists such as Gofman, Bertell, Gould, the Physicians for Social Responsibility and their like, the medical establishment is not looking at nuclear issues. At that time she had given a presentation to the International Joint Commission (IJC) on breast cancer and the environment where they gave her only five minutes to speak. She has since learned to ask for more time when she has had to travel far to be there.

Meryle remarked that you don't even have to get cancer yourself to become engaged, it can be someone you care about. It's not that everyone gets involved in these issues, but it is happening all the time with her. When she's asked women "what made you call (her):" they'll say, "Well we were out with you or at a meeting and you talked about breast cancer and the environment." She always talks about the environment no matter where she goes, and then later she gets calls from women who have listened and want more information. Although earlier she felt that she wasn't being heard, that's not the case now. However, people often need to deny cancer. There's a survival mechanism in us that says its not going to happen to us. It's like car accidents, perhaps they happen, but "it's not going to happen to me," even though breast cancer has become as prevalent as it is now.

Meryle wants to get the medical establishment to start to pay attention to the environmental relationships and that's why she's involved with the Ontario Provincial Cancer Network. Although it felt like a salmon swimming upstream it was possible to get them to put prevention on the agenda. If it hadn't been for the
(Montreal, 1993) hearings, there wouldn’t be environmental research on the agenda now. Women said, "We survivors want the answers now" (Meryle, April 22 and June 22, 1995).

**Sabina Nagpal** was a major mover on the NAC Environmental Committee which has as a focus women’s health and the environment and environmental justice. At the time she was a policy advisor in the Department of Health of the city of Toronto in an oppressive situation which she wanted to leave. She was also involved in the formation of the West Toronto Green Community. Soon after that, she was instrumental in the founding and development of the Multiracial Network on Environmental Justice (MNEJ), some activities of which are described below. She was always interested in environmental issues. She is from India and was brought up with a philosophy of respect as part of her cultural background. She was exposed to various religious beliefs which appreciated and respected the earth and all life on it. She discovered science and earned her undergraduate degree in geology in terrains, earth and environmental sciences where she learned to connect water to air earth systems, trade winds, conduction and the like. In her work in the department of public health, environment and health, unfortunately each environmental issue is looked at only from a human point of view.

She has developed a growing understanding of the connection between ecosystem health and human health. For example, the IJC studies on heron eggs led to a precursor of human health, providing evidence that the parts of the ecosystem are related - what we eat, breathe and so on affects health. Both she and her mom have benign breast lumps which she learned are related to toxins in the environment. She feels that as a woman it’s integral to other issues: how to make the system more equitable to her as a woman and as a woman of color; and how breast cancer has been treated as an issue reflects how women are marginalized in research and science. For Sabina, the personal has become the political, as her way of learning. She became politicized about economics, politics and systemic inequities. She learned that breast cancer has become an industry providing income and employment in health care but that prevention is non-economic activity that will not generate income, which is a significant barrier. She feels that we need to ensure that the health of children is more important than income, GNP, corporations and individuals. She learned from activist groups that there are many ways for education and alternatives and that GNP doesn’t measure
well-being. Working within the system is too slow - we need to work both ways. Another way is the work of WNH&E which engages in broader health issues. She said that in looking for economic solutions and developing her knowledge of women-centered economics, she’s learned and changed and is attempting to get out of the entrenched conventional economy. In raising issues of equality, sustainability, consumerism, economics and women’s work, she emphasized the importance of shifting to an alternate economy, to value women’s work, to change and value people’s skills, encourage voluntarism, to do things outside the traditional work-force. In the last few years, since she came to work with us on the NAC environment committee, she learned that the way we currently live in North American society is not sustainable. She then began to look at what is sustainable, inclusive and meets our needs.\textsuperscript{11} Her community work now focuses on marginalization, environmental justice and community development (Sabina, July 27, 1995).

Dorothy Goldin Rosenberg: my story was a history of engagement in environment, peace, justice and women’s issues in Voice of Women for Peace, with mentors like Ursula Franklin from whom we learned that everything is connected; through James Bay (the building of hydroelectric dams in northern Quebec in the 1970s), through militarism as economic development, through nuclear bombs, nuclear power and the whole nuclear fuel process as human and ecosystem abuses. Learning holistic approaches and relationship to the land from Aboriginal people (learning that the earth is our mother and you do not harm her), I began to understand the connection with the earth I have always felt through a love that I had for the beauty of nature. As a child, I loved being in the country and at summer camp surrounded by beautiful lakes and rivers. I didn’t know until much later that I was experiencing a spiritual connection such as when, in the spring when the buds came to life, something was happening to me too as though I would also come alive. In my mind, the violent rape of nature such as was done by the ripping up of the earth and rivers in James Bay was akin to the rape of women. I read ecological feminist literature to learn about these theoretical constructs from feminists who were writing on them in the 1970s and 1980s (Francoise D’Aubonne, Carolyn Merchant). I was trained as a physiotherapist and knew about health and biological systems. I had learning experiences while living in both Detroit and Cleveland which led me to link stress and environmental toxins to immune system
breakdown and ill health. I saw pollution spewing from factories and learned of the fire on the Cuyahoga River from the oil and chemicals that were dumped into it.

I've worked with Rosalie Bertell for many years. She works on nuclear and other issues, but always did so in terms of health. Her work with the International Institute of Concern for Public Health has focused on education and information to make links to prevention and healing. She was in many Voice of Women programs and in the NFB film I helped make, Speaking Our Peace: Women Peace and Power. We've done a lot of anti-nuclear safe energy work together (she's in our film, Exposure). Radiation and cancer links from sources throughout the whole nuclear fuel chain have always been recognized in the scientific literature although the nuclear, military and government scientists always deny the severity of the accumulated exposures.

My actual involvement with breast cancer and the environment began when I met Lise Beane in New York at the Eleanor Roosevelt Garden of the UN at the time of the International Women's Day WEDO rally in 1992. We were both wearing peace buttons and became friends at first sight. She was doing work on the money being spent on the military rather than going into breast cancer research. Her sister Mary had breast cancer and she had become involved with the Women's Community Cancer Project in Cambridge, Massachusetts. Lise sent me the first Resist article on breast cancer and the environment by Rita Arditti and Tatiana Schreiber (1992) and it made so many connections. I was at York University at the time and Dian Marino who taught at the Faculty of Environmental Studies was dying of breast cancer. As noted, she had linked her cancer to the solvents she had been exposed to as she cleaned metal plates as a young artist in her early twenties. Then Liz Armstrong went to Texas and brought back a great deal of valuable material. I couldn't go to the first WNH&E meeting but I was on the WEED Board and the NAC Committee with Liz. She literally dragged me in. I have to be grateful to her because in many ways it is important and useful to be dealing with integrative issues especially those that people can respond to in their lives:

I see this as leading cutting edge work. I feel that it is an important moment in history when many pieces are converging. This is critical in mobilizing in so many different sectors where everyone is being affected. When I look at the women I'm working with on the film and how they have learned, it is remarkable. When I look at what we've done since we started
WNH&E and the NAC environment committee, we've put these issues on the map in many locations in Canada. This work has become such a major chunk of my life in that how we are learning about all this has become my doctoral thesis research (Dorothy, May 31, 1995).

In Costa Rica in 1993, on a global education program organized by the International Development Research Council (IDRC), we learned about pesticides infertility, environmental degradation etc. in Costa Rica from the Guilombe Foundation research. Male infertility from pesticide poisoning had been known for years and now the breast cancer frequency is becoming public knowledge there as in other countries in the South where multinational corporations aerial spray pesticides on and around the plantations of bananas, pineapples and other cash crops for export. The toxic runoff and soil erosion cause major health and environmental damage. My experience as a consultant and educator has allowed me to do outreach in the community as well as bring health/environmental work to groups I work with. I probably could have done useful research on how people have learned about health and the environment by asking questions during the process of fundraising for our film (then in production). I thought the same was probably true for Meryle during the preparations for her conference (Pollution Knows No Boundaries: Breast Cancer and the Environment, November, 1995).

What we do is really a creative learning process for us and others in explaining the issues to people who had not thought of them before (Dorothy, June 22, 1995).

The process became an ongoing one of educating ourselves through our stories and information sharing, developing and creating knowledge while building our skills and organizing conferences and other activities together on several occasions. Other issues, relationships and actions from the stories are used as data for the findings of the thesis which follow.
CHAPTER IV.
WHAT WE DID AND WHAT WE LEARNED:
THE THESIS QUESTIONS AND BEYOND

"The Changers and the Changed" (Lather, 1986)
You can't have health without a healthy environment. Environmental issues must become health issues. We should stress that health and environment should always go together as a partnership in our education and policy work (The circle, August 10, 1995).

This chapter consists of what we learned and what we did. It includes:
1) discussion of the research questions of the thesis, 2) issues beyond the questions and 3) some obstacles we encountered.

In transformative learning, people start from their own knowledge base, experiences and the resources they bring into their particular learning and situations. This was our experience in our women’s health circle. In our particular learning process, explicit here, was the necessity to identify and understand structural institutionalized power relationships in order to integrate long term planning, educating and goal setting, while organizing and implementing immediate campaigns. With regard to environmental health, we applied this critique to the biomedical/technological models within the medical, scientific, pharmaceutical cancer establishment (Moss, 1989; Hynes, 1989) as well as to the chemical, agribusiness and nuclear industries.

We took from the fields of feminist transformative learning how it is possible to learn about and become engaged in social/political change towards primary prevention of disease in the broad context described. We examined feminist strategies for action such as women’s experiential learning, new models in science, research and health policy, feminist economics, community audits and other alternatives to conventional programs and policies. Examples emerged which illustrate some useful ways that some women (and some men) are learning to challenge biomedical/technological research models and move toward the promotion of safe alternatives to toxic production and processes. We reflected on what was beneficial in our process, some of our frustrations and limitations and how we might have been more effective. We recognized that as we became more engaged with each other, we were energized to further develop our knowledge base and organizing skills. Friendship, information sharing, networking, support and
encouragement in each one's work became key beneficial aspects of our being together.

As reflected throughout the following chapters, through discussions, stories and experiences we worked collaboratively as we supported and informed each other, developed deeper understandings and discovered ways of becoming more effective in our efforts. We all fed in and took out ideas, information, organizational help, emotional and practical support when needed. We helped each other in developing skills and in the process, our experience, confidence building and empowerment led to such activities as community organizing, speaking at and organizing conferences, workshops, seminars, professional, health promotion, environmental and other organizations’ programs. In the process, new knowledge and activities were generated in ways that responded to what we observed as a growing demand for greater clarity and advocacy on prevention issues. We all grew in the process. Some examples of the developmental process of an idea or project within the circle are illustrated in this chapter. They include a discussion of stress as linked to environmental factors, in the context of preparing for a presentation (IV:112); our learning about working with breast cancer survivors on environmental health concerns (IV:123) and the development of the participatory workshop to research the film resource guide, Taking Action for a Healthy Future (IV:127).

The feminist approaches drew from the ecological feminist analysis and critique of the patriarchal approach to science, medicine and political economy introduced in Chapters I, II and III. While the women did not expressly articulate a feminist philosophy at each meeting, the fundamental conceptual framework in our work related to challenging patriarchal constructs of power described earlier as in current military, industrial, academic, pharmaceutical, biomedical/technological and media complexes. These issues were articulated as social, cultural and political concerns which surround us in most cultures today. As well, race, class, culture and gender issues were raised frequently. One member often did so in terms of her daily work in anti-racism, marginalization and economic inequality, as did another with regard to the sensitivity of women from other cultures in their particular family relationships where men hold the power in the family.1 There were often references by all of us to the marginalization we felt as women. We also noted
historical and current environmental injustice to indigenous peoples and the need to listen to their values relating to the earth and seven generations hence.

In the beginning, we came together as concerned women in our early stages of understanding, analysis and dealing with the issues and players. What was added in the process was support, knowledge, encouragement and experience in our transformative learning process. Hence, this discussion reflects what we did and what we learned - the transformative processes and experiences of our women’s health circle. They were often closely linked.

While our meetings took place from spring 1995 to summer 1996 followed by an evaluation wrap up and thoughts for future needs on September 9, 1997, in some cases I have updated information where it seemed useful as I was writing this in 1997 and 1998. My added comments are in brackets followed by (1997 or 1998). I have edited out repetition and information not relevant to the themes in discussion, but basically the information is presented in the content and spirit of participants’ words.

1) The research questions

The initial dissertation questions and what subsequently arose from our discussions are the substance of our thoughts and actions in the process of knowledge development and learning in the circle. The questions focused on feminist processes, transformations, alternatives to biomedical technological models, the contribution to other social, political and cultural movements and finally how such learning can contribute more effectively to those changes in the future. By necessity, they examined some constraints and impediments such as ignorance, power relationships and politics of governments, corporations, the cancer establishment, cultural barriers and the not unrelated lack of funding for groups like ours who challenge them. The section, "Beyond the Questions" includes a) learning and praxis for prevention with women living with breast cancer b) the community research process leading to the production of the film resource guide, Taking Action for a Healthy Future and c) the support and advocacy work on the Recommendations of Ontario Task Force on the Primary Prevention of Cancer.
The research questions asked

1. What are some feminist ways of working to promote environment, health and primary prevention issues?

2. How are feminist alternatives resisting and challenging biomedical technological paradigms and the cancer establishment?

3. How are feminist alternatives contributing to other social, cultural and political movements addressing these health and planetary concerns?

4. How can women’s transformative learning and advocacy contribute more effectively to these changes?

The responses

1. What are some feminist ways of working to promote environment, health and primary prevention issues?

   If you want people to listen, find a human health problem (Liz Armstrong).

   Most learning takes place when people are personally motivated, when it empowers the individual to have more control, when they can participate in change. It is least effective when it is passive (Sabina, July 27, 1995).

   As Sabina’s quote implies, women’s advocacy and empowerment for action to challenge paradigms of power begins with where you are in your own experience to develop the insight and motivation to become actively engaged. It means being informed on various issues (and/or knowing how and where to get that information) and helping other people to develop skills to learn, disseminate and use it as well. In our own experience, confidence building and empowerment led to many ideas, their development and in the process, our learning.

Some examples of activities promoting prevention and supporting each other

In the circle, we found that some of the most effective ways and means of educating ourselves and others included personal narratives, telling stories, sharing experiences, developing our skills, producing materials, networking information (such as readings, films, overheads, slides, media, researching resources in preparation for writing, speaking, organizing, planning conferences, workshops, meetings). We spoke to policy makers, made deputations, wrote letters, worked with educational institutions, multicultural communities, with labour and the Toronto City Council. We drew on women’s ways of knowing in tapping into
our motivations, hearts and minds, concerns for our children and grandchildren; concerns about health and the social impacts of illness on whole families. We learned about linking different oppressions, of the needs and values of cultural communities and about new issues, such as stress, benign breast cysts and metals in pots (Sabina, Meryle, Hema, Liz, Dorothy, Sept. 9, 1997).

We used a wide variety of processes because of their potential for drawing out knowledge and analysis in a social or collective way. They included community meetings, contributing ideas for the video under way, a community concert, art (a T shirt and banner), creating Connections, the newsletter of the Women’s Network on Health and the Environment and other similar activities.

We also challenged the scientific research agenda by meeting with and asking government officials and scientific researchers (such as the Breast Cancer Research Initiative) where the money was going and proposing a focus on primary prevention responsible to women’s needs. In doing so we had to learn to deal with the barriers and challenges of patriarchal structures of power - medical establishments, government ministries, economics and the media. We tried to expose issues around the environmental determinants of health. These included organochlorines, pesticides, Bovine Growth Hormone (BGH), radiation, x-rays, electromagnetic fields (EMFs) as well as safe alternatives to toxic products and processes, consumerism and so on. It required appreciating the economic needs of women doing this work and the need for funds (Sabina, Meryle, Liz, Dorothy, Sept. 9, 1997).

Conferences were seen as useful opportunities for information sharing and organizing. Meryle described how because of women’s advocacy, the First National Forum (Montreal, 1993) resulted in 49 recommendations with No. 21 declaring that the federal government should take the lead on prevention. It was a way to get information out and it led to other initiatives, particularly in women’s organizations. Because of Meryle’s concerns and at her instigation, her group, the Breast Cancer Research and Education Fund held a conference, Pollution Knows No Boundaries: Breast Cancer and the Environment (November, 1995, Niagara Falls, Ont.), which provided an opportunity to bring together scientists and activists to further this work. It was the first international conference on breast cancer and the environment. Hema, Liz and Dorothy were speakers, as were Lise Beane, Rita Arditti, Ross Hume Hall, Rosalie Bertell and Devra Lee Davis. As an
example of feminist organizing, all in the circle were involved in the research, publicity and outreach for it. As the organizers required endorsers for funding purposes, we were all requested to and obtained support from our groups in various ways. (The groups were listed in the program as endorsers.) During the planning and organization of the event, Meryle noted the usefulness of such events to influence change. She found them to be important learning experiences as they open people’s minds to new information for future endeavors. She was making links with other sectors; i.e., people in infertility associations, because one out of six couples can’t conceive. Major effects from environmental toxins were being exposed in which animal and human studies were showing similar effects. The work of Ross Hume Hall, Theo Colborn and the IJC on the impacts of hormone disruptors on health encouraged her to feel that the IJC would focus on human health as well as fish studies because of such similarities. She saw the conference as getting more people on board to address such links. She noted that Connections, the WNH&E newsletter, was getting the conference information to different groups, thus expanding the outreach (Meryle, June 22, 1995).

Indeed, Meryle’s whole group gained in knowledge and experience in the process of the organizing and follow up of the conference, however, holding a successful conference also meant difficulty for a small organization like theirs to respond to all the requests afterwards. Meryle said:

I am now working with students at Brock University who are doing papers on breast cancer and the environment. I’ve had numerous requests from and I am advising students, one of whom was the woman from Botswana who spoke at the Mapping and Mobilizing Conference about breast cancer and environmental issues in her country. Her professor, who was invited to introduce sessions at the conference, is now offering a course on adult education, health and the environment. A young man in high school doing global issues chose this subject for his paper. There are other professors and students from McMaster and Brock (universities) requesting information and resources...this is new. I don’t think they were doing papers on breast cancer and the environment in the past. From the feedback and evaluations, many people learned and took back information from the conference which they are now using in their studies and work. There was a reporter from the St. Catharines newspaper who covered the conference well. So there were both educational and media spinoffs from the conference, but it all takes time and effort to respond to the requests (Meryle, May 22, 1996).

Most of us in the circle also planned and participated in the NAC workshop, November 10, 1995, Women’s Health and Environmental Toxins, attended by about
35 women from different cultural communities, health centres, women's, environmental, breast cancer and other groups. The program focused on strategies for lobbying governments and institutions, advocating for appropriate legislation and its enforcement, assessing allocation of funding, influencing the research agenda, identifying loopholes, how and where to redirect the corporate agenda and ways to work effectively as underfunded advocacy groups. On an international level, following the Kingston World Conference on Breast Cancer (July, 1997), Liz, Meryle and I participated in a tribunal where policy people from all continents were in attendance to hear testimonials and deputations from scientists, health professionals and health activists.

As theorized in greater detail in Chapter II, the process of integrating the relationships in the various disciplines is an ongoing task in our work at all levels. With regard to global efforts, prior to the United Nations Fourth World Conference on Women (Beijing 1995), we helped to create an information sheet for the purpose of integrating relationships among peace, health and environmental concerns within each of these sectors in the Platform for Action (1995), the UN official document produced at it. Not unexpectedly, in each of these sectors in the initial drafts, the issues were treated separately, hence our response. There were some brief references to woman's health in the environmental and peace sections of the Platform, but no references to militarism and peace in the health sector. There were many more of these connections made in NGO programs and statements which came out of the NGO Forum.

We also supported each other in many other ways - with regard to health information and references, in the general encouragement of each others' efforts, in the development of strategies together and in the support of the film's process all along the way. Our final project was a participatory workshop in which various community people came together to help develop the content for the resource guide Taking Action for Prevention: A Community Handbook to accompany the documentary video, Exposure: Environmental Links to Breast Cancer, in production at the time. I was the principal research consultant and associate producer on the film and writer of the guide with much help from the women in our circle. Liz, for example did the final editing. The above were examples from our experience of some feminist ways of working to promote environment, health and
primary prevention issues. Please see "Beyond the Questions" in this chapter for a more detailed description of three developments in our learning and praxis.

**Question 2. How are feminist alternatives resisting and challenging biomedical/technological paradigms and the cancer establishment?**

Meryle has been in the vanguard of those in breast cancer groups in Canada raising primary prevention issues at cancer meetings. As noted, when she did a poster session on the environmental health determinants studied by the International Joint Commission on the Great Lakes (IJC) at the National Forum on Breast Cancer (Montreal, Nov. 1993), hers was the only environmental presence there. She had thought it would be more visible but it was given a low profile and essentially marginalized. She asked the audience, "How can we look at health without the minister of the environment there, even though they (both the ministers of health and environment) may converse with each other. Over 70 per cent of the risk factors are unexplained. We are now asking the right questions but to the wrong people." This was acknowledged by the women at this government conference but would have been absent from the discussion had Meryle not been there to raise it (Meryle, June 22, 1995).

She also gave an example of how self censorship operates within the cancer establishment and her determination to make the concern visible:

They didn't have an environmental speaker on the main program (at the Montreal Forum) but there was a presentation on prevention by an American woman, who when I asked a question about organochlorines, said she didn't know anything about them. So afterward, I made a point of giving her the article by Devra Davis and she said, "Oh yes, I know about organochlorines." I said, "Well you have just done this forum a very large disservice because that question was extremely important and you knew about it and you discarded the research and information that you had."

Meryle said she was sick and exhausted for a week after that conference she worked so hard on it, but it made her realize how the medical community protects itself:

They are just covering their butts when they know it and don't want to say so. They don't want to speak out in front of their peers because it might be challenged or they don't want to appear to be on the 'wrong side' of the debate (Meryle, June 22, 1995).
Also at the Montreal conference (1993), a high profile oncologist was talking about tamoxifen (an endocrine inhibitor widely used in breast cancer treatment) as prevention. Meryle spoke up, talked about ocular acuity, a side effect of tamoxifen and went on to introduce environment/breast cancer questions. "But he didn't want to get onto the environmental issues because he said that tamoxifen is working and preventing recurrence. He cut short the discussion." Meryle has now learned that at such medical conferences, everything has to be written and referenced for credibility and even then they won't believe it...(Meryle, April 9, 1996). She often used the hammer-nail metaphor to describe the way 'these guys think:'

If all you have is a hammer then everything looks like an nail! All they know is drugs and screening, they don't know about the environment. Prevention for them is usually another drug. Dr. Adrienne Fugh-Berman (1993) talks about the medicalization of prevention where 'they' would like to give tamoxifen as prevention to women who have no symptoms but who are considered at risk. Do they warn women that it can also cause endometrial and liver cancer etc.? Tamoxifen has been classified as a human carcinogen by the IARC (1995) (Meryle, June 22, 1995).

At the conference session on primary prevention, she discovered to her horror that studies were being done on giving drugs to young girls to cause a false pregnancy effect in the hope of preventing breast cancer, what she saw as a male approach. She commented, "do you really think women are going to give this to their daughters - shutting down the menstrual cycle?". And why, she asked, is research so slow on other aspects of women's health when there is need for a blood marker for breast cancer like there is for prostate cancer? Meryle said that she saw her oncologist every three months and there is clearly a need for similar specific research on a non invasive detection of breast cancer women (Meryle, June 22, 1995). One of the women (who later had to leave the group) felt that in general so much was gender relational, the research aspect was symptomatic of the larger picture. She was angry about male scholarship, control and domination. Women have to take the pill, have IUD's, etc. "Guys don't have to 'take' anything to jeopardize their health". Gender, power relationships and change were clearly up front in our minds (April 22, 1995).

Liz and Dorothy gave an example of their own interventions in recent experience in challenging conventional thinking. A high profile cancer researcher who gets millions of dollars for research on fat, but never mentions what's in the fat, was on a panel, "The Risks of Breast Cancer" at the Royal Ontario Museum
(ROM) during the art exhibit 'Survivors in Search of a Voice.' Meryle noted that this was the same doctor in the prevention workshop at the Montreal conference reporting studies underway to discover drugs to create false pregnancies and "shut down a woman's hormones totally"... (Meryle, Aug 10, 1995). CBC radio host Peter Gzowski hosted this panel. None of the speakers mentioned the word 'carcinogen', but only the usual risk factors were repeated with a focus on age. Liz and Dorothy intervened from the floor during the discussion period, with no acknowledgment from the panel. When the official program concluded, many women flocked to us for more information. This revealed to us evidence, not only, of the resistance from the medical establishment, but also the desire and need for prevention information, not usually available to audiences at breast cancer events, most of whom are women living with breast cancer. This was seen as the task of advocacy groups like ours (Liz and Dorothy, Aug 10, 1995).

In addition to most scientists being unwilling to challenge the status quo, we also observed self censorship operating within some breast cancer support groups. Some organizations won't do advocacy work as we have seen - being careful not to be controversial. They get money from the provincial and federal governments and are being careful and keeping to the conventional scientific models (Liz and Meryle, April 9, 1996). At that time, the same was true of the Canadian Breast Cancer Foundation (Ontario) Education group which had neglected primary prevention since their November, 1994 Breast Cancer and the Environment program. There was division and conflict around the event because of the influence of the medical establishment who really run their politics (Liz, July 27, 1995).

Education of policy makers was also on the agenda. For example, we did this by contributing to the ideas and organization of projects one of us was engaged in. In planning for Meryle's conference, with regard to policy change possibilities, Liz suggested that Meryle invite Brenda Elliot, then the provincial Minister of Energy and the Environment and Jim Wilson, then the Minister of Health. A strategy could be to invite politicians to come as participants, not to be speakers, but perhaps to observe and learn. Invitations were issued, some sent representatives (Liz and Meryle, August 10, 1995).

From this and other experiences, we learned that it is important to find good people in the establishment medical community and encourage them to work
from within in whatever ways are best for their particular organization or institution. Some positive examples of learning and change in this regard include:

In 1997, the CBFC invited Sandra Steingraber to be a keynote speaker at their ‘Day of Awareness.’ During the year prior to the event, our circle had worked diligently to give her and her book, *Living Downstream: An Ecologist Looks at Cancer*, a high profile in Canada both when it was launched in Toronto and at the Kingston conference; An additional example of good people within the health community is the contribution of Irv Rootman, the director of the Centre for Health Promotion at the University of Toronto who has become an international ambassador with the film *Exposure: Environmental Links to Breast Cancer* as he goes to conferences around the world trying to promote its use on programs wherever possible. He is also suggesting that health promotion agencies consider using it in their education seminars. Physicians Konia Trouton, president of Physicians for Global Survival (PGS) and Nicole Bruinsma, vice president of Canadian Association of Physicians for the Environment (CAPE) are using the film in medical schools and with the Canadian Association of Women Physicians. The environmental studies program at Innis College is using the film in several courses. Indeed the film has ‘taken off’ locally, nationally and internationally with requests for it coming daily from other institutions and professional associations, an indication of growing interest and concern.

Yet another example of how women are demanding change in conventional biomedical/technological patterns was described by Meryle and Hema:

In our experience, women are getting their oncologists to think about alternate therapies where they weren’t doing so before. Many people are doing alternative medicine, but when you know what you are saying has validity and it is not the accepted norm, you have to have double the strength, double the energy to argue, but people are doing it anyway. Due to women’s advocacy, alternative treatments are becoming more visible and this could also promote thinking along environmental lines. People are doing detoxification, building up their immune systems, pulling out the heavy metals. Oxygen therapy is popular in Europe. The Breast Cancer Info Exchange has put together a book on alternative treatments. This was a demand by the women living with breast cancer to address alternatives, rather than only conventional therapies. So this is pushing the agenda in new directions, challenging old models (Meryle and Hema, May 31, 1996).

Because of this understanding, we began to examine the discourse on health in the context of primary prevention and alternatives together, seeing the use of
complementary and or indigenous (essiac, herbal, etc.) medicine as challenging the status quo. Meryle had information about flaxseed, anti-oxidants and remedies now in use. She said that women think it will increase their chances of not getting the disease, "people are definitely looking at their diets and supplements but by the same token they need to take the next step and ask why has the disease increased and shouldn't we also be looking at the way we grow our food and process it? The rate is one in seven or eight who get breast cancer, then there's a larger rate of people who get benign lumps like Sabina and her Mother." Meryle recalled that Sabina had a slowly growing cyst that could become cancerous in the future. She said, "When you have this, the concern becomes mediated, you are as concerned as someone who has already been diagnosed." Sabina informed us that benign cysts are a large occurrence due to environmental toxins, but if you have them, you'd better become informed and not only rely on the medical establishment (Meryle and Sabina, August 10, 1995). Sabina told us:

We are reactive. Cysts form around something foreign and that occurs because of exposures to carcinogens in the environment and that's the body's immune system fighting, so there's a high incidence of cysts and many women are aware of this...but there is some question if they really know what they are. We're used to being good citizens, to trust the established system, your doctor. If you get cancer, you get diagnosed, you go to the hospital, you get therapy. If that doesn't work then you start thinking about other things and maybe you'll get in touch with or meet someone from a breast cancer group and realize there is more to the picture. There are the standard medical establishment routes offered but, in fact, there is no one norm for activity (Sabina, August 10, 1995).

Here Meryle offered that if Sabina was worried about cancer, Meryle would give her information about Dr. Gaston Naessons in Quebec, the biologist who uses a high powered microscope to detect substances in the blood which are indicators of cancer in the body. He developed an immune system treatment, 714X, which after years of controversy and a victorious court case in Quebec, is now approved of and distributed by Health Canada. These were examples of some feminist alternatives resisting and challenging biomedical/technological paradigms and the cancer establishment. They also reflected the information, education and support frequently provided within the circle.
Question 3. How are feminist alternatives contributing to other social, cultural and political movements addressing these health and planetary concerns?

In our discussions on societal relationships and social movements we discussed social, cultural marginalization and barriers. We often noted that issues of culture and power needed to be addressed more widely in all discussions of environment, health and primary prevention in our work. Sabina felt that as a woman, she sees these as integral to all the other issues. The system must be made more equitable to her as a woman and as a woman of color. How breast cancer has been treated as an issue reflects how women are marginalized in research and science where barriers are age, sex, race, reluctance and fear of change. She feels that there needs to be an interpretation of environmental social justice issues within a holistic approach in all research and education. Strategies for this include education and awareness, in cross sectoral groups, multicultural groups, in NAC and other networks. Making skills widely available is necessary in order to do so. You don't have to be an expert to start with, you can become an expert (Sabina, July 27, 1995).

Not only do issues of domination occur within the medical and economic establishments, but there are also problems with power relationships within our social movements themselves. Sabina had a sad learning experience with the West Toronto Green Community group which was hierarchal. Now she only wants to work with non hierarchal consensus building decision making groups. She felt that white males have to learn to share their privilege. They silence many women. Some women also replicate patriarchal structures and there’s no room for dissent or constructive criticism. She recognized it as a reflection of power relationships in the wider society. She told us in the circle that she learned in her experience with that group that the process for change is as important as the issues themselves, with which we agreed. Sabina went on to be a principal organizer of the NAC workshop, Women’s Health and Environmental Toxins and other events that are designed with power sharing and group process in mind.

There were several other examples of our learning experiences and advocacy on environmental health issues connected with social, cultural and political organizations and communities. Hema’s transformative learning was reflected at
Meryle’s conference. After introducing her cultural identity and her immigrant woman’s perspective on breast cancer, she said that she could not find any research on the environmental connection and immigrant women living through breast cancer and therefore was going to document her own story as a case study. She described her experience with diagnosis, treatment and her return to her life as before. But she still had a constant fear of getting it back and was not sure why she got the disease in the first place. She felt she was not in control and didn’t know what caused it. So she asked, "How could I prevent it or take precautions not to have a recurrence?"

I wanted to do something to find an answer why I got breast cancer. Many nights I lay awake thinking of an answer. Was this the result of something I had done in a previous life? As a Buddhist I was aware that no living being can avoid aging, disease and death. However I was trained in the same philosophy which identifies health as a way of life. I started to question my way of life. What had I done to change the equilibrium? As a graduate student I started investigating the problem. I looked into the steps available on the prevention of breast cancer. I thought I found the answer to my problem when I read about breast self exam (BSE) and mammography. Now I could say "Hema if you did self examination you would have found the lump early, so it is your fault." It was good for me to get an answer and I do it on the last day of every month so I can have a new month free of anxiety...hard for me because this is culturally offensive, true for most immigrant women.

Where is the environmental connection here? Maybe as an immigrant woman it took awhile to understand the politics of breast cancer. It didn't occur to me until about a year ago to identify BSE and mammography as diagnostic screening methods. So what are primary preventative measures of breast cancer? Why do 70 per cent of women diagnosed with breast cancer have no identified risk factors? As an immigrant woman new to the country, where can I get answers to these questions? The research published in peer review journals does not give answers to these valid questions, important to all women. Especially to immigrant women who are living in a host culture. I was trying to find answers for my peace of mind when I met Dorothy Goldin Rosenberg who directed me in the direction to find answers. As I started reading Sharon Batt’s [book] Patient No More: The Politics of Breast Cancer the environmental connection to breast cancer became evident to me (Abeygunawardena, 1995).

Hema’s experience was a good example of transformative learning starting from where she was in her own cultural knowledge and spiritual location to marry her intellectual curiosity and academic experience in her search for possible answers to her questions.
From Hema and Sabina, we learned together about approaching different cultural communities in their own contexts. Collaboration, support and creative learning were illustrated in the following case where we took the opportunity of a discussion of workshop possibilities to learn about a theory of stress related to environmental implications. Hema was planning a presentation on breast cancer in the Tamil community and was thinking about how to frame her remarks. Liz suggested asking them what they think the causes of breast cancer are. At the Montreal Forum a lot of people thought that stress was the cause. Rosalie Bertell suggests that stress can stimulate increased pumping of adrenaline which can stimulate a release of toxins stored in fatty tissues and bone into the bloodstream. Stress can come from many things: an accident; emotional trauma; medical illness; pregnancy. However, when you say stress most people think they are overworked. They don’t make the links between the toxins in their bodies and the releases. Isn’t that part of our work in prevention? To show the relationship of the depleted immune system in its inability to destroy the toxins when they are dumped into the bloodstream during times of stress (Hema, Liz, Meryle, Dorothy August 10, 1995)?

For Hema’s workshop, she said when she does the go around and asks people what they think can make us get breast cancer and be so sick, someone would be bound to say ‘stress’ and it would be an opportunity to inform them of Rosalie’s explanation. And fatty diets too. It’s the same thing. What’s in the fat, solvents, is what needs to be raised. Those conversations are important. Hema said she would raise questions about these issues because she’d say that she didn’t have all the usual risk factors (a history of breast cancer in the family, early onset of menstruation, no children, fatty diet). Now she is questioning what factors could have been her risks. The Tamil community she was going to might not want to hear this so she’d just talk in an indirect way about herself and her own questioning of these issues. She’d say, as usual, that she thought it was her diet or whatever and then she’d say, "When I look at it, I was doing all things correctly and now I am involved with a group that is looking at the environmental connections and I’m really searching for answers and I’m looking at the environment." We all agreed that she was doing important educational work in her outreach to cultural communities (August 10, 1995). The discussion was an example of our collective group process in our way of integrating different layers of
information on health and prevention, this time in the context of a presentation to a specific cultural community.

On other levels, working in coalitions as we do, there was (and still is) an outreach to a wide circle of communities. With them we demonstrated links to and encouraged the integration of health, environment, safe energy, peace, social and economic justice and related issues as power relationships inherent in social transformation. For example, we invited representatives of many diverse organizations to attend our participatory workshop to develop the resource guide for the film. Their input is clearly reflected in the guide, *Taking Action for a Healthy Future*.

Politically, several of us were working to put public pressure on the Ministry of Health to ensure that the organizational process of the new body, Cancer Care Ontario (CCO) would have a strong primary prevention focus. In addition to our efforts to support the *Task Force Report* (see IV:132), we negotiated for and organized information tables at events where there would have been little or no evidence of primary prevention were we not there to engage in dialogue with audiences. These included the Canadian Breast Cancer Foundation, Willow, the Ontario Cancer Treatment and Research Foundation and others to encourage thinking and advocacy on prevention (Liz, Dorothy, Meryle, May 22, 1996).

There were numerous other examples of ongoing developments in our work together and with other organizations. We initiated and/or increased participation with groups such as the Canadian Environmental Law Association (CELA) in their conferences, "Health, the Environment and Labour" 1996 and "A Taste of Canada" (1997) program on the dangers of pesticides and the need for safe food; the Canadian Auto Workers (CAW) union in their campaign, "Environmental Deregulation: A Recipe for Cancer"; the Multiracial Network for Environmental Justice in various programs including community work with youth on global environmental justice issues; with the South Riverdale Community Health Centre on a health and environment justice project; with the Centre of Excellence on Women's Health at York University, the Alliance of Breast Cancer Survivors, closer collaboration with Willow, the Breast Cancer Resource Centre; ongoing activities in collaboration with the Centre for Health Promotion at the University of Toronto such as a panel on the primary prevention of cancer (October, 1996) which several of us helped put together; and the Sandra Steingraber evening which
Liz largely coordinated. Several of us assisted in various organizational and media tasks. As I wrote these words in the fall of 1997, we were all planning and organizing film screenings and workshops with *Exposure: Environmental Links to Breast Cancer*.

Regarding outreach and communication, often our exchanges of information led to useful outcomes. For example, initially the Ontario Breast Cancer Info Exchange Newsletter had practically nothing in it on prevention, but Meryle had the Breast Cancer Research and Education Fund profiled in the first issue with information about the Niagara Falls conference. Subsequently, the rest of us began contacting the editor who is now announcing all our events in their publication.

We learned of and encouraged alternate and community forms of health research in the area. Several of us supported the citizens of Port Hope in their campaign against the plan to build a concrete storage facility in Lake Ontario to store the low level radioactive wastes from the Comeco (formerly Eldorado) Uranium Refinery. This carcinogenic material has been around for decades in the ravines and in dumps in many locations. I attended a community meeting with epidemiologist Rosalie Bertell where Port Hope people were mobilizing towards a health study. Many had been working on this problem for years. Often they were told that everything was under control. They provided an example of an alternative model of investigative health research by planning and organizing that study with Rosalie on the need for and mechanisms by which to do so. It was to be a community health audit done by scientists with the help of ordinary people trained for the purpose (Bertell, 1994). They have secured funding and the study is under way.

In order to approach the more establishment breast cancer community to attempt to pay serious attention to primary prevention, we decided to communicate with among others Willow, the Breast Cancer Resource Centre. Liz and Dorothy met with the president for lunch, gave her literature and talked about health/prevention issues. We knew that there were a number of people in the organization who were concerned about prevention, but it hadn’t yet surfaced as a concern in their programs (July, 1995). They get funding from the cancer establishment and they don’t want to jeopardize that relationship. However, after the Kingston conference, the volunteer training group saw the film together with several board members (1997). As well, a former board member of Willow, who has always been concerned about prevention, became a staff person at the Centre of Excellence of
Women’s Health at York University, has seen the film and facilitated the Centre co-sponsoring the film public preview evening (September 25, 1997). Such activities are encouraging increased awareness and action for prevention within those organizations.

To raise awareness for social and political action on prevention for mainstream cancer conferences, the circle proposed creating a popular adult education game and group process. This was to respond to the need for creative imaginative and fun ways to deal with the lack of or denial of concern for primary prevention at most of these gatherings. Considering the impact of political satire songs used by groups such as the Raging Grannies, we suggested a process to respond to the question, What would you do if you were at a breast cancer conference and there was no mention of environmental links and holistic approaches to health? What could you create to raise this profile in a very public novel way? Create a song, a skit, a poem to grab attention (working in groups of four or five). This was done at Meryle’s conference where several small groups gathered to prepare skits at the lunch break and presented them in the afternoon (see Appendix D.). They were a welcome relief to the serious content of the formal agenda.⁸

Meryle raised the need to develop a stronger national outreach in women’s networks. She used our experience in the circle as an example of valuable networking and communication:

There should be a national (breast cancer) network because we must learn from each other. Look at this group I learn from each of you all the time. If we don’t have a national network, what’s being done here is not known out west and elsewhere (Meryle, April 9, 1996).⁷

This led to a discussion of what more could also be done through national coalitions like the National Action Committee on the Status of Women (NAC) (which comprises several hundred women’s groups) and the Canadian Research Institute for the Advancement of Women (CRIAW). However, we were well aware that environment/health prevention relationships are not yet central to most breast cancer, health, social and economic justice, environmental or women’s groups, although some changes are happening. Liz, Sabina and I were on the NAC environmental committee which holds the same values and principles as the Women’s Network on Health and the Environment. At the 1995 AGM, our
initiatives led to the passing of several resolutions on environmental health and primary prevention. It was suggested that labour union member groups of NAC could be more involved, as new chemicals and toxins are being introduced into workplaces all the time (the grape boycott farm workers are part of the NAC environmental committee.) (Sabina, Dorothy, Liz, June 22, 1995). (In 1997, Sabina and I organized the plenary screening of the film at the NAC AGM where we sold close to 90 copies of the video and guide, after which the Action Now newsletter published an article about it. We are planning a NAC "Training Trainers" workshop. We also had a screening at both a public event as well as at the general meeting of CRIAW in November, 1997 in Fredericton, New Brunswick.)

The above were some highlights from our discussions illustrating processes by which we were contributing to other social, cultural and political movements addressing health and planetary concerns.

**Question 4. How can women's transformative learning and advocacy contribute more effectively to these health and environmental changes?**

Despite limitations, in our discussions there were frequently illustrations of how the environment, health, primary prevention agenda was advancing as part of a growing change process (with some steps forward, some steps backward). Below are suggestions for some ways in which women's transformative learning can contribute to health and environmental change.

a) **Promote a greater focus on anti-racism and multicultural issues in environmental health activities**

   Indeed a common theme in our meetings was the need for individuals and organizations to make stronger efforts to integrate multicultural and environmental justice issues in their work. In her closing remarks at the Niagara Falls conference, Hema issued a striking appeal for inclusion of cultural and immigrant communities when she said:

   I would like to appeal to you to think of the 14 Canadian women who die every day of breast cancer and what we can do in shaping a future agenda for breast cancer. Breast cancer is every woman's disease in Canada, it is time to move beyond identifying the gaps, we know where the gaps are, so it is time to get involved at the grassroots level. In your work please make sure to reach out to immigrant women because they need your help to understand the truth and to win out (Abeygunawardena, 1995).
With regard to activities related to anti-racism, most of us in the circle helped to organize the conference, *Mapping and Mobilizing: Women’s Health and Environmental Justice* (WNH&E) in March, 1996. We in WNH&E have continued this work in close association with the Multiracial Network on Environmental Justice (MNEJ) - they try not to use the term ‘multicultural’ because they feel that the discussion of anti-racism is missing from it. Some of us have attended environmental justice conferences in the U.S. organized by citizen’s coalitions including WEDO and Greenpeace. We included a section in the resource guide, "Human Rights and Environmental Justice" which we emphasize in our "Training Trainers" workshops. (One of the mandates in planning the workshops is outreach to such communities for which we have received a grant (1998)).

b) **Raise ethical concerns on political economy issues and the cancer industry**

We felt that better public education, advocacy and discussions on ethics were needed when addressing political economy concerns. We had to expose drug companies and the drugs for breast cancer they produce and "what the hell else they are doing" - the same companies that make cancer drugs and medicalizing for prevention also make us sick in the first place. Liz said one breast cancer group had a debate about whether to take money from the pharmaceutical/chemical multinational, Rhone Poulenc, as the company was making pesticides which they were dumping into the environment. It was one of the factors that led to a crisis and the firing of their Executive Director. Funding from the corporation was published in the program of the organization’s public event. The corporation may have paid a substantial amount for the American keynote speaker for it which could explain why she insisted there was no known cause for breast cancer. If so the corporation got their money’s worth (Liz). We felt that this discussion was important and that groups must resolve/prevent such conflicts as they can become divisive and promote dissension within the breast cancer community. We needed to learn from that situation (Liz and Dorothy, July 27, 1995).

In fact, that experience, together with a public program (sponsored by DES Action and the York University Centre for Excellence on Women’s Health) on the ethics of taking money from pharmaceutical corporations led to a discussion about ‘clean’ and ‘dirty’ money in the Women’s Network on Health and the Environment (WNH&E). We decided that we would not accept grants or gifts from any company
or its subsidiaries that pollute or produce toxic or harmful materials or are known to have unjust labour and gender practices. That would exclude most multinationals (Sabina).

In the U.S., the "Shopping for a Better World" group (Council on Economic Priorities, New York) investigates what corporations produce. They also promote safe alternatives to toxic production. Greenpeace and other watchdog groups have such lists as well. We helped carry out research for an investigative article in NOW Magazine by Nicki Nolan which listed eight corporations which make both toxic chemicals and pharmaceuticals for cancer treatment. This information is well documented by Ralph Moss (1989), Robert Proctor (1995) and in investigative journals. At the time of this discussion, the circle saw this information as a good lead up to Meryle's conference as there would be U.S. women in attendance. We also discussed the corporate backlash and well known solutions to problems.

Theo Colborn's work is being quashed by the corporate public relations people like Rachel Carson's was. We need to support the good researchers as well as promote safe alternatives to contaminants and toxic processes. Corporate profits and corporate denial of toxic effects need to be emphasized more in our campaigns. As Lise Beane says "Don't tell me, show me!" Greenpeace is good in the way they grab attention. "Show me how something else works." The book Get a Life (Wayne Roberts and Susan Brandom) is full of good examples of both the problems and opportunities. Sabina is actually working to promote real alternatives to consumption in her LETS job (Liz, April 9, 1996).

Sabina emphasized the need to help people understand the systemic economic structures and how they impact on our lives. She said:

Underemployment rates are needed to maintain desperation. A shorter work week is more flexible, 30 hours encourages people to explore other areas. Its great! An article in Worldwatch indicated that people are coming to some understanding on this. But many can also get stuck because of prevailing economic policies. (Sabina, April 9, 1996).

Sabina changed her job and was much happier at LETS but can't save for the future on what she is making as Toronto is an expensive city to live in...but her health is better, she's more relaxed and doesn't have to take medication. It led to questions about how to do this kind of work and get paid for it. We discussed approaching ethical companies such as Robin Kay and The Body Shop.

We proposed that this kind of political economy information be used for Breast Cancer Month (Breast Cancer Industry Awareness Month, as it is referred
to by progressive U.S. groups, to illustrate the corporate connections) (Meryle, Liz, Dorothy, July 27, 1995). We suggested using the video, Toxic Tours (San Francisco, 1997), where breast cancer, environmental, human rights and other social groups take journalists on a tour of polluting corporations pointing out their ecosystem abuses and frequently racist practices.

c) Encourage the spread of knowledge/information via the internet and email

Meryle noted that their group was going on the internet with their own home page which would be widely available to users. It was seen as the way to go in this electronic age. Now WNH&E is doing one as well. We noted that the breast cancer listserve on email has thousands of messages which are not centered on environment and prevention issues (Hema and Dorothy, May 22, 1996). Hema said that was mostly personal communication where people had discussions and arguments with each other. "Perhaps when you are feeling lonely, you get angry...people have special needs and many have their own agenda...but the net is different, you can choose specific topics you are interested in..." What is useful for our work is that Jay Palter, the former toxics campaigner at Greenpeace, who now has his own company, "Net Effects", has set up a web site on the film, Exposure: Environmental Links to Breast Cancer on the internet. We met Musa Mayer (at the Kingston conference) who is a central figure on that breast cancer listserve who also agreed to input information on the film on it. We asked her to notify listserve subscribers of how to plug into the health environment webs. Hema has also written a blurb on the film order form for their listserve as well (1997).

d) Be models for the kind of behaviour we would like our families, friends, colleagues and communities to emulate

Some examples illustrated how what we are doing affects those around us, how we influence our families, friends, communities and institutions. Hema noted that what you do in your household is important, knowing what to do can affect whole families, as it has been with hers...they are much more in tune with environmental concerns now. Meryle agreed saying her family has learned so much from her experience, that safe practices have become the norm in their home.10 I mentioned that my son called from Montreal the other night to tell me that a scientist was on CBC television on endocrine disruptors, the decline of sperm
counts, shorter penises, children’s health and chemicals, he said he thought what she was saying would be interesting for my work. It was biologist and author of Our Stolen Future, Theo Colborn, whom we had all just gone to hear at her book launch! (Meryle, Hema, Dorothy, May 22, 1996)

In a discussion about the quality of drinking water and what people think is ‘safe’ for families, Meryle informed us that most of the distilled water, which many people buy, thinking it is the safest, is produced using plastic tubing which often contains nonyl phenols (hormone disruptors). Hema was not aware of this so Meryle explained the work of Ana Soto and Carlos Sonnenschein regarding their discovery of nonyl phenols in the plastic beakers and how the growth hormones leached into the supposedly inert breast cancer cells. I offered to lend her the video CBC Witness program, “Sex Under Siege” where Ana and Carlos describe their discovery of this phenomenon. Ana explains it in the film Exposure as well (1997).

I also mentioned our experiences with the Greening of OISE/UT and how getting university and other institutional departments to actually model being ‘green’ would go a long way to transforming people’s wasteful patterns. In the case of OISE/UT, this would be consistent with courses taught there in which links are made between health, the environment and consumerism. Such waste is depleting resources, creating polluting processes and harming communities in the South. Our Adult Education department is modeling behaviour by attempting to not use garbage dishes and utensils, which, most of the time helps people to understand why this is necessary.

e) Help to both build our leadership and engage community leaders on prevention issues

We were always concerned with the need to build leadership from below as well as to cultivate already existing community leadership and with policy makers. Liz commented that there is now much more information "out there" and many groups can have access to it which can imply new strategy directions. She feels it is necessary to engage community leaders when getting started, to involve them so they’ll feel part of it and develop a consciousness and responsibility. She gave an illustration of such a transformation in leadership in the U.S. Gordon Durnil, former American head of the IJC, a republican and George Bush appointment, was an example of how an influential conservative learned about environmental health
- the IJC was his education - he learned from scientists and activists during his tenure there. He says some pretty radical things now, he’s written a book, *The Making of a Conservative Environmentalist* (1995) and speaks out about it. He was at the Toronto Board of Health Hearings on PVC chlorine challenging the allegations of the chlorine industry (Liz, April 9, 1996).

Developing our leadership meant recognizing our own deficiencies and we proposed some ways we might become more effective toward that end. We focused on a critique of our overall polite approach and suggestions to remedy the dilemma. Liz felt that we’ve been too polite, too Canadian, that we need to be more aggressive in our campaigns. She reported that the breast cancer/environment movement in the U.S. has developed a very activist environmental and anti-corporate thrust which we need to do more of here in Canada:

Here, _____ (a particular Canadian breast cancer activist) doesn’t say anything about the environment now that she’s getting money from pharmaceutical corporations. Most of the breast cancer survivors are not compelling enough as speakers. We’ve been too Canadian, too nice. We need to be more compelling. Ann Wordsworth of the CBC Health Show went to Long Island women and the WCCP for their program on breast cancer and the environment, where are we? We clearly need to develop more good communicators here in the breast cancer movements (Liz, April 9, 1996).

f) **Become effective fundraisers, strategize and educate while doing so**

Because a major barrier to our work is lack of funds, organizing for action means learning how to use little funds effectively, its lots of work. What community development can mean is also what green communities can mean.11 (Liz and Sabina July 27, 1995).

Learning how and whom to approach to support our work has been a learning experience for us. Different funders require different methods. Some have application forms, require intensive paper work, budgets and feedback. What we have learned is to find out what they need and frame our work in that context. We are attempting to build a funding base for WNH&E with some of the film donors and the Toronto Atmospheric Fund (TAF). We now have received a TAF grant for an energy diet project, a Health Canada grant for several future issues of *Connections*, increased revenues from book and video sales and funding for some workshops (1997). In 1998, we received some funding for "Training Trainers" workshops in rural areas and with different cultural communities.
With regard to the funders themselves, we also saw the need to educate them to make environmental health links. We certainly learned this during the fundraising for the film and guide. Liz gave the example of the Body Shop which doesn’t see health as an environmental issue. She was shocked when she found that out. They’ll only consider environmental issues and women’s issues separately. The Body Shop has supported some good campaigns all over the world, but they are not yet seeing the connections. But you can’t have health without a healthy environment. We agreed that environmental issues must become health issues and that in our education and policy work, we should stress that health and environment sectors should always go together as a partnership (Aug 10, 1995)\textsuperscript{12}.

The above were some directions our learning and advocacy experiences were taking that might contribute to health and environmental changes more effectively.

2) Beyond the questions

Our work together was highlighted by some specific processes and activities which bear describing more fully as they are examples of new learning, knowledge and outcomes. They included a) learning and praxis for prevention with women living with breast cancer, b) the community research process leading to the production of the film resource guide, Taking Action for a Healthy Future and c) the advocacy work on the Recommendations of Ontario Task Force on the Primary Prevention of Cancer. These experiences are described below.

a) Learning and praxis for prevention with women living with breast cancer

At the Niagara Falls conference people got a lot of scientific information and then they asked what they could do. That has to be part of getting more survivors on board...when they see it as a way of preventing recurrence because that’s what alternatives are all about. People are trying things on their own so they don’t become ill again (Meryle).

Look at smoking which they have known about for 30 years and it’s still going on. We can’t wait that long” (Meryle).

In our discussions, we uncovered particular implications for transformative learning and praxis with women living with breast cancer, including those in culturally specific groups. In the circle, often we found the comments of the women with breast cancer to be both moving and profound. They always expressed a much greater sense of urgency than we who have not been diagnosed. Sometimes their
words moved us to rage and/or tears, and always to a new understanding of what they had to deal with. Meryle was ill and had to leave us for treatment for a time. Now, we celebrate her recovery as we honor and value her contribution as a Canadian pioneer in primary prevention (1997 and 1998). Her particular insights include the notion of ‘prevention of recurrence’ as well as other approaches with women with breast cancer. We learned some valuable lessons from Hema and Meryle about connecting and working with survivors.

We observed from the start that while many in our environmental health prevention movements are women living with breast cancer, the majority of breast cancer groups do not yet engage in primary prevention in the context discussed here. There are a number of reasons for this, some of which include the fact that most doctors and scientists discourage this genre of thinking, and that it might jeopardize funding as noted earlier. But another is that the women may be ill and are just trying to survive the disease. As Meryle said, "It’s survival and people are focused on their own situations, so it should be when they are sick and worried. So we can’t really criticize them... they don’t have energy." According to her, the urgency for women with cancer is always present. "We don’t have a lot of time and most types of cancer rates are increasing." Meryle reminded us that:

the term ‘survivor’ means that you have had the disease and you have survived to this point, but your life is always threatened. It can come back at any time even after the five years the cancer society says it is secure. With breast cancer, it is always a part of your life. And that is why the agenda is different. When you talk about environment and prevention you find that women who have the disease don’t want it for their children and we should include our sons because they are at a high risk for prostate cancer. In order to address survivors, we need to remember that trying to stay alive takes over your life, trying not to go into recurrence. If you find out what you can do prevent the disease, then it may give answers to recurrence. So they don’t have to have all the information on the environment. We can give them a bit of it, start with what they may do.

Because of such discussions, we then began to think in new strategic ways about reaching survivors, such as highlighting preventing recurrence as well as primary prevention. Meryle proposed approaching survivors with the practical things they can do that are of interest to them - starting with what they can do in their own lives, health, nutrition, with plants (such as green spider, ivy and philodendron plants that absorb formaldehyde), preventing exposure to heavy metals, using safe alternate cleaning products... short practical things that are
simple..." She also stressed the importance of holistic approaches - alternatives (complementary and indigenous medicine), the environment and immune system building which should all go together - they "fit like a glove." In these ways we can introduce the impacts of toxins when discussing alternative forms of treatment. She now believes that for women living with breast cancer, developing an environmental awareness needs to become an essential part of their lives. The video (Exposure) would be a great tool to open this discussion (Meryle, May 22, 1996). I noted that in the video there are a lot of visuals of pollution that you can see, but then there are also the things we can’t see like radionuclides, pesticides on the food, heavy metals and other contaminants. We need to know as much about what we can’t see as what we can.

Hema always informed us of the particular mindsets, problems and needs of women in the cultural communities she works with. When she spoke of how she learned about breast cancer and wondered why she might have developed it, she asked herself what she might have done to change her equilibrium...when she read about breast self exam (BSE), she thought had she done it, she might have found the lump early...now, she does it on the last day of every month so she can have a new month free of anxiety. But it is hard for her because this is culturally offensive, true for most immigrant women (Hema).

Until we heard her say that, most of us would not have known of that particular difficulty many immigrant (and probably other) women have with BSE. We learned from Hema how frightened and ashamed many of the women are of being diagnosed with the disease in the first place. This adds to the existing anxiety and burden they often carry in their lives on a daily basis under normal conditions as new immigrants (see IV:137).

With regard to supportive and educational needs for women in culturally specific communities, if there was to be learning on environmental health issues, as noted, it would have to be in a context within their lives. In a discussion about suitable resources, Hema mentioned the need for something simple, a leaflet or article with what people can do "because at meetings there is so much waste - plastic and styrofoam products, even at the support group meetings, they don’t want to use certain china and cutlery because they are not sure if they are clean. They think plastic is clean because it is in a bag." As a start, she took them copies of the Greenpeace pamphlet "Living Lightly on the Earth" which some groups
would adapt for their use. She also proposed skills building workshops on environment and health and the suggestion to breast cancer and cultural groups that they have a brainstorming at their own meetings even for five minutes on breast cancer, environment and prevention. This would be appropriate because it wouldn’t be imposing an agenda on them or putting them on the spot...this creative method could open a door to the discussion for future consideration.

Another concern both Meryle and Hema raised was that we in Toronto and other large centres recognize the needs of women living with cancer in rural communities who might not have access to environment/prevention information that exists in larger cities:

We are aware of a lot of information here. Not everyone is in this situation. That is why Connections and the film are so important for broader educational strategies...there is a lot of work to be done both within the organizations we already belong to as well as new outreach in other regions.

(We are now planning film workshops in rural areas and have received some funding to do so (1998).

But, we also learned from them about proceeding cautiously especially with women who are newly diagnosed. New knowledge we acquired was that you can’t mix both support and advocacy, they have to be kept separate, especially in the beginning when people are first diagnosed. Hema noted the difficulty in approaching women with cancer when they are sick and frightened. She said:

Because when people are sick and need support, they often just need someone to be with them. When I go to visit, sometimes I don’t want to open my mouth. There’s so much need to listen and just be with them and hold someone’s hand...

Still another matter of concern to survivors is how language and image are used to purvey different messages to the public. Meryle described how angry she was when she discovered that the breast cancer industry was trying to rename ‘Breast Cancer Month’ ‘Breast Health Month.’ She said:

We should be fighting that (corporate) context tooth and nail, do they ever call it AIDS health month or day - it is breast cancer. It’s disgusting, the devastation of the disease shouldn’t be forgotten. If the health department wants to deal with health, that’s one thing, but this is death. They are forgetting the disease that is killing people. We are dealing with disease and we must not hide it. Their focus is on trying to get well women to go for check ups - you know what that means - breast self exams (BSE), routine mammograms. But how are you going to change anything if you don’t point out what’s happening. Young women are dying and they are leaving small
children. Who knows who will be next? Are you really going to get them to focus on the environment with this approach? Once they start talking of breast health, we’re not going to get anywhere - it softens it (Meryle).

Of course Meryle’s passion was well grounded. Mammograms and BSE are not primary prevention. They do not stop you from getting breast cancer, they are discovery after the fact. Therefore her critique of the choice of language used here is important in illustrating the need to name the reality of the disease. Because Breast Cancer Month is now observed widely, such awareness can lead to implications for learning and praxis in exposing the cloud of misinformation and/or deliberate exclusion of environmental carcinogens and mutagens in calling it breast ‘health’ rather than breast cancer month.

At the same time, the language of critique has given way to a language of possibility with implications for learning, advocacy and change. This has become apparent in some breast cancer groups such as in the case of an Ontario Provincial Network staff person who became involved when we began talking about prevention of recurrence; something that survivors are interested in. After Meryle’s conference, she organized a lesbian breast cancer environment/health conference at McMaster University, she attended our Mapping and Mobilizing Conference, has been working with our Breast Cancer Prevention Coalition (BCPC) on the Task Force Report, became engaged in the Hamilton Bell telephone workers breast cancer cluster political organizing, which led to education and advocacy on relationships to EMFs. The Bell (breast cancer survivors) workers joined the BCPC and have been organizing and doing public speaking in the Hamilton area and at other conferences (1997). She is a good example of how a motivated individual in a conventional breast cancer organization can make a real difference when given good resources and information. There are now others like her in the more conventional organizations as well. The Canadian Breast Cancer Network has developed strong positions on environmental carcinogens and primary prevention which they have published in their national bulletin. They have given the film, Exposure: Environmental Links to Breast Cancer prominent visibility in that publication. Like the AIDS movement, the breast cancer movement is developing a stronger public voice and demanding to be heard. In some cases, as seen above, they are pushing the medical establishment on this prevention agenda. In the
circle, we view working with breast cancer survivors in their organizations as being a necessary and increasingly encouraging activity.

Since 1996 we have helped to develop the Breast Cancer Prevention Coalition (BCPC), largely consisting of breast cancer survivors, who have been doing some effective environmental health outreach work. One of the objectives of the coalition is to develop speaker training on prevention. In our "Training Trainers" workshops, the aim is to develop facilitation and speaking skills and encourage advocacy on primary prevention (1998).


We knew there were limitations to reaching large numbers of people through our groups, conferences, publications and media, but all agreed that the film and guide would be major resources toward this effort. As an illustration of how we could strengthen our work together, Meryle said:

We often talk about reaching more grass roots groups but its easier when there is a solid film and a resource/study guide to refer to - you present the information and inform them of where they can go to learn more about it. They are not going to learn it all in one or two presentations or conferences...there's so much information. It always feels better to have something concrete like the film.

We'd had several discussions about producing educational materials for our work. We wanted to create tools to help us move toward a nonexist, non racist, just and healthy society - an economic democracy where basic needs are met and where decisions are made on an equal basis. We hoped that the resource guide for the film would reflect these concepts and we wanted make sure that it did. Earlier, I had mentioned that in Pat Maguire's book on participatory research, her group organized some actions together, even as they supported each other in their individual projects. Following this, the circle saw working together on the guide to accompany the film as a natural evolution for us because it would be a tool for encouraging public interest in primary prevention. As I had done film resource guides before on peace, environmental, social justice and women's issues while at the National Film Board (NFB) for many years, I was already familiar with the procedures for such publications. The following is a summary of the development of that process.
We proposed organizing a community participatory workshop to which we would invite a number of groups and individuals whom we knew were interested in using the film, for their feedback for the guide. They included groups such as WNH&É, NAC, ABC’s, Willow, unions, environmental, social justice organizations, some doctors, teachers. We needed to create materials that would be useful to such individuals, their organizations and communities. We also felt it should contain resources, information, methods for using the film and the like...While we might not be able to use everyone’s suggestions, at least we’d tape it so that we could take what was most useful.

In our discussion, Hema asked about the film not actually being our group’s project as there were other people involved. She asked, "Who would make decisions about what we did? When a film is made, aren’t these things part of the film?" I explained that there were three of us coordinating the film; that the outreach, mobilizing, the grassroots education, the activism was an important part of the distribution. So our circle was not taking over, we would be complementing the process in researching a booklet to use with the film. The other two people were my film partners and they would know what we are doing. They would, of course, agree with what we eventually produced, as it would explain and promote the ideas in the film. But this post film production, educational outreach stage was my responsibility and task. We were all doing different things - right then they were editing the film - and this education/distribution responsibility was largely mine to organize. I said that I believed that the information should belong to everyone which was why such a participatory workshop could be useful in order to hear from people (Hema and Dorothy, May 22, 1996).

Hema also asked how we would introduce this workshop in the work of our circle as part of our transformative learning experience and participatory research when I was writing it up? I reflected that one way was that we could regard it as a practical important confluence of activity within the work we were now doing. There were many groups still not yet making the connections we were discussing. We would attempt to consolidate our work together to produce the best possible educational materials for that purpose. In a way we'd be seizing a moment in history where this knowledge needs to become known,
The resource guide could be something we would help to create that could come from work we’ve been doing in the last year. We could take what we feel was useful knowledge from Meryle’s conference, the NAC workshop, the multicultural and anti-racist concerns such as those raised in our own discussions and at the Mapping and Mobilizing Conference. It would compliment what Veysoi talks about in the film with regard to immigrant women and other marginalized people who are regularly exposed to toxic cleaning products and workplaces, Eva Johnson, a First Nations woman from Quebec who talks about the damage to the earth, increased illness, of the need to take a holistic approach and respect the earth. We need to make sure that those relationships and concerns are included by way of resources, groups, contacts and so on. It would help other people to learn and be motivated, to know where they can go for information and materials, how to run a workshop, how to use the film and so on. So basically it is a participatory process for developing the guide and would be written up as such, at least this is how I see it now. What are other thoughts? (Dorothy, May 22, 1996)

Hema agreed and also thought that documenting such educational materials was useful because it might change some things in the communities she was involved with, particularly with youth,

as the written word is so powerful in explaining things since people construct their own knowledge in different ways according to their particular cultural understanding. The video and guide could be sent to schools and other places. It is needed because that’s where the next generation are, the children of immigrant people, who are born here who take for granted all these (wasteful) material things because that’s the way it is for them (Hema, May 22, 1996).

We agreed to invite groups and individuals to the workshop who would be potential users of the film. Groups to approach could include the provincial breast cancer network. There are 30 groups in Ontario, we could reach a lot of people quickly via their newsletter. It would also be a good opportunity to introduce prevention issues; health professionals, environmental, health, women’s, educational, labor, media, multicultural and other organizations were other important groups to do outreach with. The Canadian Environmental Network has member groups right across the country. We could contact them for distribution through the national and provincial networks. We thought that the guide should contain resources, both print and audiovisual materials, perhaps some good short explanations with a general overview of the issues, the names, addresses, phone/fax numbers, email and website information of relevant categories of groups such as those mentioned organizations. It should also describe group process
models and suggestions for using the video with their own groups in conferences, community workshops, programs in educational institutions, with the media and others. As well it should refer to practical hands on environmental/health educational materials such as those produced by the Women’s Network on Health and the Environment and other groups...and whatever else people would come up with (Hema, Liz, Sabina, Meryle, Dorothy, May 22, 1996).14

Sabina asked how such study guides were organized and I passed around examples of ones for The New Alchemists, If You Love this Planet: Dr Helen Caldicott on Nuclear War, Mile Zero and fact sheets on group process and how to use films. I mentioned that I had applied for separate funding for the guide and distribution program from the Canada Trust Friends of the Environment Fund.15

Sabina wanted to look through the various study guides in order to have a sense of what the work, time line, organizing, funding and so on would entail and what we need from the different participants. We’d have to figure out details and plan for the session. As for the time line, we hoped the film would be finished by the end of summer or the fall, therefore this session should take place before people go away in the summer. I didn’t think it had to be complicated because there was so much knowledge out there and good groups that we already knew of and had already worked with.

In discussing the workshop, we also talked of distribution and outreach with the film and guide, Meryle thought we should indicate potential categories. It should definitely include formal and non formal educational settings - universities, health units, international groups and the like. She hoped that teachers would have workshops. Hema informed us that there are already activities on breast cancer going on in schools in grade 7 and 8. I mentioned that in the video there are a lot of visuals of pollution in the film that young people would be able to see, but then there are also the things we can’t see like radionuclides, pesticides on the food, heavy metals etc. We noted that there were a number of environmental films for young people and that there were NFB and other catalogues we should list in the guide. Eleanor Dudar, at the Toronto Board of Education was engaged in environmental education with parents and teachers, Laura Jones was a school trustee interested in environment and health. We should invite them to participate. We could encourage students to think of this as a study area for careers in the future (Hema, Meryle, Dorothy, May 22, 1996).
Hema reminded us to be sure to include multicultural communities in the workshop. She said that many immigrants and people in cultural communities mostly go to community health centres such as in North York and other locations. We mentioned inviting Nita Chaudhuri of the South Riverdale Community Health Centre, who has worked with us on several projects. She was at our Mapping and Mobilizing Conference illustrating popular theatre participatory techniques on air quality and health. There were others.

Hema suggested that we lay out the objectives so as to plan what we had to do. We discussed an agenda and group process for the consultation. We would begin with a ‘go around’, an explanation of the purpose which was to obtain recommendations for the guide, show the roughcut of the film or part of it, talk about the learning process. We’d break into groups. The workshop would be with people who are already thinking about these things, who have some knowledge, who would be thinking about what is needed. We agreed that this session would not be for people just coming to these ideas for the first time. Since it would be an evening meeting we wouldn’t have all that much time to go into long explanations of all the issues from the beginning. We needed to draft a letter of invitation to the participants to explain the purpose of the guide, why we were doing it, why it should appeal to them. The objectives of the workshop would be to help create a guide that would meet the needs of users in many constituencies. I agreed to draft the letter and run it by the group.

We discussed workshop possibilities. We could do it at OISE with 35-40 participants. There were suggestions of organizations to invite. What about men? We said yes. We wondered about timing. The beginning and middle of June are too busy, so end of June would probably be best before people go away. Meryle said there were only a few in her group who might come as it’s always a question of money (it costs $20-30 in gas from St. Catharines). Meryle wasn’t sure of her own agenda because she might have her teeth done (mercury fillings removed), she needed time for her health. We chose Tuesday, June 25th at 7 PM at OISE/UT for the workshop. We’d be in touch by phone and fax to review the letter of invitation, plan the session and invite the participants. So I booked the room, we organized the program and checked back with each other to confirm our plans.

The evening went well. About 40 people from a wide range of groups attended. Following the video we had a short plenary period for comments and title
suggestions. We then broke into discussion groups using our prepared guidelines for recommendations of topics to be included in the guide. Liz, Hema, Sabina and Dorothy facilitated. (Meryle could not attend as she was in Tijuana, Mexico for her treatments.) Discussions were lively with suggestions forthcoming. Many of the suggestions were then incorporated into the resource guide which I further researched and wrote during the summer, following which I gave a draft to each member of the circle for comments. Then in a mad rush to meet deadlines in which Liz worked on the editing, the guide was finished before the Kingston conference (July, 1997).

c) Praxis for policy change: Support and advocacy work on The Recommendations of the Ontario Task Force Report on the Primary Prevention of Cancer

If you wait for absolute cause and effect when it comes to the environment, it’ll be endless. Hundreds of thousands of people are affected. We can’t afford to study each individual chemical to prove its harm. Look at smoking which they have known about for 30 years and its still going on... (Meryle Berge).

A document central to our analysis, educational, advocacy work was the Recommendations of the Ontario Task Force Report on the Primary Prevention of Cancer (1995), more fully described in Chapters I:8 and II:49. It will henceforth be referred to as the Task Force Report or the Report. The document’s overview and sections on environmental carcinogens generally reflected our thinking, directions and actions. When first released, it was widely available, free of charge and we distributed it at all our public speaking events, tables and film screenings. (I had a boxload of the French version of it sent to colleagues in Montreal.) Unfortunately, it began to meet with resistance when the Ontario government changed hands from the NDP to the Conservatives in June, 1995. Although it was an independent study, this was not surprising since it had been commissioned by the then NDP Minister of Health, Ruth Grier. However we recognized its usefulness as an important educational tool and were determined to not let it be ignored. Thus began our ongoing work in its use which continues today. Below are some of the problems as well as ways we supported and worked with the Report.

First, institutional barriers: once the Conservatives came into power, we found that a major barrier to the implementation of the Report was that of the institutional professional and bureaucratic power elites, who, although it had been
their mandate to do so, would no longer work on the recommended initiatives. We learned that the responsibility for this work was in the hands of the Medical Officer of Health of the province who told me that he wouldn't do anything about implementation until he received his orders from the new government. The same was true for an epidemiologist at the Ministry of Health who said that it would be up to the public to put pressure on the government to follow up on the report (Dorothy, July 27, 1996). These bureaucrats were members of the original Task Force Group, but changed their direction when the government changed hands. (With the Conservatives under Mike Harris, the political climate was quite different from that of the NDP when Ruth Grier was the Minister of Health.)

It was clear to us that supporting the Task Force Report was a campaign that needed public pressure, but there were so many other issues on peoples' political agendas and most had not yet made many of the links between the issues in the report and other concerns such as the financial costs of ignoring prevention. We organized an advocacy campaign for its implementation which was commenced at the Mapping and Mobilizing: Women's Health and Environmental Justice Conference, March, 1995 (Liz, Meryle and Dorothy, June 22, 1995). (It continues today in different ways: one is in the form of a campaign for the reprinting of the report in 1997 - the government said that they do not reprint documents after two years - an argument we contested saying that there was nothing comparable in the Ministry to replace it (1997)). Some of our efforts included the following:

Government lobbying: at the Ontario government level, together with another WNH&E activist, some of us contacted scientists and politicians at the "top of the heap", persuading them or their assistants to provide information about what was happening (or not as the case might be) in the Ministries of Health, Energy and Environment and Agriculture. We asked questions of policy advisors, politicians, doctors, scientists and hospital administrators as to what they were doing to implement the environmental carcinogens and occupational health and safety recommendations in the Report. We contacted the members of the Ontario Primary Prevention task force who were environmental supporters to press for its implementation. We learned who was in command of various issues and who we should be calling to lobby to place more of our (environment/health) people on the board of Cancer Care Ontario (CCO), the organization that replaced several government sponsored cancer organizations. Although initiated under the NDP,
CCO was brought into existence by the conservatives and is mainly composed of corporate CEO's and the old guard cancer establishment, who still refuse to address the primary prevention of cancer in the context of the Report. The epidemiologist who headed the Report, said that you can't get money for prevention, in truth and anger at our insistence. (And as Dr. Carlos Sonnenschein says "there are no Nobel Prizes for prevention.")

Promoting economic advantages to prevention: We learned about the political economy and costs to the health care system within the current Ontario cancer system via the Report which states clearly that prevention would save the province money. Dr. Tony Miller, Chair of the study noted in his introduction to it that prevention of cancer would likely be more cost effective than many other approaches because many of the causes of cancer are also causes of other chronic conditions in our society. In recent years, cancer has become an expensive disease where costs reveal that much more is spent on treatment than on health promotion and disease prevention.

Because the tobacco industry has had to acknowledge its responsibility for increased health costs due to lung cancer and other conditions, and pay huge settlements for health care in the U.S., in our circle, we proposed that other producers of toxic materials should have to do the same. We saw this as having important implications for health and economic justice issues and campaigns at a time when cutbacks and reductions in health care, education, social services, welfare and so on are a major concern. We agreed that cancer prevention has to become an economic argument and eventually the economic arguments would have to prevail because cancer is becoming so expensive. It costs billions of dollars per year in Ontario, and as the environmental factors become known things will have to change (Liz, June 22, 1995). We learned that Cancer Care Ontario (CCO), as the province's cancer agency has a two billion dollar budget which includes prevention oncology in its mandate, but as yet pays little attention to prevention other than tobacco and sunlight. But even then, regarding the latter, it focuses on covering up and using sun screen protection rather than on what is causing ozone depletion and dangerous rays in the first place. However, it should be mentioned here that the Board of Cancer Care Ontario (CCO) despite entrenchment in the conventional ways of thinking, is showing a few cracks from within that may bear fruit according one of our colleagues who has been working hard to meet with
many of them individually to educate them. This colleague and Ruth Grier, former provincial minister of each environment and health, have been attending board meetings. All board members have copies of the Task Force Report. There are possibilities for autonomous regional programs on prevention (1997).

Political education: Some specific Ontario provincial activities around the Task Force Report came directly out of our efforts, one of which was largely from participation at a public meeting on environmental deregulation where Paul Muldoon of CELA, Marilyn Churley, NDP environmental and women's critic and Dalton McGuinty, then liberal environmental critic (later party leader) were on the panel. Because some of us were there with copies of the Report and made a brief presentation about its content and recommendations, both the speakers and the audience learned of its existence and became interested in supporting it. This later led to a resolution proposed by Marilyn Churley in the Ontario legislature in 1996 on implementation. This resolution was passed by the majority of MPPs in 1996 but not much occurred over the next two years, and the various ministers of health have not responded to Marilyn's request for a meeting to talk about it. But at least all the MPPs had to hear the debate and learn of the existence of the document.

Working with health professionals: The Task Force Report has been useful in education with mainstream health professionals. In a presentation at Women's College Hospital, I met physicians, including a young Métis physician who is interested in aboriginal women's health and the prevention of environmentally linked conditions, and a social worker who works with breast cancer patients at Sunnybrook Hospital. None of these health professionals was even aware of the Task Force Report, its recommendations, information available on prevention and other contents in it, but will now integrate these issues in their future educational work (Dorothy, April 9, 1996). Other members of the circle had similar experiences in efforts to publicize the Report in medical settings.

Clearly this is an area that needs a great deal of emphasis. Our experience taught us that most doctors are elitist and need to hear mainly from other doctors on these issues. The section "Health Promotion and Advocacy" in the guide lists literature by physicians and medical organizations that advocate many of the principles of the Task Force Report. Although these groups are not in the mainstream of medicine, nonetheless, they are doing valuable work "from below."
Addressing synergistic impacts: A particular feature of the Report we deemed important, was the impact of synergistic exposures to various carcinogens including radiation. In the spring of 1996, we had concerns about a media focus on the testing and reporting of the impacts of individual toxic pollutants. Liz urged that we work to publicize the Report with groups such as the cancer prevention interest group at University of Toronto (Centre of Health Promotion) to educate people around these interrelated issues. Liz called attention to Rosalie Bertell's Health 2000 speech at the Mapping and Mobilizing Conference where she talked about citizens' environmental health research studies, community audits and "report cards" on radiation and interrelated impacts in their communities with caring knowledgeable scientists. Rosalie raised crucial questions but Liz asked who would use the information? Would it have credibility in the scientific community? Rosalie's information needed to be married to the wildlife studies on the Great Lakes that Theo Colborn and her scientific group were engaged in. Liz noted that Helen Jacobson, one of the scientists on the study who had died of breast cancer, had discovered weight of evidence in the scientific findings. It's not just one thing, but synergistic impacts (Liz, April 9, 1996)). Later that year, the Tulane University study on synergistic effects of chemicals was published (see Arnold et al., 1996). We continue to promote the Task Force Report public policy recommendations addressing such synergistic relationships at every opportunity.

We have learned that it takes special skills, time, patience, resources and money to do effective lobbying in those circles. Most of us found that it was easier to work at the grass roots because we are more comfortable with activists and community people. Not all activists have the "stomach" to do the lobbying work whether it be governmental or other levels of policy making. But we know it must be done and we do our best to encourage it (Dorothy, April 9, 1996).

3) Obstacles to our work

We identified a number of constraints and limitations which need to be understood and overcome in order to improve our effectiveness in promoting primary prevention. Many of these influences are illustrated in the literature review and in our discussions throughout the dissertation.

Such constraints included our lack of financial resources to enable us to achieve more than we did in dealing with the problems of influence, ignorance,
power relationships and politics of governments, corporations and the cancer establishment. As well the segregation of the many health, social, cultural, medical, scientific and political sectors informed us of the need to seek out and involve a wider range of people, institutions and organizations with regard to environmental health concerns. Social, cultural and gender marginalization were also described barriers in the patriarchal power constructs which often limited environmental health discourse in our work. Below are some additional examples of such barriers.

Hema said that the barriers are wide and high for women especially in specific cultural communities. Newcomers to Canada have a hard enough time adjusting culturally in any case and breast cancer is not a subject that is easily talked about. She'd like to create culturally specific community skits to help women understand the issues in practical ways such as what products to use and not to use. At Meryle's conference, she touched the hearts of everyone in the audience, when she shared the hardships of immigrant women living with breast cancer and called for advocacy:

It is difficult to gain entry to culturally specific communities to discuss these things. I know a woman who is from a culturally specific community who was going through immense hardship during her chemotherapy sessions because her husband was smoking in their one room apartment. The sad part is that she worked until she got sick, but her husband could not find a job. Now her welfare cheque comes in her husband's name and he spends part of the money on smoking. She has no energy to stop him, her main concern is to get better, she says she doesn't need disharmony at this crucial time. How can we help these women who need support? Another woman I know living through breast cancer works in a dry cleaning business. It's no secret that exposure to perchlorehylene PCE (perc) is widely prevalent in settings in which organic solvents are used in particular in the dry cleaning industry. She is always tired at the end of the day. How can she escape the health hazard to take care of herself. In Canada, Green Cleaning, a solvent free, water based option to dry cleaning is gaining ground. But if we the consumers of this industry are not ready to speak out and ask for Green cleaning there is not going to be any change (Abeygunawardena, 1995).

Meryle also made links between women's health and other forms of oppression to social power relationships when she started her treatments and was volunteering at the Burlington Breast Cancer Centre (which was just opening at the time) She said:
I had worked at the women's distress centre, and saw that cancer is also a crisis situation. Women don't only have breast cancer they have other problems in their lives. I came to see breast cancer as another form of violence against women when thinking of the limited resources for breast cancer. I had to research and read everything I could get my hands on about the environment and learn from people myself (April 22, 1995).

We noted that finances were a constant concern with regard to women's work generally and particularly in primary prevention. There was an overall consensus in our circle that women must get paid to do this work. There are endless programs and projects that have been proposed and flagged for the future or dismissed for lack of resources. One of the initiators of the Breast Cancer Research and Education Fund group had to leave because she was burned out due to a lack of support. As noted above, the Task Force Report said that prevention would save the province money (Liz and Meryle, June 22, 1995).

We recognized that more people are starting to make environmental health links but that we needed funds to support Connections, the WNH&E newsletter, a necessary tool for communication and outreach; workshops, networking, lobbying and other activities, which require full time staff and resources. We cited examples of evidence of a growth of general awareness of relationships of health in recent years. More people have become knowledgeable about these concerns because of increased publicity campaigns such as in the case of DES and Bovine Growth Hormone (BGH) risk factors.22 However adherence to the biomedical/technological model and marginalization of environmental links to health by the majority of decision makers help to explain why money is not available for our work. As Liz noted, there is lots of money for being raised breast cancer right now, for treatment, cures and support. Groups like Willow and the Canadian Breast Cancer Foundation raise millions of dollars as breast cancer has become a big business. What we are saying is challenging the cancer establishment (Liz, June 22, 1995).

**Academic privilege** Another problem raised was that even when money is available for women's research, academic elitism and privilege exist. Meryle noted that if you are not in an academic institution, you are ineligible for much of the funding. She learned the importance of valuing women's work as a result of working on the (Niagara Falls, November, 1995) conference. She said she can't go on all the committees she is asked to be on as the token person with breast cancer
because they require research and preparation. It is one thing to have a body at the table, but it is another to have someone who is on the front line of advocacy. What she is reading now is different from what she would have read when she was first researching environmental health issues in 1992. It has expanded enormously and requires constant keeping up. She doesn't have a lot of energy because her immune system is compromised and she gets tired, often a major problem with breast cancer survivors. She was asked to participate in the survey in a Wilfred Laurier University Social Sciences and Humanities Research Council (SSHRC) funded study on the rise of the breast cancer movement in Canada. Meryle has trouble getting money for her organization's research and educational work while she observes that academics can get money more easily while so many other women are struggling. She sees where breast cancer has created a whole new industry. She said:

Working with a project requires that you stay on top of the literature. My view is that the breast cancer movement is lacking in the environmental area...there are great studies now and much more information - if they gave our group (the Breast Cancer Research and Education Fund) even half the money that goes into these university grants, we would be able to do so much more. I have to spend my own money and I am not in the position to do that. As a middle class white woman, the assumption is that all of us are doing well, but that is not the case as there is downsizing and many people are in serious financial trouble. I would like to get financial support to form closer partnerships with those who link the health of wildlife to the health of humans, such as the IJC is doing. I can see how I have learned so much in the last few years and how I have begun to read new information about pesticides, for example, where the health implications are clear. People in academic research areas may be producing good information, but for many women our work does not support our need as it should. I requested and got some financial compensation for my participation in the SSHRC study (Meryle, April 9, 1996).23

Intimidation and overcoming it As a breast cancer survivor, Meryle has developed her knowledge and confidence to be able to speak out about environmental health issues. But we were aware of how personal intimidation has been the experience of many women who raise issues that challenge conventional medical thinking. Often women who speak out on these relationships at medical conferences and meetings have been subjected to patriarchal put downs by doctors and scientists. Within patriarchal models, personal experience, intuition and stories have little or no validity and are considered "anecdotal" hence non scientific. Meryle noted the difficulty of working with mainstream scientists and doctors:
It can sometimes be an advantage not being a scientist, but on a committee scientists will shoot you down for bringing up anything that hasn’t been proven to be ‘statistically significant’...; i.e., environmental connections, but one thing they can’t put down are the overall statistics of cancer...

But we need to be persistent and remind them of the precautionary principle:

We need to go back to the cardinal rule of prevention... the ‘Precautionary Principle’ and ‘Weight of Evidence’ in the IJC... if you wait for absolute cause and effect when it comes to the environment, it’ll be endless. Hundreds of thousands of people are affected. We can’t afford to study each individual chemical to prove its harm. Look at smoking which they have known about for 30 years and its still going on. We can’t wait that long... With the medical establishment you can feel like a salmon swimming upstream. (jokes..) but they get there eventually flipping and flopping (Meryle, June 22, 1995).

While we recognized and articulated these barriers, as noted, we usually proposed challenges to them which we attempted to address directly and/or indirectly. In each of these above mentioned categories as well as in our advocacy work with the Task Force Report, we always wished we could do more and do it better. However, much groundbreaking has happened and many stages are now set for further development. The next chapter examines our reflections and other future directions.
CHAPTER V

REFLECTIONS AND FUTURE DIRECTIONS

Cancer is caused by carcinogens. Astonishingly, you can read entire tracts about cancer published by the American Cancer Society and the word "carcinogen" never comes up. These seemingly authoritative agencies have framed the cause of the disease as a problem of behavior rather than exposure to disease causing agents (Steingraber, 1994).¹

After having reviewed the highlights of the transcripts, our participatory research circle met again on September 9, 1997 to reflect on implications of the findings and to discuss thoughts for future research and praxis.²

First an update. After we ceased to meet regularly in the circle, our work continued together in various ways. We all contributed to the community workshop process of organizing and developing the education resource guide for the film, Exposure. Meryle was out of commission for about a year but came back on board and was active at the World Conference on Breast Cancer in Kingston (July, 1997). She resumed many of her previous efforts and is doing major distribution with the film; Liz, Meryle and I worked on the Kingston conference environmental day committee with Liz doing most of the Canadian based coordination for it. All but Sabina participated in the Kingston conference. Hema was raising environmental health issues with and showing the film to breast cancer groups in cultural communities. Sabina and I organized a screening and panel discussion with the film in a plenary session at the NAC AGM in Ottawa in September of 1997. The screening produced a surge of interest from many of the NAC member groups who came to our environmental committee meeting the next day to know more about how to integrate environmental health links in their work.³ Sabina, Hema and I facilitated a screening and discussion of the film at the Ontario Coalition of Agencies Serving Immigrants (OCASI) conference (1998). In addition to numerous screenings, by 1998, we had held seven day long "Training Trainers" workshops with the film, each of which was well received. All the members of the circle participated in at least one of the workshops. We learned that for the film to be effectively used, a good discussion must follow so that people feel that they have a means of connecting to the issues discussed. "Trainers" workshops are even more useful because in them, participants can figure out how to incorporate the issues into work they are already doing in their lives, in their homes, workplaces,
communities and policy venues. The sessions use feminist, popular, adult education methods to help participants meet their own needs and goals. This was but a sample of our ongoing activities.

**Reflections on our learning**

In the circle, our personal learning and changes reflected the complexity of our particular experiences. In addition to our many shared activities, the nature of each woman's involvement was also unique to her own circumstances - her cultural community, the networks or institutions she was in, the readings and conferences she was exposed to, her health and so on. As our time and actions together progressed, we witnessed a number of encouraging changes both in ourselves (such as our knowledge and skills development) and in other individuals, some breast cancer organizations, some environmental, labor, anti-racist, women's, some scientists, medical and health organizations and to some extent the media. These positive perceptions reflected a 'conscientization' as part of a convergence of our many activities. The resistance by the scientific and medical establishment has been noted. Also, the political and policy arenas were discouraging, given the corporate right wing political climate which was reflected in reduced health and environmental policy at both provincial and federal levels. The same is true internationally with the North American Free Trade Agreement (NAFTA), the World Trade Organization (WTO) and the threat of the Multilateral Agreement on Investment (MAI). Therefore, we promoted knowledge and advocacy at the personal, community and political levels in our efforts to change the status quo.

Two years after we began meeting in our circle, despite the persistent roadblocks and a concerted backlash against "chemophobia", our reflections on indicators of successful transformative learning uncovered evidence of new phenomena, knowledge creation, increased learning and skills development, engagement and support, increased confidence in some scientists and activists, increased stability and legitimacy of our concerns in the public domain with new strategies emerging in social, political, economic, health contexts all of which have implications for learning and advocacy in the future.

As a broad framework for our reflections, we used some indicators of success as described by Budd Hall (1995) (see Chapter III:79), which related to the thesis questions and were suitable for our evaluation of what might constitute
useful feminist praxis in challenging environmental health contexts of our project. Our reflections are organized from the perspectives of new learning and engagement; increased support and confidence; lessons learned and implications for change; work with the film; new phenomena; and future directions.

**Evidence of new learning and engagement**

In our review, we found numerous examples of new learning, phenomena, and knowledge creation with implications for praxis with breast cancer survivors as well as in the larger community (please see Chapter IV). Hema's experience is worth noting as she was the one member of the group who had not previously been engaged in primary prevention issues to the extent that the rest of us were. She now finds it much easier to raise environmental health concerns in general as well as in the cultural communities in which she works:

"...There is a momentum. From the government, from the non profit organizations, there is so much interest now...that's important after a few years, the conferences and the film. It makes my life easier. There is an audience now...they come with the questions so I guess I'm happy that I'm instrumental in this process now. I'm happy that I have come to this point because at one point I was frustrated because nobody was listening and it was hard to cut the rope...now they are more receptive. You don't have to prove its validity (Hema).

Her own experience was an example of transformative learning starting from where she was within her cultural knowledge, spiritual location and intellectual curiosity in her own "conscientization." In her talk at the *Pollution Knows No Boundaries* conference, she attributed this development to her being in the circle (Abeygunawardena, 1994). If in fact greater numbers of women and men in cultural communities can share in her consciousness, experiences and knowledge of environmental health relationships, there could be considerable application of these ideas and practices within families, schools, community centres and the like in health and consumer practices in those communities.

Other positive changes in our efforts together and/or with others were evident in increased learning and engagement at the community level as well as in some high profile and or/larger organizations. Locally, we have strengthened our Women's Network on Health and the Environment and the Breast Cancer Prevention Coalition with new members and increased financial support. We supported and helped solidify the Multiracial Network for Environmental Justice
Meryle reported that community health organizations have been contacting the Breast Cancer Research and Education Fund (BCREF) since the Niagara Falls (November, 1995) conference for information for their educational programs. She reminded us that the Breast Cancer Prevention Coalition was formed in Chatham (Ontario) as a result of that conference after which Liz and Meryle were asked to participate in a meeting there. Also, after the Niagara Falls conference, people asked if it could be an annual event...an indication of their desire to keep the momentum going. Some individuals in high profile groups have become more engaged in primary prevention since our workshop for the film guide, the Kingston conference and screenings of Exposure. Such groups include the Alliance of Breast Cancer Survivors, the Centre of Excellence in Women’s Health at York University, Willow, Breast Cancer Action, Ottawa, the Sierra Club of Canada (the latter two have projects on breast cancer and pesticides) to mention a few. There is more interest in conventional mainstream organizations such as the Ontario Breast Cancer Information Exchange, the Canadian Breast Cancer Foundation and others. The Cancer Information Service (CIS) (the 1-888 number for information on cancer) now provides environmental health information as an example of the doors opening. This can be seen as a reflection of a growing interest and awareness of the need to ask different questions about potential causes of breast and other cancers by individuals and groups, as more analysis, information, resources and activities become known and available. This gradual shift by some has been part of a process in which we in the circle and within our groups have played a role in recent years.

**Increased support and confidence which facilitates transformative learning.**

Both Meryle and Sabina gave examples of increased support and confidence and some means by which they can be improved:

there has been a big change in the supportive nature that we’re providing for one another. It helps us when we go out to speak. Well known scientists like Devra Davis now have more support as well. Now more researchers are speaking out - even with the backlash. There is a broader base of support which supplies energy to keep on moving forward. That’s what like Rosalie and you, Dorothy gave me several years ago. That energy and support was critical because your bones get tired of being jumped on! And there is all that new information and literature (Meryle).
Sabina described how this accumulation of valuable information has had an visible impact in her observation. More people are involved than in the past in cancer and the environment movements. A friend, who is not involved in these issues, heard about the Kingston conference on the news and learned that breast cancer was linked to environmental toxins. Sabina saw this response as becoming a more common phenomenon:

There's a societal change, people feel different. There is more awareness of environmental pollutants and health implications, air pollution, smog, pesticides, toxic dumps, tritium in the drinking water - many issues in different aspects of their lives are coming together to make a statement about environmental health. More scientists are speaking out and not worried about being ridiculed by their colleagues for doing such kind of research. How research is defined and what kinds of environmental projects that are being approved by funders reflects that there is more legitimacy and this is not a fringe theory. There's been a shift even some in the establishment are beginning to understand. People are also becoming aware of other ways of healing such as indigenous knowledge...

She described how, from her perspective, confidence is developed and nurtured:

You see increased confidence in some people. Confidence comes from increased skills levels to do this work or increased confidence in knowledge, in peer support confirmation on environmental issues, support from others on feelings on environmental health issues...from women like in my own experience with having a lump and getting the run around by the medical profession and then getting the kind of support from this group around other information that I can access. Having information about the risk of mammograms is information that I wouldn't have received through the my doctor - that kind of support we can give to other women increases confidence.

Some lessons learned and implications for change

Broadening the discussion One of the ways to be effective in the policy area of primary prevention in Ontario is to influence Cancer Care Ontario (CCO) to focus on the precautionary principle with regard to environmental carcinogens and mutagens. In order to do so, we recognized the importance of integrating the many educational, health, social concerns we discussed as well as the need to include other environmentally linked diseases in addition to breast cancer. In a discussion of strategies for the promotion of resources to the public and major media, such as Steingraber's Living Downstream: An Ecologist Looks at Cancer6, Meryle commented that people read the book and say, "Thank God I don't live 'there', not realizing that now 'there' is everywhere. At the same time she said we must
broaden the discussion and always say, "breast and other cancers." As a strategy we should say that prostate cancer mirrors breast cancer, they are both hormonally mediated and all are affected by radiation. For the general public to become engaged to do so, we felt this integration would help to widen understanding and encourage involvement away from the tendency to individualize disease. Thus, rather than only saying, "Isn't it sad that so and so has cancer," to ask, "Why is it that so many people have cancer and what can be common phenomena or patterns here?" (A common feature is a depleted immune system which cannot resist immune related diseases.) The linking of other conditions to toxic exposures can mean that discussion of environmental health issues will be easier because everyone knows someone who has or has had cancer or some immune system related disease (Meryle). We noted the importance of our ability to help groups to integrate such links in their praxis, to build alliances and move in productive directions with CCO and other policy arenas.

Media We were particularly gratified by some major media coverage at the Kingston World Conference on Breast Cancer (1997). Liz noted that the Kingston conference was a breakthrough in many ways, but particularly as a media success in terms of compelling speakers and good organization. The first two days were devoted to medical information and were more complicated for the media. The sessions were packed with such diverse subjects, they probably saw in the environmental day an opportunity to pick out something new and controversial such as the Globe and Mail's Margaret Wente whose article (July 19, 1997) slammed the environmental health day as "unscientific" and "captured by feminists with an agenda" (with the letters to the editor rebuttals the following week). But for the most part, as a result of our work (Liz, Meryle, Dorothy and Hema) together with many others, there was a major media breakthrough with local, national and international coverage of breast cancer environmental links. The print and broadcast media interviewed scientists and activists, they promoted the film and many of them said that they now understood the importance of primary prevention in their future articles and discussions around cancer (Liz). Although some of the coverage was negative, as in the Globe and Mail, many more such as the CBC, the Toronto Star and many local papers were positive. Michele Landsberg, a breast cancer survivor and Toronto Star columnist wrote:
I was frightened about attending the World Conference on Breast Cancer in Kingston...I dreaded being catapulted back into that state of bone-shaking fear that I first lived through three years ago when I was first diagnosed and treated for breast cancer. Miraculously the opposite happened. The conference was a personal watershed - one that moved me from the personal to the political, because I made a deep and convinced connection between the way we are poisoning our earth and the terrifying doubling and tripling of all kinds of cancers. It's fair to say that in the gathering of 650 scientists, environmentalists, physicians, researchers, anti-cancer activists and breast cancer survivors, a momentum of political anger and determination built through the five days of focused deliberations...9

Her article highlighted many of the environmental health impacts described in earlier chapters. In light of the public relations campaigns of the powerful chemical industries described in Chapter II, more accurate media reporting on environmental carcinogens risk factors is crucial and necessary in challenging conventional mindsets about the lifestyles-only discourse on health promotion and disease prevention.

We agreed that the issues caught fire at the Kingston conference partly because it was a great big event, it was an international mixture of wonderful organization, alchemy and magic...when you name something a world conference and it is marvelously done, you get attention (Liz).

Liz noted that as a result of this high profile conference, seeds that had been planted earlier in people in breast cancer organizations (interested in prevention) had more support for their efforts. They now know the issues and continue to have influence. In many of these ways, Kingston was a good organizing model, however, Meryle recommended that in the future, such conferences be held when university is in session so that students can incorporate these issues in their school work and obtain academic credit (the conference was in July). This could have important implications for students incorporating environmental health relationships in their own transformative learning and hopefully derive inspiration for career directions (Meryle).

International policy implications At the International Tribunal Day following the Kingston World Conference, policy makers and advisors from all continents heard testimonials and deputations from scientists, health professionals and activists. The ensuing Global Plan of Action is being taken through the United Nations via Elizabeth Dowdsowell, a Canadian and head of the United Nations Environment Program (UNEP). The stage had already been set for such
international activity at the United Nations Fourth World Conference on Women (Beijing 1995) where women from Canada, the U.S., Great Britain, Germany, the Netherlands, countries around the Mediterranean and others shared similar concerns (Women in Europe for a Common Future, 1996). The tribunal was part of the local, national and international continuum on cancer and the environment that Meryle, Liz and I have been engaged in for several years. (We all contributed ideas, thematic approaches and names for the International Tribunal Day. Morag Simpson, the toxics campaigner for Greenpeace Canada was its overall coordinator.)

d) **Work with the film.** Since the release of the film, which often shows with standing ovations, there have been articles, reviews and interviews in the media and frequent calls for its use as it generates interest and awareness. Screenings have been held locally, in several provinces and states and internationally. All federal members of parliament and Ontario MPPs have been given the video and guide for their own education and to place in their riding offices for use by their constituents. As noted, we have held several "Training Trainers" workshops using feminist, popular adult education processes and more are planned in the future (1998). In addition to the growing use of the film and resource guide, as people hear about the circle's relationship to the film workshops, they also express interest in learning of our findings in this research project. In fact, as over the last two years I have presented the theoretical and praxis oriented substance of our feminist transformative learning at academic conferences, several people, upon hearing of this thesis topic have asked if I will also create a popular document from my work so that a wider public may have access to it.

e) **New phenomena.** Health impacts of stress and electromagnetic fields (EMFs) were two examples of new information and phenomena that frequently emerged during our discussions which we helped bring to wider public knowledge and advocacy. The notion that stress and environmental factors can play a role in weakening the immune system is significant in that many people think that stress was the cause of their cancer. Rosalie Bertell’s suggestion of stress as promoting an increase in heart rate and adrenaline, stimulating releases into the bloodstream of toxins stored in fatty tissues and bone was new to most in our circle (see Chapter
The wider understanding of these mechanisms could have implications for lifestyle, consumer and policy impacts if large numbers of individuals, organizations and policy makers understood that stored toxins should not be present in our tissues in the first place, and become engaged in preventing their discharge into water, food, land and air.

As well, the links of electromagnetic fields (EMFs) to various cancers was new information to most in the circle. In planning the Kingston conference, we learned more about the topic from an EMF specialist on the planning committee. Prior to that, Liz and I worked in the BCPC with the Hamilton Bell telephone workers in the breast cancer cluster. We were among those who helped to locate information and assist the women in bringing their case to the public domain, when at first their male union did not support them. That group of Bell workers have done their homework, developed confidence in their ability to speak out, have been participating in forums and providing media exposure on the health impacts of EMFs. Such information on workers' occupational health and safety, as well as for those who live, work or attend school near or under power lines or transmitters has become a source of motivation and learning for action for prevention. This, despite the fact that companies, like Bell deny any responsibility and insist there is no proven relationship between the cancer clusters and EMFs. They say that it is just the women's bad luck that they all happened to develop breast cancer while exposed to powerful EMF fields on the job.

We felt that the scientific findings about EMFs need to be highlighted as it is now known that EMFs affect the tamoxifen (an estrogen suppressor) prescribed as treatment for many women with breast cancer. This is new to most people (Meryle). Melatonin production is important as an estrogen suppressor, it inhibits estrogen growth. So if the production of melatonin is inhibited by EMFs it is unavailable for the body to do its work. Cindy Sage (of Sage Associates, California, an EMF consultant and member of the environment day committee) reported at the World Conference on Breast Cancer (Kingston, 1997) that there are approximately 13 studies on the effects of EMFs and how they affect tamoxifen in the body.

Overall in our review and reflections, while we acknowledged that there is still much to be done, we recognized that we learned a great deal from each other in a supportive caring environment. Together we contributed to creating new
knowledge, networks, resources and programs and have seen appreciated measurable educational achievements. Theory and praxis around health concerns are beginning to encourage bridge building between and among more and more organizations, communities, scientists, unions, politicians and the wider public. As illustrated at the First World Conference on Breast Cancer (Kingston, 1997), locally, nationally and internationally, remarkable resources of all kinds have emerged; human, print, film, electronic and others from both scientists and activists (some are both), many of which have begun to address the complexity of the issues in the framework and language of power and domination as enunciated in this thesis (see the listings in Taking Action for a Healthy Future, 1997).

Of course we do not imply that all this movement is the result of efforts of only those of us in our circle or the groups we work in, but we know that each process helps to move the agenda forward incrementally, reflecting a convergence of a multitude of actions, some of which have been described here. In Canada, there have also been some unplanned environmental health disasters such as the plastics fire in Hamilton July, 1997, problems such as reactor safety and increased tritium releases, the forced shutdowns at the Pickering and Bruce nuclear reactors in Ontario, the incinerator health repercussions in Swan Hills Alberta, the public debate on climate change, growing asthma rates and so on (Last et al., 1998) which have increased public perceptions of environmental health links. The damaging ice storms of 1998 in Quebec and Ontario also sounded a wake up call.

2. Future Directions

a) Increased research on women’s health and the environment and wise judgement are required.

Breast cancer is an industry providing income and employment in health care, where prevention as non economic activity will not generate income (Sabina).

More data is not a substitute for good judgement (Steingraber, 1997).11

In Chapter II, we observed that a feminist examination of medical research, reflects masculinist presumptions of power structures (Sherwin, 1992:159) and that today more women are questioning how research topics are chosen, which are neglected, whose interests are served, who controls decisions and to whom
researchers are accountable. Our discussion of opportunities and implications for research on women's health included the following:

We noted that research subjects requiring further attention include synergistic combinations of toxins in our food and in the environment; past fallout from nuclear weapons testing, compromising the immune system; immune system related conditions such as fibromyalgia, chronic fatigue, breast cancer, childhood diseases; alternatives (complementary and indigenous medicine) and immune system building which should all go together. Also, more scientific research and findings about EMFs need to be exposed including the potential effects on the tamoxifen treatments being given to women with breast cancer.

Still another area for research is recommendation Number 21 in Breast Cancer Unanswered Questions (1993) on the need for a meta analysis of all the available research on environmental carcinogens and health. This would inform mainstream cancer societies, scientists and physicians of U.S. and Canadian federal government sponsored research on environmental links to breast cancer, other cancers, occupational and various other diseases. Despite the internet and other forms of communication, there are many health researchers and physicians who do not yet know of the plethora of such research as revealed in publications by Rosalie Bertell (1985, 1994), Devra Lee Davis (1994, 1995), Robert Proctor (1995), Samuel Epstein (1979, 1994) Peter Montague (editor of Rachel's Environment and Health Weekly), Sandra Steingraber (1997), monographs of the International Agency for Research on Cancer (IARC), the World Health Organization cancer research body, and many others who are in the vanguard of this field. There are numerous peer reviewed studies cited in the Task Force Report as well as some key recommendations for priority actions. There is a need to actively continue to publicize such research and policy implications.

As well, public accountability and greater exploration of alternatives are needed. Sabina explained an academic cultural understanding of what is important for most scientists - that is, that genetics is the key area that they'll get research money for. She commented that while there are some positive changes, there is a major problem in that there is little or no venue for public input at the federal (or provincial) government levels where research is set between governments, corporations and universities. Trying to redefine key priorities has to come from the community, but when there is rarely an opportunity to do so, it can be difficult
and frustrating. An indicator of success would be when research scientists and other health professionals begin to learn from women as to their needs. The question of public input is beginning to be addressed by health activists, in some cases to the extent of promoting and or setting up their own different research models and institutes, such as the Silent Spring Institute in the U.S. Parallel to creating new scientific institutions, is community involvement in public health research such as Rosalie Bertell’s work. She helps citizens with environmental health research, community audits and “report cards” on health in their own communities with caring knowledgeable scientists (see Chapter IV:114). Such community based research needs to be encouraged and validated within communities and legitimized among scientists so that their findings can be utilized in prevention policy and remediation (see also Merrifield, 1994).

b) Implications for transformative learning in social, political, economic, health contexts.

The advantage of not being a scientist is that you can appeal to peoples’ intellect and emotions to respond (Liz).

Making skills widely available is necessary - you don’t have to be an expert to start with, you can become an expert (Sabina).

We emphasized numerous educational strategies and actions with which we felt we had contributed to making important inroads, but which clearly need further attention and development. They included (particularly now that we have the film) a greater focus on educators; educational institutions; high schools; community health service organizations; health scientists; medical and nursing schools curriculum; Cancer Care Ontario and other policy makers; cancer groups in general and, in particular, to encourage the breast cancer networks to introduce prevention of possibility of recurrence; labour; a continuation of work with provincial and national groups - links with other health/environmental issues besides cancer, to involve nurses (a large body of women who are affected as a result of their occupational exposures (such as to disinfectants)); health reporters, medical journalists and media in general. We stressed the need for new partnerships with political groups and policy makers, work on economic literacy; encourage people to buy mutual funds in ethical investments for RRSPs rather than the corporate polluters; to transfer their funds to credit unions where possible
to support community initiatives, translation of *Taking Action for a Healthy Future* into other languages.

A need was seen for more: education for community action (meaning whatever community one relates to), promoting egalitarian research models, stopping corporate polluters and pressuring polluters to change their industrial practices to be both worker positive and non polluting. Pressure must come both from the grass roots - community work on environmental issues, economic literacy, community development, anti-racism - long term work, as well as direct policy intervention with governments and decision makers (Sabina).

The next chapter examines what we learned that sheds some new light on theory and praxis referred to in the Literature Review and offers some conclusions.
CHAPTER VI
SOME NEW LIGHTS AND CONCLUSIONS

Reflections on Theory

The following is based on our case study and is derived from and contributes to theory, conceptual frameworks and praxis of the literature reviewed in Chapter II as they relate to feminist transformative learning in women's health and the primary prevention of environmentally linked health problems. This literature contains theoretical approaches, characteristics and values of feminist transformative learning relevant to developing and enhancing praxis. It covers how and what we were learning (theory, method and process), the political economy of the medical industrial complex and the limitations of science. It is framed in the critique, philosophy and basis of activity of our women's participatory research circle on health (Maguire, 1987; Seager, 1993; Sherwin, 1992; Merrifield, 1994; TLC, 1994). For the most part, we saw ourselves as key actors with the capacity to assess and address our needs in order to become effective participants in the struggle for change...we brought our extensive past experience to our learning and influenced each other (Camozzi, 1994; Clover, 1995). Appropriate to our work is the understanding of emancipatory praxis as described by Lather, who believes that 'praxis-oriented' research clarifies the critical and empowering roots of a research paradigm openly committed to critiquing the status quo and building a more just society (Lather, 1986:258). Our project also exemplified what Lather refers to as catalytic validity which represents the degree to which the research process reorients, focuses and energizes participants toward knowing reality in order to transform it. The argument for catalytic validity is premised upon a desire to consciously channel this impact so that respondents gain self understanding and ultimately self determination through research participation (Lather, 1986:272). In that regard, our discussions and actions reflected a constant transformative learning process as described in earlier chapters.

In considering these ideas, our theoretical and applied approaches in the already enunciated context of health and primary prevention, can bring a new dimension to a number of the conceptual frameworks discussed in the literature review. Among them is the 'spiral model' theory in the design and facilitation of educational programs related to day to day living and working involving going
down to a deeper understanding of our own experience rather than up into the abstract...so theory not only informs our practice but springs from it. This includes starting with the experience of participants, looking for patterns, adding new information and theory, practising skills, strategizing and planning for action, applying in action what we learned (Arnold et al., 1991:38-9). In a similar vein, our project reflected the notion that theory building proceeds by description that goes beyond the mere reporting of an act, but describes and probes the intentions, motives, meanings, contexts, situations and circumstances of actions (Denzin, 1988:39). In all our gatherings, we experienced the reality that what we were doing was not just cognitive, but also included emotions, that every human situation was novel, emergent and filled with multiple, often conflicting meanings and interpretations of which we attempted to capture the core (Denzin, 1988:18). As feminists interested in bringing about change, we did not rest with the idea that the goal of social science is to discover the nature of social phenomena, but believed that it is only in action for change that the phenomena comes to be fully revealed. Thus, our participatory research project contributed some promising findings such as the empowerment of women in a process that brings theory and practice together, allowing political development, as it leads to the generation of new theory (Small, 1988:90). In this case, there was a particular development of analysis and primary prevention strategies with and for breast cancer survivors.

In a similar vein, Lather (1986) clarifies the critical and empowering roots of a research paradigm openly committed to critiquing the status quo and building a more just society; the interactive, reciprocal shaping of theory and practice whereby both researcher and researched become "the changer and the changed" (Lather, 1986:263). Our project fell under such research and praxis umbrellas with the directives of empowerment, transformation and explicit social change experienced together in our circle, as well as with others in reflecting, organizing, educating and advocating (described in detail in Chapters IV and V). As well, we illustrated how learning collaboratively can develop camaraderie, moderate, redirect and help make use of the anxiety associated with doing the research (Glesne, 1989:xiv). Such learning involves humor, is enhanced by diversity and takes time. In our group, as we deepened our relationships as well as our collective knowledge, we engaged in building stronger coalitions among the various related
sectors to better integrate our common goals within them. And as Glesne (1989) recommends, we had some fun doing this work.

**Learning together, group influence and support, and new phenomena**

Our experience in the circle was an illustration of transformational learning starting from personal experience, which made it more effective, more powerful and more interesting (Choldin, 1992). This is particularly significant in environmental health advocacy movements, where people usually begin with a need to relate health issues to their own lives and then move to a wider analysis in the context of community and/or workplace health. In this case, advocacy related to pollution prevention, political economy, biomedical models and holistic, complementary alternatives.

Several learning experiences shed new light on health related "transformative learning" description and theory, beginning with our lived experiences. We had moments of both emotional highs and lows, in the latter case, where we learned how despair, grief and anger can be confronted, experienced and creatively channeled into new energy, creativity and empowerment (Macy, 1983). This was demonstrated in our learning about working with breast cancer survivors in general as well as those in culturally specific communities (Chapter IV:123). Our personal changes illustrated that our actions had new meaning for us as we joined with each other and with others to take action, strengthen our confidence and play leading roles in formulating strategies to challenge many oppressive situations and structures (TLC, 1994). Examples of our engagement in mutual collective learning of new (for us) phenomena, social, environmental, medical, economic and other arenas included Hema marrying her cultural and ecological values to become actively engaged in prevention in cultural communities; Sabina developing her knowledge and skills in her work with us, in NAC and later with MNEJ; Meryle becoming strengthened and empowered to organize a major conference and to foray into scientific circles and breast cancer organizations; Liz in the development and sharing of her professional journalistic and media skills with all of us; my own skills development in popular adult education processes regarding health and primary prevention; and together as a group, learning about these many issues and how we might better incorporate them into our work in the future generally and in particular in plans for our popular adult educational workshops with the film.
These phenomena were also examples of the spiral theory building referred to earlier, which not only informed our practice but sprang from it. They included some innovative approaches on primary prevention with women living with breast cancer and in particular the needs of such women in cultural communities. We learned some valuable lessons from Hema and Meryle about their lives and challenges, about connecting and working with survivors in creative new ways. One way was talking about ‘preventing recurrence’ as well as primary prevention. Another was in approaches on environment health issues such as starting with practical things they can do in their own lives for their health. For us, new insights on transformative learning with survivors in particular cultural communities included the need to help women to empower themselves to talk about these issues, their need for information and developing appropriate ways to introduce prevention in culturally specific communities. An important new learning for us also was that you can’t mix both support and advocacy, they have to be kept separate, especially when women are first diagnosed and may be feeling sick and frightened, and only want support (see Chapter IV:126). We also learned about promoting sustainable economic models, holistic alternatives to patriarchal research paradigms, networking in other coalitions and practical ‘hands on’ information about daily concerns. These included the new information about EMFs, stress (related to stored toxins in our bodies), endocrine disruptors, nonyl phenol and bisphenol A in plastics. On several occasions, we acknowledged that these developments were largely due to the catalytic nature of our discussions and actions together (Chapter IV:111).

Our experiences revealed several other examples of new approaches to transformative learning in our particular context of feminist, health, prevention concerns. They were that women’s experience and knowledge have been largely ignored, that power relations are often based on gender, that women must be included if true change is to come about, and that the process is as important as the goal (Maguire, 1987; Seager, 1993; Sherwin, 1992). Each of us in the circle had experienced marginalization as women, as women of color and as non scientists at various times. This happened at medical meetings and conferences, board of health deputations, institutional boards, workplace and other situations. We have learned to deal with such challenges by learning about and articulating ‘primary prevention’ issues, acquiring and developing educational tools (such as the film and
resource guide) and building our mutual support and confidence over time. A particular example of the latter was our experience with Meryle's Niagara Falls (1995) *Pollution Knows No Boundaries* conference which illustrated the loyal commitment, encouragement and advisory process within our circle that helped to strengthen and consolidate the planning, organizing and fundraising for that pivotal gathering on breast cancer and the environment (see Chapter IV:102).

As we worked together, we could also observe how groups and individuals such as ourselves concerned about health and cancer, were able to evolve within the framework of Martha Roger's conceptual model for transformative learning. Rogers described eight stages, starting with engaging in learning, the awakening of the mind, awakening of the heart, deep caring for humanity (particularly those struggling with the pain of illness and loss) and planet now and in the future, awakening of the soul, sense of personal responsibility and commitment, finding a personal path of action and finally personal power and hope (Rogers, 1994). Such was the case of our own transformative learning and praxis often inspired by the women living with breast cancer in our circle and indeed by all of us as described in our stories and learning experiences (Chapters III and IV).

Our learning experiences also illustrated and contributed an environmental health dimension to principles of relationships of learning described in theories of feminist pedagogy and feminist popular education (Weiler, 1988; Maguire, 1987), of women's growth in connection, issues of social power, empowerment and support, which are described as fundamental to collective action (Gilligan, 1982; Starhawk, 1982; Jordan et al., 1991). We recognized that it is often easier to describe the problematic or pathological aspects of relationships than the positive, growth enhancing, often spiritual dynamics inherent in them (Jordan et al., 1991). Yet even as we challenged the daunting political economy, biomedical/technological concerns, we shared these positive dynamics in our relationships with each other as well as in our learning, advocacy and change in our different organizations. Our personal stories and actions together gave evidence of 'connected learning' or taking the view of another and connecting it to one's own knowledge, thus building new and enlarged understanding of broader human experience (Belenky et al., 1986). As Hema and Sabina shared their own experiences and those of others in cultural communities, we learned of their concerns and needs (spiritual, emotional, practical) in ways that we all might better integrate these relationships into our
work. From Hema and Meryle we learned how the vulnerability of those with breast cancer necessitates particular and appropriate approaches and limitations. As we organized with the Breast Cancer Prevention Coalition, such was also the case of women, like the coordinator of the Ontario Provincial Network who became engaged in prevention as prevention of recurrence with great caring and compassion with the Hamilton Bell telephone breast cancer cluster, the lesbian breast cancer conference and the Breast Cancer Prevention Coalition.

Drawing on Freire's theory that education is not neutral, that it either serves the interests of those in power or those challenging that power, in our praxis, we encouraged the replacement of the dominant worldview of industrial exponential growth and social domination with a global ethic that gives priority to equality, social and economic justice, health, demilitarization, peacemaking and ecological sustainability.¹ Now with the film, the resource guide and the "Training Trainers" programs available, some tools are in place which are beginning to facilitate this work locally, nationally and internationally in new and exciting ways. Throughout our collaborative process, we acknowledged that we gained from each others' experiences, scholarship and skills and although we produced some tangible end products together (such as conferences, meetings, the WNH&E pamphlet, the resource guide, Taking Action...), the process produced another product as well: a community of (in our own right) scholars (Glesne, 1989:xvi). We hope and anticipate that other women's health circles such as our own are already or in the process of filling a void in communities where such activity does not yet exist.²

**A need for further integration in discourse and praxis**

Our project was useful in highlighting a need for and demonstrating some processes for further integration in relevant discourse and praxis on feminist, environment, health, transformative learning, participatory research, political economy, biomedical/technological relationships described in this thesis. Much of the analysis and praxis in our findings is innovative in so far as it challenges the multiple players in these relevant fields to integrate these relationships in their own discourse and praxis (see Chapter II:51-3 and 60-2).³
CONCLUSIONS

What if there is inaction, what if researchers are correct about low sperm counts, breast cancer and the environment and about children, what if it isn’t so much the school system but the environment that they are growing up in that is affecting their learning and progress in school as described by Theo Colborn. How will we change this? (Meryle Berge).

Powerlessness and silence go together. We in this country should use our privileged positions not as a shelter from the world’s reality but as a platform from which to speak. A voice is a gift. It should be cherished and used (Margaret Atwood, speech at Amnesty International meeting (1992)).

The above quotes paraphrase the urgency of the current situation of environmental health and our sense of commitment and obligation to speak out on these concerns. How to be more effective and help others to be so as well was and will continue to be our major challenge.

In conclusion, this study illuminates theory and praxis of feminist transformative learning in the challenging and changing of corporate polluting practices, biomedical/technological health models and the limitations of science. We see these factors as contributing to the deterioration of health today and that of generations to come. The project was done by the documentation of a case study of a transformative learning process of a feminist participatory research circle in the context of research, reflection, education, organization and advocacy over a period of approximately two years in 1995 and 1996. It culminated in a community participatory workshop designed to solicit ideas for the resource guide, Taking Action for a Healthy Future to accompany the film Exposure: Environmental Links to Breast Cancer then in production. We met a year later (September, 1997) to review and assess our findings and reflect on the future.

This thesis has its roots and process in theory as described in ecological feminist transformative learning as that which embraces principles of popular, adult and environmental education processes of learning. This learning can be found in formal or non formal education settings and is linked to changing the root causes of environmental destruction or damage: changes in relations of power, gender relations and other patterns that allow for a healthy relationship with the earth (TLC, OISE, 1994). It drew from theory of feminist transformative learning, case study methodology and praxis oriented research as described more fully in Chapters II and III. To this we added further reflections from our women’s circle in
the description of how we have been contributing to new learning and transformation in our own praxis, as well as with other organizations, communities and policy makers.

As the highlights of our discussions illustrate, we worked to challenge attitudinal and structural aspects of power such as multinational corporations, their public relations firms, governments and other agencies in which each of these sectors has particular interests and reasons to support the status quo and thus largely disregard and/or attempt to cover up the environmental and health consequences of their actions (Moss, 1989; Sherwin, 1992; Proctor, 1996). We also worked within various communities to promote safe alternatives to toxic products and processes within a holistic health/earth/spiritual framework. We challenged ourselves within our social movements to improve our own practices. We took advantage of opportunities for interdisciplinary and teamwork approaches, good resource people and materials at our conferences and gatherings in our attempts to influence analysis and behaviour by helping people to understand how their actions can make a difference rather than telling them how bad things will be if they don’t change (Camozzi, 1994). Most of the recommendations and implications of our findings in this project can and in several cases are beginning to apply to the many constituencies we identified as those we’d hoped to influence. They included women’s, health, breast cancer, environmental, anti-racist, health professionals, educators, labour, other social movements, the medical establishment, policy makers and the media. Although there is much specific policy work to be done, for example, towards the implementation of the Recommendations of the Ontario Task Force on the Primary Prevention of Cancer and other areas, we believe that we have been part of a movement that is helping to develop a wider possibility for creative learning and advocacy towards our overall aim. That aim was to build on existing knowledge and praxis towards social political transformation in justice/health/earth contexts.

On a personal level, as committed women we understood that when activists burn out, despair and give up, it is often because the forces against us are strong and well financed and because our theoretical framework does not provide a sense of how our individual activities can contribute to significant successes in the future. We tried not to work in isolation in order to avoid fragmentation and discontinuity but discovered what was happening in other communities. We
supported each other emotionally, shared resources and organized programs. We tried to have a larger vision of our work in the context of numerous activities and projects moving our agenda forward (Bunch and Pollack, 1987). We also made sure we had fun along the way!

Our participatory women’s circle experience allowed us to develop a framework of research that Maguire has described as "a way for...people to join in solidarity to take collective action, both short and long term, for radical social change...locally determined and controlled action is a planned consequence of inquiry" (Maguire, 1987:29). Our findings were shaped by the data collected and the analysis that accompanied the entire process. Our analysis involved a process of making inferences and developing theory, moving from dealing with observables to moving to a conceptual overview of what had to be done. Thinking about our data was a step toward developing ideas that explained aspects of our practice and allowed us to draw inferences about future activities (Merriam, 1988). Examples included: transformative learning and praxis implications with women living breast cancer, in particular, the special needs of such women in cultural communities; conflict resolution within groups working on breast cancer advocacy issues; education with funders about environment and health relationships; learning to develop confidence to challenge those who resist/deny health and environmental relationships; supporting the Task Force Report and other areas as noted in Chapters IV and V.

The case study data gathering was from transcriptions of the tapes of our discussions with references to relevant questions, resources, projects and events. I drew on Merriam’s description of data analysis as the process of making sense of the findings, the goal of which is to come up with reasonable findings (1988:127-130). I did so by organizing and coding the data into responses to the categories of the specific questions of the thesis and several new questions which emerged from the issues raised in the transcripts. The research findings were shared with the members of our circle several times for their comments and approval, an example of member checks necessary for internal validity to clarify that my worldview, theoretical orientation and assumptions were compatible with those of the circle (Mathieson, 1988:17) in Lather). We also drew on Lather’s (1986) reconceptualization of validity appropriate for research...that can rely on one’s
holistic understanding of the situation to construct plausible explanations about
the phenomena being studied.

In the circle, our engagement in mutual learning in several new social,
cultural, environmental, medical, economic and other areas resulted in: one
member drawing on her cultural and ecological values to become actively engaged
in prevention in cultural communities, another developing her knowledge and
skills through her work with us and in other groups to further her work on
environmental justice, health and community development, another becoming
strengthened and empowered to organize a major conference and to foray with
more confidence into scientific circles and breast cancer organizations, another in
developing and sharing her professional journalistic and media skills with all of us
and my own skills development in popular adult education on health and the
environment. We collectively learned of what were for all of us, new phenomena,
among them: new information about issues, the needs of women in particular
cultural communities, some innovative ways of approaching women living with
breast cancer on prevention issues, promoting sustainable economic models in a
framework of environmental justice and alternatives to patriarchal research
paradigms. All of this was invaluable in our development and planning for the

A pattern that emerged fairly early on in our gatherings was that of ideas
proposed and actions which ensued from them such as the creation of the Women’s
Network on Health and the Environment (WNH&E) pamphlet, the development of
Meryle’s group’s conference, Pollution Knows No Boundaries, Hema’s discussions
on environmental relationships with cultural communities, our working towards
anti-racism and environmental justice which evolved from us as members of
WNH&E, the creation of the community guide Taking Action for a Healthy Future
and various other actions which strengthened our work together. We personally
learned from and with each other, as well as contributed to the creation of new
resources and programs of community health and environmental organizations.
Indeed, there emerged primary prevention resources of all kinds - human, print,
film, electronic and others from scientists and activists, some of which address the
complexity of the issues in the power domination framework as enunciated in this
thesis. In the circle and with others, we were and are in fact a work in progress.
We found that in recent years there has been increased knowledge of primary prevention issues in many sectors, increased participation of individuals and organizations, increased confidence in certain scientists and activists, increased stability and legitimacy of the micro and macro issues in the public domain to a greater extent than before. Most of us have been working locally, nationally and internationally on these environmental health issues. Together, in our circle and/or with our other groups, we have helped to move our agenda forward with the Pollution Knows No Boundaries Conference, Niagara Falls (1995), the Fourth UN Women’s Conference in Beijing (1995), more recently the First World Conference on Breast Cancer in Kingston (1997) as well as gatherings noted earlier. With others we have been building and strengthening our movements such as the Women’s Network on Health and the Environment (WNH&E), the Breast Cancer Prevention Coalition and others with whom creative actions have helped stimulate primary prevention agendas into some Canadian breast cancer organizations. There are now initiatives in some of the conventional breast cancer groups, environmental, labour and other sectors to integrate health promotion and environmental issues within their programs. The Breast Cancer Information Exchange is posting all our WNH&E public events. Some in the breast cancer establishment organizations such as the Canadian Breast Cancer Foundation (Ontario) are now expressing interest in using our film, Exposure: Environmental Links to Breast Cancer largely due to pressure from ‘below’ but also from the staff who realize that their mandates are not addressing primary prevention concerns. There is also now increased knowledge of the issues, increased confidence in more scientists, activists and the general public, increased stability and legitimacy of the issues in the public domain, but not without a well orchestrated corporate backlash (see Chapter V:142). Members of the circle have also been instrumental in the development of the Multiracial Network for Environmental Justice which has been introducing questions about cancer prevention within an ethnoracial cultural framework. This has implications for youth, future generations, equality and global health.

Again, we do not imply that all this movement is the result of efforts of only those of us in our circle or the groups we work in, but we know that each process helps to move the agenda forward incrementally, reflecting a convergence of a multitude of activities in different spheres.
Our study clearly is a part of an ongoing process in which our objectives could only be accomplished by an examination and articulation of our process and outcomes in our transformative learning continuum. For the most part, our work was part of an extensive process of analysis and praxis with ongoing and open ended options. Since our learning settings were both within our circle and the larger community, it is difficult to evaluate the project in terms of specific formulas or recipes but instead try to understand it within a multipurpose context with implications for future praxis. That said, however our case study reveals an understanding of and the development of some skills and strategies for changing power relationships and promoting alternative ways of thinking and acting for a more caring, just and healthy society. It also confirms the power of collective action to keep on going.

As noted though, while there is indeed now abundant literature on the many themes of the thesis in various combinations of research, education and advocacy on health promotion and primary prevention, for the most part, there is as yet relatively little published research, analysis and praxis on women's participatory research and transformative learning in the context of power relationships regarding primary prevention as enunciated in this study. What we have been attempting to do is put together various parts of this interdisciplinary puzzle. While it is far from a definitive statement on the issues, we hope our project will contribute to the advancement of theory, learning and transformation in a more comprehensive and integrated manner in future discourse and praxis.

Our work illustrates that feminist perspectives on health and the environment can provide a vantage point from which to critique current social, political and economic paradigms and offer healthier alternatives, locally and globally. Our women's health circle acknowledges that despite the ongoing roadblocks, women who are the backbone of many health, peace and environmental movements all over the world are becoming powerful voices for change when informed and organized. We know that we join with growing numbers of those who are applying their educational skills and political knowledge in what they see as yet another extension of their ongoing work for social and ecological justice. We believe that theory and praxis of feminist challenges to military/corporate polluting practices destroying our health and that of the earth which nourishes us and of which we are a part, may be key to creating the public pressure necessary to
change those in our governments, industry, academia, medical professions and institutions and other structures of social, political and economic power. They may also challenge biomedical/technological research models and the limits of science which support them, to listen to and heed community voices calling for more holistic environmental and preventive approaches to health, justice and planetary well being. An implication for these findings is that our theories and praxis may contribute to transformative learning toward creating public pressure to stop polluters and their protectors in institutions of power as well as shift the cultural paradigm from "magic bullet cures" to more holistic approaches including primary prevention, health promotion and community well being.

Overall, we feel that by our various and shared experiences, we have exemplified how our own transformative learning is an indication of how a circle of caring concerned women can be a catalyst in redefining and reexamining values as we work towards a global paradigm shift (TLC, 1994). Our actions join with those who have gone before and those who will struggle in the future as we drew on and participated in learning processes of feminist adult educators, popular education, ecological, peace, justice, health and other social movement initiatives.

Perhaps a large part of our success was in the learning and doing in the circle itself. We were a group of concerned motivated women who came to know and care about each other in ways that were conducive to feminist transformative learning. We enjoyed and supported each other, laughed a lot, shared our personal, social, cultural and political experiences and often worked hard thinking, planning and organizing together. No doubt, part of the effectiveness of our efforts together was in the intimacy, trust and friendship which developed as a result of our gatherings over shared meals. As noted, this personal subjective side is less systematic and is less often discussed publically. But all of us draw upon it as an element of common sense and nourishment in our work over the long term (Arnold et al., 1991:26). The potluck meal metaphor described by Ursula Franklin is of how a society might work, where everyone contributes and everyone receives and where a diversity of offerings is essential. In such a world there would be no one who could not contribute their work and care - and no one who could not count on receiving nourishment and fellowship (Franklin, 1990). Indeed, these may be some of the most important lessons in feminist transformative learning as well as in all relationships of learning and being.
Our reflections and findings were but one step in a long journey towards a creating a more equal, safe, just and healthy world, as Maguire writes:

The primary lesson for me is that the redistribution of power...is a long-haul, collective struggle in which there is work for each of us...however, transformation, social and personal is not an event. It is a process that we are living through, creating as we go. It’s dangerous to compare our modest beginnings and exhausting middles to the successful documented endings of others’ work. For we never know when we begin where the work will take us and those involved. Perhaps that is what allows us to even begin...The point is to learn and grow from doing, and to celebrate the doing, no matter how flawed, small scale or less than ideal (Maguire, 1993:176).

So as we have been learning, growing and celebrating in the doing, we have been creating our own beginnings, middles and endings. We know we must incorporate theory and praxis such as has been illuminated by the many examples in this thesis and elsewhere so that we may be visionary, organized and productive in our feminist transformative environmental health work ahead. As Nola Seymour has said:

A vision without a plan is a dream
A plan without a vision is drudgery
A vision with a plan can save the world.
Chapter I Endnotes

1. The Women's Network on Health and the Environment (WNH&E), the International Institute of Concern for Public Health, the National Action Committee on the Status of Women (NAC) Environmental Committee, the Breast Cancer Research and Education Fund (St. Catharines), The Breast Cancer Prevention Coalition and Greenpeace to mention a few. WNH&E grew out of Stop the Whitewash, a campaign against one use chlorine bleached sanitary products, diapers, paper, etc. It came together in Toronto in March 1994 at a meeting attended by more than 30 participants, many representing women’s, environment and health groups, primarily in Ontario.

In addition, there is a growing interest in prevention in Breast Cancer Action Montreal (BCAM), the Women's Environmental Network and Breast Cancer Action (Ottawa) and the Alliance of Breast Cancer Survivors (Toronto) who make specific links to cancer and the environment.

2. For a description of global education, see Pike and Selby (1995:15).

3. "Action for Prevention" groups encourage and support a growing number of courageous scientists, epidemiologists, physicians and the like who are attempting to break the silence and defy entrenched biomedical/technological models and norms of the cancer establishment to research and identify toxic, radioactive and hormonal abuses they believe are linked to cancers and other problems affecting immune, reproductive and neurological systems. Many are referred to in this thesis.

4. Several important international government bodies including the International Joint Commission on the Great Lakes (IJCGL), the Paris Commission on the Northeast Atlantic and the Barcelona Convention on the Mediterranean Sea have identified specific classes of chemicals for a priority phaseout. The American Public Health Association (APHA), an organization composed of 30,000 public health scientists and practitioners, unanimously passed a resolution calling for a broad phase-out of organochlorines. The now defunct Ontario Advisory Committee on Environmental Standards (ACES) in 1994 called for major reductions in allowable tritium from nuclear reactors in the Great Lakes, a series of recommendations which were rejected by the Ontario Minister of Energy and the Environment due to pressure by the nuclear industry and Ontario Hydro. The decision was challenged through the Ontario Environmental Bill of Rights by Energy Probe which led a campaign to have the Minister reconsider the decision. It was unsuccessful.

5. See Connections, the newsletter of the Women's Network on Health and the Environment (WNH&E), Toronto; News and Views, the newsletter of the Women's Environment and Development Organization (WEDO), New York; Rachel's Daughters, a newsletter of Greenpeace, Chicago (1994-96).

7. In 1964, the World Health Organization estimated that some 80 per cent of cancers were due to synthetic carcinogens. In 1979, the U.S. National Institutes of Health Report stated that environmental factors were generally thought to be the major causes of most cancers. There is a growing body of evidence linking environmental contamination to the current breast cancer epidemic. Some scientists estimate that 80 per cent of cancers are related to environmental factors including the food we eat, the water we drink, the air we breathe, where we live, what we do, the stresses we suffer. However, there is resistance to linking causality with environmental pollutants by many governments, physicians, scientists, pharmaceutical corporations, etc. who declare that there is not yet adequate scientific proof about environmental relationships to disease. Instead they largely focus their research on screening, testing and treatment all of which are activities which follow the onset of the already existing disease. Critics such as Moss (1989), Hynes (1989), Batt (1994) and others maintain that the reasons for resistance are largely due to social, political and economic factors related to vested interests within the cancer establishment.

8. The International Joint Commission on the Great Lakes (IJC) defines a toxic substance as "a substance which can cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological or reproductive malfunctions or physical deformities in any organism or its offspring, or which can become poisonous after concentration in the food chain or in combination with other substances." The IJC 1994 report calls for "zero discharge" of all persistent toxic chemicals including radionuclides. (Definition as agreed to by the United States and Canada in the Great Lakes Water Quality Agreement of 1978 and amended by Protocol on November 18, 1987.)

9. Radiation is a known carcinogen. According to an independent study by the Ontario Advisory Committee on Environmental Standards (ACES), people living near CANDU nuclear reactors are exposed to too much radioactivity in their water. There is actually no safe dose of radiation (1994). Because tritium can cause cancer, birth defects and other illnesses, exposure levels must be tightened. Tritium is a radioactive form of hydrogen which is created as an unwanted product in heavy water reactors. It is released to the air and water during normal reactor operations and can be detected in the local environment around nuclear facilities at levels above what would otherwise be found. Drinking water contaminated with elevated tritium levels is common in communities such as Petawawa and Pembroke downstream from the Chalk River Nuclear Laboratories on the Ottawa River, at Ajax and Whitby downstream from the Pickering reactor on Lake Ontario, and at Port Elgin downstream from the Bruce reactor on Lake Huron. (The area around the Darlington plant was not measured in this study; however it can be assumed that these phenomena are similar there as well as downstream from the reactors at Gentilly, Quebec and Point Lepreau in New Brunswick.) There are frequent accidental spills in addition to routine emissions, such as the one at Pickering which resulted in high tritium levels in the Ajax area drinking water in August, 1992. In the summer of 1997, nine reactors at Pickering and Bruce were shut down due to safety problems.

See also John Deverell, "Nuclear plants contaminating tap water, experts say - Lower radiation levels urged." Toronto Star, June 8, 1994.
10. The Eighth Biennial Report of the International Joint Commission on the Great Lakes (1996) describes hormones as natural chemicals that act as messengers travelling through the blood stream, regulating various bodily processes, coordinating the body's activities to control health, growth and behaviour. They are particularly important during growth and development of an egg, an embryo, a fetus, a baby. About 100 different hormones have been identified in all vertebrates (fish, birds, reptiles, amphibians and mammals) including humans. Estrogen is the hormone that regulates the growth of breast tissue during adolescence and then keeps the mature breast in a healthy state.

The report describes Xenoestrogens as foreign (xeno, Greek for "stranger") estrogens or hormone mimickers, found in many pesticides, industrial solvents, PCB's, and other chemicals tend to dissolve in fat, particularly animal fat so it is wise not to eat it or if so very little. Either the estrogens behave like direct acting-hormones and cause the body to increase its production of estrogen or they may work directly by damaging the DNA - in other words, they work through the hormones or through the genes. The 'bad' estrogen or estradiol is found in organochlorines, pesticides, plastics, fuels and some pharmaceuticals. The 'good' estrogens or phytoestrogens, found in soya products, soy beans, lima and other dried beans, tofu and the like, clover, some grains, olive oil and fish oils appear to protect against breast cancer risk because these weak estrogens encourage our own production of hormones to take a rest. (The good news is that we can figure out how to increase the good and prevent exposure to the bad.)

11. At the UN Fourth Conference on Women (Beijing, 1995), there were numerous workshops on health, the environment and the primary prevention of disease where participants from all over the world took part. WEDO and Greenpeace who work internationally were major organizers; Canadian, European (both Eastern and Western) and Latin American women's groups organized and or took part in these sessions. At the Mapping and Mobilizing: Environmental Justice and Women's Health Conference, Toronto, March 29-31, 1996, were women from Canada, the US, Europe and Africa. The experiences of First Nations and other marginalized women were prominent.


13. At the 1994 Annual General Meeting of the National Action Committee on the Status of Women (NAC), the over 500 member groups passed a resolution calling for the elimination of persistent toxic chemicals from the environment citing studies showing that the presence of such toxins is linked to increases in breast cancer and other women's health problems. The conservative Canadian Breast Cancer Foundation hosted a forum on breast cancer and the environment in November 1994 with biochemist Ross Hume Hall, epidemiologist Devra Lee Davis and cancer researcher Dr. Susan Siebert but at the last moment cancelled the Greenpeace speaker, Joan D'Argo. Greenpeace had issued a powerful indictment of the multibillion dollar chlorine industry in its publication, Chlorine, Human Health and the Environment: The Breast Cancer Warning (Joe Thornton, 1993). Still they held the event in which the remaining speakers provided an important step forward in breaking the silence in conventional cancer research and fundraising circles.
14. In the U.S., the Women’s Environment and Development Organization (WEDO) and Greenpeace collaborate with local breast cancer groups in coordinating a series of tribunals and hearings in various parts of the country. WEDO and Greenpeace launched their international Breast Cancer and the Environment international campaign at the UN Population Conference in September 1994, and continued this work in Cairo, the Social Summit (1995), in Copenhagen and in Beijing September (1995). At the Silent Spring Institute, a research organization initiated by women activists, a major epidemiological study is underway to investigate the high breast cancer incidence on Cape Cod.

15. Due to the efforts of women’s health coalitions, breast cancer advocacy groups and some sympathetic supporters in the bureaucracy, Health Canada has created a new women’s bureau and allocated additional funding for breast cancer: In November, 1993 at the National Forum on Breast Cancer in Montreal, a federal government conference organized with the help of breast cancer activists, recommended that there be more participation of women including breast cancer survivors on the boards of health organizations, more research into environmental factors linked to breast cancer, more support systems for women with the disease, research into prevention and alternate treatments, more openness and access to information from research organizations.

16. While IJC reports call for governments to develop timetables to phase out these chemical compounds, there is resistance from industry to meet them. The former Ontario government (NDP) promised that all organochlorine discharges from the pulp and paper industry would be eliminated by the year 2002. At the end of 1998, with the Conservative government in power, this remains to be seen.

17. In fact, Transken (1998) advocates that organizations invest much more time and energy into the exploration and cultivation of meaning making, meaning sharing, trust and faith in a long term vision. She concludes that when an organization’s core activists lose sight of their vision and their sense of solidarity and compassion for each other, then the organization is vulnerable to dismemberment.

18. I say "mostly" because in the 1990s many feminists have demanded the inclusion of race, class, culture, gender, ageism, ability, anthropocentrism and on in discourse and practice. These issues were not always included in earlier descriptions of participatory research and indeed in many other social movements (NAC position papers and AGMs in the ’90s reflected these concerns).

19. Many women’s groups are proposing and supporting scientific research into potential risk factors that merit further study which include diagnostic radiation in adolescence, smoking (including second hand inhalation), alcohol, exposures to pesticides and other fat seeking synthetic organic chemicals that can bioconcentrate in fat to mention a few (Batt, 1994).

20. Similar work is slowly evolving in diverse sectors such as health advocacy organizations, breast cancer survivor groups (for the most part, relatively few of them as yet engage in environment/primary prevention issues), some health professional organizations, environmentalists, policy makers, students, anti racist global educators, women’s studies programs, environmental studies, aboriginal
Chapter II Endnotes

1. This includes starting with the experience of participants, looking for patterns, adding new information and theory, practising skills, strategizing and planning for action, applying in action what they have learned (Arnold et al., 1991).

2. Having engaged in these educational principles for many years, I have found many commonalities between the broader concepts inherent in global education as described by Pike and Selby (1995), Lyons (1991), Choldin (1992) and others and transformative learning as described by O'Sullivan and Hall (1994) and others. My observation is that the term global education seems to be used more in conjunction with education in schools and in-service programs, where transformative learning is associated more frequently with adult and community learning. In my appreciation of their commonalities, for the purpose of this discussion, I use the terms interchangeably. The Transformative Learning Centre at OISE/UT has chosen to use the term transformative learning rather than popular education, environmental education, global education or adult education because it is not already 'owned' by either formal or non formal education interests and thus indicates in this naming, the need for a desirable change...(Hall, 1995).


4. These links have also been articulated at numerous U.N. conferences in the past decade. They were highlighted again at The World Women's Congress for a Healthy Planet, Miami, November 1991, at the United Nations Conference on Environment and Development (UNCED), Rio, June 1992 and the Fourth United Nations Conference on Women: Equality Development and Peace (Beijing, 1995).

5. For example while issues of inequality are raised in several of the chapters, in Ecological Public Health: From Vision to Practice, (Chu and Simpson (eds.), 1994), missing from it is one which presents a feminist ecological conceptual analysis of power as referred to in this thesis.


9. His thoughts are similar to my own when he says:

The plain fact is that the planet does not need more successful people. But it desperately needs more peacemakers, healers, restorers, storytellers and lovers (Orr, 1997).

10. Sahtouris (1989), Berry (1988) and Capra (1982) point out that when society adopts ecological/health perspectives indicators, rather than conventional Gross National Product (GNP), which reflect social/health and environmental costs to analyse economic processes, it becomes evident that our social institutions, and our natural environment are seriously out of balance. They believe that to restore a healthy balance we need to return to manageable levels of community decision making and more cooperative forms of decision making. Undifferentiated growth tends to go together with fragmentation, confusion, and widespread breakdown of communication. The same phenomena are characteristic of cancer at the cellular level and the term cancerous growth is appropriate for the excessive growth of our cities, technologies and social institutions. Because of the continual interplay between individuals and their natural and social environment, the consequences of this cancerous growth are unhealthy for individuals as well as for the economy and the ecosystem. The well being of the individual and that of the planetary system go together.

11. Sahtouris (1989) provides evidence from archaeology which strongly suggests that human societies were for the greater part of civilized history based on cooperation and reverence for life and nature, not on competition and obsession with death and technology. In her opinion, technological culture has clearly become the dominant culture that will make or break us as a species. She views the aggressive and destructive motives of domination, conquest, control and profit have been presented to us as human nature by historians as well as by sociologists. The current period in history can be seen as adolescence which must be grown out of as our maturity as a species depends on our accepting the responsibility for our natural heritage of behavioural freedom by working consciously and cooperatively toward our own health along with that of the planet. Humans have much to learn from the cooperative nature of planetary systems, that nature has something to teach us about cooperative economics and politics. From evolution, we see not only that other species have had problems but that many competitive situations resolved themselves in cooperative schemes for survival. Many such systems have already been invented and developed; we lack only the understanding, motive and political will to carry them out.

13. Hegemony here is meant in the Gramscian sense of persuasion from above and consent from below.

14. I have used this portion of a quote by Meryle Berge here because it illustrates the prevailing belief system so well. The full quote is presented in the next chapter.

15. Capra (1982) notes that hard technology has taken a central role in modern medical care. The diagnostic and therapeutic tools are the result of advances in physics, chemistry, electronics, computer science and other related fields. The increasing dependence on of medical care on complex technologies has accelerated the trend toward specialization and has enforced a tendency to look at particular parts of the body neglecting to deal with the whole person or with impacts of the environment on health.

16. In fact, rather than adopting the concept of ‘zero discharge’ of toxic and radioactive contaminants as recommended by the International Joint Commission on the Great Lakes (1994, 1996), the cancer establishment is moving in an opposite direction - that of testing the effects of cancer drugs (an anti estrogen, tamoxifen) in a healthy population with the anticipation of it having a preventative effect. Dr. Adriene Fugh-Berman is of the opinion that this trial is premature in its assumptions, weak in its hypothesis, questionable in its ethics and misguided in its public health ramifications assumptions. Dr. Samuel Epstein calls these trials a “scientific and ethical travesty...the NCI's conduct verging on criminal recklessness.” The criticisms centre around the fact that tamoxifen causes liver cancer in rats, liver changes in all species tested, and that a number of endometrial cancers have been reported among tamoxifen users. In 1996, the International Agency for Research on Cancer (IARC) declared tamoxifen a known carcinogen. They criticize the approval of a potent hormonal drug in healthy women and calling it “prevention” sets a dangerous precedent. This drug oriented trial symbolizes the paradox of shortsighted cancer prevention strategies: they use more drugs to try to counteract the effects of previous exposures to drugs, chemicals or other carcinogens often called a vicious circle and one that will not easily be broken. (A scandal involving a Montreal doctor who falsified research records in one of the studies was publicized in the media in 1994 (Batt, 1994). In 1998, the tamoxifen trials were cut short by the researchers who said that the results were so promising that they wanted to allow all the women in the study (including those on the placebos) to be given the drug. This despite the fact that several women on the drug died of blood clots and others developed identified dangerous side effects. The Canadian Breast Cancer Network issued a strong critique of this project (1998).

17. Ralph Moss was former assistant director of public affairs at Memorial Sloan Kettering Cancer Center (MSKCC), the world’s largest private cancer centre (Moss, 1989).


The money goes to visits to physicians, operations, diagnostic tests, radiation treatments, drugs, etc.. In the U.S. with respect to breast cancer, of $92.7 million allotted in 1991, only $11 million was spent on prevention, a low figure for a disease that represents more than 15 per cent of cancers diagnosed each year. The U.S. National Cancer Institute (NCI) and the American Cancer Society have spent over a billion dollars to combat breast cancer since 1971, however the NCI has a long history of failing to support legislation that would reduce the exposure to environmental carcinogens.

20. Research suggests the hypothesis that a mechanism by which EMFs might promote cancer development is through affecting the pineal gland which secretes melatonin which is thought to inhibit production of estrogen and prolactin. EMFs may cause reduced secretion of melatonin and thus more exposure to estrogen. Bright lights at night could have a similar effect as melatonin production appears to be regulated by light (Raloff, 1993).

21. A Greenpeace bumper sticker illustrates the dangers of cars via the following message,

**Warning: This car emits carbon dioxide, carbon monoxide, nitrogen oxides, sulphur dioxide, VOCs, benzine, aldehydes and methane. They cause respiratory diseases, cancer, smog and global warming. They are particularly dangerous to children.**

One might ask: Should it not have to be on every car just as a warning has to appear on cigarette packages?

22. Personal correspondence as quoted in Rita Arditti and Tatiana Schreiber, "Breast Cancer: Organizing for Prevention", in _Resist_, November 1994. (Special Issue on Cancer Activism)

23. I have used this quote here by Meryle Berge, one of the members of the women's health circle, to illustrate the separation of environment and health issues in the health debate. It appears in its fuller conversation from the transcript in Chapter IV.


25. See for example, bulletins and newsletters of Canadian Voice of Women for Peace over the last 30 years.
1. This type of a case study usually does not attempt to generate theory, hypothesis, conceptualization or propositions. It is a useful choice when the phenomenon being examined is a new one which requires a 'big picture' account as a first step in trying to present agreed upon key elements of the phenomenon (Merriam, 1988).

2. Several levels of analysis and interpretation of data are possible in case study research. Some case studies are little more than case study records - basically descriptive accounts of the phenomenon under study that contain little analysis or interpretation of the data. The material may be presented according to the categories used to organize the raw data. What makes them case studies is the narrative structure used to present the data (Merriam, 1988).

   1. The critique is of both positivist and androcentric research paradigms.
   2. As a comprehensive research approach, gender must have a central place on the research agenda. It should include gender, race, culture and class.
   3. An inclusive feminism which recognizes diversity should be central to theoretical discussions on participatory research. It is not enough to try to integrate feminist concerns into male centred theories.
   4. The role of gender needs to be taken into account in all phases of participatory research.
   5. Feminist participatory research would give explicit attention to how women and men as groups benefit from a project.
   6. Attention to gender-specific language is crucial.
   7. Gender, culture, race and class all figure into questions about the research team.
   8. Gender should be a factor in considering evaluation. For example how has power based on gender been redistributed or maintained by the project.
   9. The feminist participatory research community should review and track all participatory research projects with gender in mind. Patriarchy is a system to be dismantled along with other systems of domination and here I would also include anthropocentrism. In critical pedagogy we always ask what's missing and in the research discussion thus far, it has been missing.

4. According to Budd Hall, academics do not cease to be members of the community by being at a university. There are countless community issues which engage us all as citizens. Academics can have some skills which can contribute to community action along with the skills of others in the community. Academics do not have to be 'in charge' just because someone refers to a grassroots knowledge generating process as participatory research (Hall, 1993xx).

5. Criteria for change. The following criteria based on Hall (1995) were adapted by the circle for purposes of analysing the data.

   Development of new practices
   Participation and mobilization
   Connections between local and global contexts
   What new knowledge is produced or recovered?
   Impacts on legislation and regulations
   Increased cooperation
New alliances and networks

Dissemination of information and communication (we added this question)

Aside from the questions of policy and law where at the time, environmental deregulation resulting in weaker provincial, federal and international laws and enforcements and particularly in Ontario with uncertainty of provincial health and environmental conditions in the future, the evaluation questions posed above reflected some accomplishments in our findings, indeed there are several overlaps with our thesis questions in the next chapters.

6. After they left, Sabina joined us almost immediately.

7. We already knew well of WNH&E's work, gatherings such as the Niagara Falls conference Meryle's group was planning in November that would a tool for information, education, coalition building and advocacy, the work on the Recommendations of Ontario Task Force Report, The IJC Report, the WEDO campaign, the one on one fundraising efforts for the film as an example of how people were learning (we would give potential donors articles to read, they'd say they've never heard about this before and were shocked and concerned). We realized we were all multipliers and that there were now more opportunities than previously to engage with other coalitions and institutions on prevention.

8. Projects included Meryle's conference, Pollution Knows No Boundaries, November, 1995 which was well attended and successful; as were the NAC Workshop Environmental Toxins and Women's Health at Friends' House which followed it later that month; the Mapping and Mobilizing: Women's Health and Environmental Justice conference of the Women's Network on Health and the Environment, March 1996; deputations at the Board of Health, City of Toronto; information tables at various conferences and programs relating to breast cancer where we spoke to hundreds of people and give out copies of the IJC and Task Force Reports with an information sheet of what actions to take, regular meetings and programs on the Task Force Report at the Centre for Health Promotion at the University of Toronto. Meryle, Liz and Dorothy were on that committee with some of the people who were on the Task Force including Irving Rootman, the director of the Centre.

There were also valuable networking opportunities with national and international women working on these issues at the UN Fourth World Conference on Women (Beijing 1995), WEDO's Pam Ransome had put out good fact sheets, resource lists and other information for it, we held our own WNH&E workshop there with women from all over the world; the Halifax Conference on Breast Cancer and the Environment, March 1996 (where Dorothy did two keynotes), the planning of the prevention sessions at the June 1996 Teaching to Promote Women's Health the Women's College Hospital Conference, with a panel consisting of people who are in the film, Susan Love, Rosalie Bertell and Sharon Batt, with Dorothy doing a panel presentation at the conference with Sharon. (We didn’t manage to have excerpts of the film but we had a good evening panel discussion on primary prevention. As evidence of learning and change - several international and US participants mentioned that our work on environment and prevention was the most important new information they heard at the whole conference. Many women took literature
and order forms and asked for the film as soon as it was available (Dorothy, Meryle, Liz, Sabina, April 9, 1996).

9. They included activities such as conferences, marching with the Alliance of Breast Cancer Survivors (ABC's) in the International Women's Day march, newsletters, public events, we helped produce the resolution supporting the Advisory Council Environmental Standards Report (ACES) on tritium reduction that was passed at the conference on Breast Cancer and the Environment (Kingston, Ontario, spring, 1995). We communicated with Willow, the Breast Cancer Resource Centre to attempt to encourage them to give serious attention to primary prevention, our film fundraising was moving along well we'd raised over $160,000.

We asked Hema about feedback from her excellent talk (see Abeygunawardena, 1995) at Meryle’s conference, from Meryle about the evaluations from her conference, from Sabina, the evaluations from the NAC Environment Committee workshop, Women's Health and Environmental Toxins later that month, all positive. Hema noted that now she had to do her thesis proposal, but that these issues are there at the back of her mind all the time.

10. Since then we helped to develop the Breast Cancer Prevention Coalition (BCPC) who do useful environmental health outreach. One of the objectives of the BCPC coalition was to develop speaker training on prevention, but the proposed facilitator died of ovarian cancer (a situation repeated all too often in our health and cancer related movements).

Members of the Breast Cancer Prevention Coalition challenged participants and organizers to focus on prevention at an advocacy conference organized in the fall of 1996 by a breast cancer activist with the sponsorship of pharmaceutical corporations. Since this person has begun taking money from corporations she hasn't been speaking out on carcinogens in the environment as she had previously.

Meryle added that we need to remind people to return to the concepts of ‘think globally, act locally'. She proposed thinking of the children in the report Yours, Mine, Ours, the Ontario Report on Health from the Premier's Council on Health, The Physical Environment as a Determinant of the Health and Well being of Children and Youth: A Review of the Literature (1994).

11. This conversation led to a lengthy discussion about Marilyn Waring on feminist economics and values, the NFB film, Counting Women In: Sex, Lies and Economics, the book, If Women Counted: A New Feminist Economics and her ongoing work (Sabina, April 9, 1996).

Chapter IV Endnotes

1. In one group the animator was a man because that is seen as the way to get the husbands to listen.

2. International as in the International Joint Commission on the Great Lakes rather than a global context.
3. In Beijing, at the NGO Forum, there were numerous panels, press conferences, demonstrations and the like where we highlighted women’s environmental health, peace, justice links. At that time both the French and Chinese governments were testing nuclear bombs and the French were doing so in the South Pacific region, which raised the ire of women in the South and everywhere at this blatant example of environmental racism. At a press conference (organized in just twenty four hours) held to challenge the International Atomic Energy Agency (IAEA) for attempting to recruit women to work for them as an equal opportunity employer (!) our press statement read "Radiation, Cancer, Death and Bombs - that’s what nuclear power results in and women don’t want it." Dozens of women from all over the world participated in the press conference and described nuclear hazards in their countries. We also had a meeting with the representative of the IAEA on the need for peace, health and safe alternatives to nuclear power. Words cannot describe the exuberant enthusiasm, excitement, energy in the women who organized this event and it was gratifying to learn from a friend that she saw us on CNN in Jamaica, where she was attending a meeting at the time (Dorothy, May 22, 1996).

4. In the summer of 1998, members of the BCPC met with a scientist from Health Canada, Dr. Gabriel Pulido who is working on such blood markers, now known and undergoing testing.

5. I noted that in my travels with her to international conferences, the work of Dr. Rosalie Bertell is legend in the many communities she helps train for this work. She believes that basic to survival is the security, health and well being of the local community. In organizing to change elitist research models, she proposes moving towards a citizen’s action structure able to check and balance with scientists and leaders. To do so it will be necessary to ensure citizen access accurate information and objective proof of claims which can be done with professional help. Among the many tasks are the creation of data banks providing relevant information on sensitive health parameters. The monitored parameters should include fertility rates, infant deaths, birth defects, incidence rate, numbers of severe asthmatic or allergic reactions, 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. Bertell believes that an honest and complete audit of health is as important to human species survival as a financial audit is to economic health. It will be necessary to ensure citizen action to accurate information and objective proof claims. 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, Long Island and other locations demonstrated skill in sleuthing environmentally caused diseases because currently most public health efforts do not. They largely focus on infectious disease control. She believes that the knowledge and skill needed to handle global problems is in people... (Bertell, 1985).

6. In 1998, in the development of role-playing exercises with our film workshops, a version of the challenge in a more serious vein proposes the following: you are at a conference with scientists and physicians who say that there is little proven connection between breast cancer and environmental carcinogens and mutagens - and if there is, it is such a small amount that it is not worth paying attention to.
Create appropriate responses in the context of the 'precautionary principle' and the principle of 'reverse onus' in the International Joint Commission (IJC) reports and/or other ways (see Taking Action for a Healthy Future).

7. A National Breast Cancer Network has been formed in which the executive and the member groups are very supportive of our work (1997).

8. We worked with Sabina who was central to the founding and development of MNEJ. They work with youth on community development issues such as the importance of buying locally grown food, greening urban areas, safe transportation and urban First Nations land issues such as buried creeks.

Funded by the Toronto Atmospheric Fund, an English as a Second Language (ESL) bicycle project was geared to do environmental, pro public transportation/ anti-car education with new Canadians. When they arrive, most are geared up to make money, become good consumers and buy a car and a single family home as soon as they can (as a symbol of status). The values presented in this project include why and how to reduce pollution and waste and examine what kind of incentives and policies are needed to do so? Community education is important because many immigrants stay close to their cultural communities. We found this to be a good example of consumer education, motivation and attention to structural change. They have been using popular theatre interactive methods to engage people in develop their political and social analysis and actions. They are practical hands on learning activities about sustainability, health, consumerism and values in cultural communities. They know they can't say "you shouldn't be doing this (like driving cars)...we have to show the environmental, health, economic, etc. reasons why not to do it and give alternatives. They need to come to conclusions themselves after learning about the issues" (Sabina, July 27, 1995).

9. This was the subject of a scathing critique of the media and public relations firms in an article by Michele Landsberg "Big firms play spin doctor in breast cancer fight", Toronto Star, Aug 31, 1997.

10. We always learned new things from each other by modelling...Meryle stayed overnight with me and when she saw the pot I used to boil water in, she taught me that the heavy metals leach out of the pots when metal is exposed when the enamel is broken - such was the case with mine. We should only use glass, Corning Ware or unchipped enamel. So I bought cookware at yard sales and replaced all my metal exposed pots. Even Teflon can be dangerous if the metal is exposed. Only wooden spoons should be used with it. "You can use a cast iron frying pan and you'd get some iron which is good for you, but you have to oil the pan. You don't use it every day."

11. The Green Communities (Ontario) provide information and assistance to communities to develop conservation, energy efficiency and environmentally appropriate programs. Also as a model, the Quebec women's well organized anti poverty march, where women joined in along the way from Montreal to Quebec City was very exciting and motivating for all who were involved in it - it reached to urban and rural women...that kind of organizing would be good integrating strategy with women, but would require a lot of work.
12. I have emphasized this quote both here in the text where it was originally situated and in the opening of this chapter as it reflects the framework of so much of our thinking.

13. Immunotherapy or things that boost the immune system include acupuncture and particular foods and diet supplements. Detoxifying the body is necessary because toxins deplete the immune system and cancer is a disease of the disorder of the immune system. So are many others...past nuclear fallout depletes the immune system, its not the only effect but that's one she would focus on. Many people are now more aware that heavy metals in dental fillings and root canal work are harmful for your system and the fact that you can test for them...she was tested and all the metals are high in her body, she has formaldehyde and benzenes in her...this information is described in the book the Cure for all Disease by Hulda Clark Ph D. (Meryle, May 22, 1996).

14. We emphasized the need in the guide for a ‘how to’ like the WNH&E) fact sheet Common Culprits and Wise Alternatives. We could put in tips about what is problematic and provide safe alternatives...we could have some specific things like safe recipes for cleaning. Hema thought it was very important to have this kind of information...there was a supplement in the Toronto Star about what to do for safe cleaning products, baking soda and borax...but it so easy to get the bad stuff and it takes time and effort (initially) to organize the safe cleansers, not to mention the division of labour, whereby it is mostly women who are directly affected:

> Buying all this chlorine stuff is so easy, its all out there, commercially its everywhere and you go shopping and that's what you see...and who does the cleaning anyway...even if the husband does the shopping, it’s the wife who does the cleaning right...even at OISE they (cleaning women) use strong cleaning stuff and I have to go outside the room where it is being used...(Hema).

(This discussion led to the creation of the section, "Safe Alternatives to Hazardous Products" in Taking Action.)

15. I told the story of how because I was wearing my Rachel Carson button, they were interested in knowing about her and I was able to describe her and the impact Silent Spring had on the world. Sabina asked who was on the committee? it included Yuga Jomo Onega of the Environmental Centre for New Canada (ECENCA) someone from the Ontario Environment Network whom I'd met at the OEN AGM recently, the owner of the Grassroots store on Bloor Street, Toronto, and several others who were sympathetic, but they have a very narrow mandate which is to only fund community projects. I pointed out that this booklet would be a tool to help groups in their own community work. The Canada Trust Fund does not pay for salaries or for the research and development stages, just the technical production costs, layout, design, printing and so on. Since then, $9,600 was confirmed from the Canada Trust Environmental Fund! (Dorothy)

16. We anticipated that the film and guide would provide valuable tools for education and action in diverse sectors such as health advocacy organizations, breast cancer survivor groups professional organizations, environmentalists, policy makers, students, anti racist global educators, women's studies programs,
environmental studies, Aboriginal studies, women’s and community organizations, pharmaceutical, chemical and nuclear corporations who usually attempt to deny these connections, physicians, particularly oncologists, gynaecologists, pediatricians, medical students, nurses, dietitians, nutritionists, and other health professionals, golf pro’s and farmers (of whom the latter two have high cancer rates).

17. Integrating many of the recommendations from the June 1996 workshop, the following was how the guide was arranged:

**Background to the Issues: Decades of Concern**

Pesticides, Organochlorines, Plastics
Radiation
Air Quality
Electromagnetic Fields
Mammography
Tamoxifen and the Medicalization of Prevention

1. Print Resources on Breast Cancer and the Environment
2. Resources on Women’s Health
3. Women, Ecology and History: Analysis /Advocacy
4. Transportation Issues
5. Health Promotion and Advocacy
6. Political Economy and the Cancer Business
7. Human Rights and Environmental Justice
8. Workplace and Occupational Health
9. Sustainable Economic Alternatives
10. Poetry and Prose for Ecological Wisdom

**What We Can Do: Resources and Processes for Action**

11. Educational Resources, Critical Thinking and Learning
12. Alternatives to Conventional Medicine
13. Media Resources, Guidelines for Using the Video
14. Popular Education
15. Organizations, Networks, Institutions
16. Safe Alternatives to Hazardous Products
17. Glossary

The film and guide are available from the Women’s Network on Health and the Environment, 736 Bathurst Street, Toronto, Ontario, M5S 2R4
Tel (416) 516 2600, fax (416) 531 6214. email weed@web.apc.org
The guide is also available separately.

18. This person is totally committed to primary prevention. Her grandchild died from a disease she believes to have been caused by chemicals her daughter was exposed to during her first trimester of pregnancy.

19. Liz heard Dr. Elizabeth Kagi (then head of the Canadian Cancer Society) who made economic arguments on the CBC when their annual report was released. Andy Barrie (CBC radio host) commented, "My goodness, cancer is an expensive disease" and asked her about the costs which revealed that much more is spent on
treatment than on health promotion and disease prevention. The treatment Taxol alone costs $1,500 a month per patient. This should be an important issue for education on cutbacks at a time when cutbacks and reductions in health care are a major concern but it does not seem to capture the attention of either education or health professionals who are being cut back (Liz, April 9, 1996).

20. Among the many opportunities we used to promote these issues in the Report was as at a screening of the roughcut of the film Exposure at OISE/UT as a 'green bag' event sponsored by the Greening of OISE/UT and the Students on Seven (SOS, the seventh floor student association). It was attended by approximately 25 OISE/UT people, mostly students, a couple of faculty and some guests. It was followed by a lively discussion on how students could integrate such related primary prevention, health, political economy, power relationships and social issues into their own work (Hema and Dorothy, Winter, 1997).

21. I have been giving information to the dry cleaners near where I live (owned by a Chinese family) and they are hoping to transfer to green clean, not only because of my information but also Health Canada inspectors have told them that their premises are exposing the workers and the environment to too much danger.

While it is good to know that some (limited) changes are happening on the dry cleaning issue, it is frightening to think of what people are unknowingly being exposed to in their workplace often without the benefit of a union or occupational health and safety officer (Rice B., and J. Weinberg, 1994).

22. In the case of BGH, Liz noted, "it's incredible what Monsanto is doing with BGH in milk, despite studies linking it to breast and colon cancer. The "Bessie we like you just the way you are" (aimed at the federal government) was an effective campaign of awareness on BGH and led to the shelving of the proposal in 1996, but became a threat again in 1997/98).

23. Last year five Canadian Women's university centres were awarded millions of dollars for Centres of Excellence on Women's Health, we are in touch with and collaborating with the York University Centre, the National Network on Environments and Women's Health (NNEWH) but it remains to be seen as to how our grass roots groups can work with them and be remunerated for this work (1997). In 1998, the Women's Network on Health and the Environment was designated a community partner of the NNEWH which enables our group to apply for some of that funding. The project we have applied for is to develop an evaluation loop for the "Training Trainers" workshops.

24. I have used this quote earlier in this chapter as an introduction to the section Learning and praxis for prevention with women living with breast cancer because it emphasizes the urgency reflected by many people with cancer. It is used here in its original context.

Chapter V Endnotes

2. We began with general comments on the text of the transcriptions. The discussion included a range of issues within the larger context of this thesis - findings, perceptions, directions, thesis related issues such as whether we should use names of scientists if we do not have their precise studies (such as those referred to at conferences) and how far transformative learning within participatory research can allow the researcher to position herself, among other issues.

3. We sold over eighty copies of the film at the NAC AGM. We were also in discussion and planning for the women's parallel economic conference in conjunction with the Asia Pacific Conference (APEC) taking place in November (Vancouver 1997) with a focus on the impacts of global economics on health as part of the continuum.

4. See for example, Michelle Swenchuk, "WTO Shoots Down European Health Standard Thanks to Canada" in Intervenor, Vol 22, No. 4, July/August 1997. The article explains that the World Trade Organization does not allow the European Community (EC) to maintain a ban on hormone residues in beef because the ban does not comply with the new GATT agreement. Because of a complaint by the Canadian and US governments, the WTO has swung a serious blow at the sovereign rights of governments to set standards for health protection. The Canadian Environmental Law Association says that this constitutes a global legal regime that is anti-democratic and anti-green and meanwhile our governments gut health budgets and protections at home.

5. Some new community and political level advocacy was energized because of a donation of the video Exposure and the accompanying guidebook, Taking Action for a Healthy Future to all federal MPs and Ontario MPPs. This was thanks to the generosity of a donor who believed that elected decision makers should be aware of environmental links to cancer. Screenings were organized with the various party caucuses in the provincial legislature and federal parliament beforehand so they would know about the resources they are being given. We have proposed that they make these resources available for constituents to borrow from their riding offices. We are encouraging citizens to help organize screenings and discussions in community groups, city councils, neighbourhood meetings and the like and thus promote a focus on environmental health. As we know, politicians need to hear that their constituents want responses on these concerns. The expectation is that people will ask their representatives to act on their behalf in demanding more, not less environmental regulation, the building of healthy communities, encouraging safe production, pesticide free food, occupational health and safety, stopping incinerators, nuclear power, promoting clean energy alternatives. It also leads to examining what other actions we can take as individuals, as groups, in schools and so on (see Taking Action for a Healthy Future for other ideas). We have been encouraging people to attend a "Training Trainers" workshop and/or to organize one for their group or community.

6. See Hunter, D.M. et al., "Plasma Organochlorines Levels and the Risk of Breast Cancer" in The New England Journal of Medicine, Oct. 30, 1997, Vol 337, No. 18 which argues that their data do not support the hypothesis that exposures to PCBs, DDT and DDE increase the risk of breast cancer. In keeping with our critique of the practice of testing for one substance at a time, there is no mention of
the compromised immune system, radionuclides or the thousands of other carcinogens and mutagens that we are all exposed to in our daily lives acting synergistically in our bodies or that cancer has many causes and requires multiple "hits" following a genetic mutation in order to develop.) The supporting editorial in this same prestigious journal, by Stephen H. Safe, states that it is incumbent on scientists, the media, the legislators and regulators to distinguish between scientific evidence and hypothesis, and not allow a "paparazzi science" approach to these problems. He defines "chemophobia" as the unreasonable fear of chemicals as a common public reaction to scientific or media reports that exposure to various environmental contaminants may pose a threat to health.

7. Our development of knowledge and praxis both within our circle and with other organizations was as a result of collaborative efforts with them. These included breast cancer groups, the Canadian Environmental Law Association (CELA), The Canadian Auto Workers (CAW), the National Action Committee on the Status of Women (NAC), the South Riverdale Community Health Centre (see Nita Chaudhuri's booklet, 1997. Hidden Exposures - A Practical Guide to Creating a Healthy Environment for You and Your Children, Toronto, South Riverdale Health Centre, Environmental Health Program) and others we hoped would integrate primary prevention in their conceptualization, research and praxis.

8. Liz commented that while Sandra's book is not quite being suppressed, there has been a conspiracy of silence by the major American media who have not reviewed it. Liz hopes Michele (Landsberg) will continue to highlight it. It identifies the links and backs them up with valid studies, making it less likely that the subject will be dismissed willy nilly as the Globe and Mail tried to do. There should be a groundswell on her book along with the film. The book and film should be promoted hand in glove (Liz).


Generally, how to use media more effectively is a major challenge but a topic too large for this discussion, however it is one of the main reasons I initiated the film Exposure: Environmental Links to Breast Cancer and the accompanying educational materials and training workshops (1997). (See also Labonte in Chu and Simpson (eds.), 1994.)

10. Calls come in to the WNH&E office regularly from all over the world. By winter 1998, we had distributed over 900 copies of Exposure. The French version is being used in Quebec, France and other French speaking countries. There have been premieres in each Toronto, Montreal, Fredericton, Winnipeg and London, UK and numerous others planned in the future. With television broadcasts on CBC Newsworld's, Roughcuts, TV Ontario, the Women's Television Network and several international broadcasters, there has been more Canadian and international interest.

A Spanish version is under way. As a result of meeting a member of a Mexican women's health group at the Kingston conference, the group has become a partner for the versioning of the video into Spanish through the support of interested Mexicans who have high cancer rates. This means availability in Latin America,
Spain and the U.S. where its use as a tool for education and advocacy is vast because women, men and children farmworkers suffer enormously because of exposure to pesticides.

Screenings have taken place at conferences of the Oncology Nurses Association, the women's section of the Canadian Association of Journalists (CAJ), the Manitoba Ecology Network, the Coalition for a Green Economic Recovery and the Toronto Board of Education to mention a few. The Ontario Science Centre is planning a program around the film in the future. Members of the circle are helping to coordinate activity with organizations in the U.S. and Europe. There have been screenings at the Smithsonian Institute in Washington, D.C. with Dr. Devra Davis, one of the epidemiologists in the film.

11. Sandra Steingraber, biologist, in a talk given at the Faculty of Environmental Studies at York University, November, 1997.

12. In Canada, some breast cancer survivors have been invited to sit on advisory review boards of some cancer research institutes such as the Canadian Breast Cancer Research Institute, however they only review existing proposals, do not have a vote and as yet do not advocate for priority research such as primary prevention in the context of the discourse of this thesis. However their presence is there which is a first step (conversation with a member of the Breast Cancer Prevention Coalition who is sitting on two such advisory boards, 1998).

Chapter VI Endnotes


2. This is beginning to happen not only in North America, but in France and Mexico where groups are anticipating working with the French and Spanish versions of Exposure.

3. This would include NGOs, scientists, health professionals, health promoters, policy makers, business people and others to better integrate these relationships of transformative learning in health in its widest sense, for more comprehensive analysis and praxis in the future.

APPENDIX A

WOMEN, HEALTH & THE ENVIRONMENT
ACTION FOR CANCER PREVENTION
CONSENSUS STATEMENT

We are Rachel's Children*, named in honor of Rachel Carson, who was first to sound the alarm on the link between pesticides and cancer. We are women representing groups from Canada, Mexico and the United States, dedicated to ending the silence about the deterioration of women's health and its connection to the environment.

We are initiating a worldwide campaign to take action to prevent cancer - particularly breast cancer - as well as other diseases caused or triggered by environmental pollution. We do not accept the fact that one out of three people will get cancer and one in every four will eventually die from it.

Man-made toxins - such as organochlorines and nuclear pollutants - are being produced without regard to our lives, the lives of our families, future generations and the planet. These poisons are being disproportionately produced and dumped in neighborhoods of the poor, the disenfranchised and people of color. The U.S., Germany, Japan, and many other countries, export toxins to developing countries. In some areas, whole communities are being poisoned and destroyed.

We demand accountability from corporate polluters who are sacrificing the health of millions for billions in profit. As a beginning, we call for the phase-out of the entire class of chlorinated organic chemicals and an end to the production and use of all nuclear power and nuclear weapons. With careful transition planning, the use of hazardous materials and toxins can and must be replaced with clean production, renewable energy and healthy workplaces.

Women's lives and health have been compromised by the cancer establishment. We hold these agencies and institutions responsible for their inaction and failure to prevent cancer. We demand immediate action with a priority on prevention in all programs, policy and research areas.

We hold accountable our governments that are supposed to be protecting us. We challenge them to confront the polluters who are poisoning us and to stop them before millions more die. For too long, women have been excluded from decisions that profoundly affect our lives and our families. We demand our right to participate in all stages of decision-making about health and environmental matters.

We have the right to live in communities where the air we breathe, the water we drink, the food we eat and the places we work are clean and poison-free. We invite you to join us in our campaign to achieve these most basic of human rights.

Together, with effort, we can create the political will and awareness necessary to address the urgency of these issues.

*After Rachel Carson's groundbreaking book Silent Spring was published in 1962, many critics from the chemical industry asked: "Why should Rachel Carson be concerned? She doesn't have any children."

For more information contact: The Women's Network on Health and the Environment
c/o The WEED Foundation, 736 Bathurst Street, Toronto, Ontario, M5R-2R4
(416) 516-2600 - (416) 531-6214 (fax 'WEED')
### APPENDIX B

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>First meeting of our women's health circle</td>
<td>April 22, 1995, Toronto</td>
<td>Introductions, agreement of thematic approaches, and the plan to create the first WNH&amp;E pamphlet</td>
</tr>
<tr>
<td>United Nations Fourth World Conference on Women</td>
<td>September 1995, Beijing, China</td>
<td>Many &quot;action for prevention&quot; presentations and workshops</td>
</tr>
<tr>
<td>Pollution Knows No Boundaries: Breast Cancer and the Environment Conference</td>
<td>November 2-3, 1995, Niagara Falls, Ontario (often referred to as &quot;Meryle's conference&quot;)</td>
<td>All members of the circle assisted in the planning and participated in this first Canadian breast cancer and the environment conference</td>
</tr>
<tr>
<td>Women's Health and Environmental Toxins</td>
<td>November 12, 1995, the National Action Committee on the Status of Women (NAC) workshop, Toronto</td>
<td>Most members of the circle planned and participated in it. The focus was on community action, egalitarian research models, stopping polluters and legislative work</td>
</tr>
<tr>
<td>Publication of the Recommendations of the Ontario Task Force on the Primary Prevention of Cancer</td>
<td>April 1995</td>
<td>work to publicize it and create an action sheet with names and phone numbers of policy people for implementation</td>
</tr>
<tr>
<td>Mapping and Mobilizing: Women's Health and Environmental Justice Conference</td>
<td>March 1996, Toronto</td>
<td>Most members of the circle planned and participated in it. The focus was on marginalization, health and anti-racism</td>
</tr>
<tr>
<td>Community workshop for the resource guide for the film, (our last formal meeting)</td>
<td>June 27, 1996, Toronto</td>
<td>Recommendations for contents of booklet Taking Action for a Healthy Future</td>
</tr>
<tr>
<td>World Conference on Breast Cancer</td>
<td>July 14-19, 1997, Kingston, Ontario</td>
<td>Nearly all members of the circle participated, three of us were on the environmental day planning committee, many prevention breakthroughs.</td>
</tr>
<tr>
<td>Launch and standing ovation for the film, Exposure: Environmental Links to Breast Cancer, publication of Taking Action for a Healthy Future</td>
<td>September 24 &amp; 25, donor &amp; public screenings in Toronto</td>
<td></td>
</tr>
</tbody>
</table>
The Women's Network on Health & the Environment needs your support in order to continue its important work! (Please Print)

Name ____________________________

Group ____________________________

Address ______________________________________

Telephone # ____________________________

Amount of donation $ ___________________

The WEED Foundation is a non-profit corporation. Charitable registration # 0781708-29. Your contribution is tax creditable, if $20 or more.

Please make cheques payable to The WEED Foundation, marking ‘For WNH&E’ at the bottom.

If you wish to make a monthly donation please include a void cheque.

Monthly donation amount $ ___________________

Period starting date _________________________

VISA ☐  MASTER CARD ☐

# ____________________________

exp. date ____________________________

Signature ____________________________

☐ Require a tax receipt
☐ Yes, please send me the newsletter Connections.

Thank you for supporting the Women’s Network on Health & the Environment

Further resources include:


3 IMPORTANT QUESTIONS

Question: Why are an increasing number of Canadians, now one in three, contracting cancer?

Question: Why do one in eight women now have a lifetime risk of breast cancer, up from one in twenty in 1950?

Question: Why are immune system deficiencies, reproductive failures, birth defects, developmental problems, and diseases such as lupus and endometriosis all on the rise?

Answers: There will never be any crystal-clear answers, at least not from science. But common sense, and the weight of evidence, indicates the explosion in the use of toxic chemicals and our exposure to nuclear radiation and its contaminants over the past 50 years have created major, avoidable causes of human health problems, including cancer. Women can, and must act on this knowledge.

RACHEL WAS RIGHT!

Nearly 35 years ago, in her world-awakening book, Silent Spring, Rachel Carson wrote:

Many eminent cancer researchers share the belief that malignant diseases can be reduced significantly by determined efforts to identify the environmental causes and to eliminate or reduce their impact. For those in whom cancer is already a hidden or visible presence, efforts to find cures must of course continue. But for those not yet touched by the disease and certainly for the generations yet born, PREVENTION is the imperative need.

We should have listened. But, instead of taking a thorough approach to pollution prevention, governments in Canada and the U.S. have restricted a few token chemicals, such as DDT, PCBs, chlordane and dieldrin. Efforts to eliminate other toxic chemicals, or address nuclear contamination and waste problems have been achingly slow. Polluters have more than held their own, to the detriment of our health. Action for Prevention, a campaign of The Women's Network on Health & the Environment (WNH&E), is part of a growing worldwide movement focusing on pollution PREVENTION as the most overlooked key to health. WNH&E was established in March 1994 as a result of meetings sponsored by the Great Lakes Health Effects Program, which drew women from a variety of organizations around Ontario to discuss health and environment issues.

GOALS AND OBJECTIVES

- To promote a clear understanding about the links between health and the state of our environment; for example, to note that cancer incidence has increased significantly as both the chemical and nuclear industries have proliferated.
- To emphasize our right to clean air, soil, water and food.
- To share information, primarily through our newsletter, Connections, about health problems caused or worsened by toxins in our environment.
- To increase public awareness and build support for clean products and clean production processes, organic agriculture and safe, renewable energy sources.
- To promote environmental concerns as a social justice issue, in particular, the unjust targeting of marginalized communities for the siting of polluting industries and/or waste disposal.

FAST FACTS ABOUT BREAST CANCER:

- Breast cancer kills close to 6,000 women every year in Canada. Over 16,000 new diagnoses are made annually.
- Over the past 40 years, the incidence of breast cancer has doubled in Canada.
- By the year 2000, the death toll from breast cancer is expected to exceed one million women worldwide annually.
- Despite billions of dollars spent on cancer research on treatment and that elusive 'cure', the mortality rate for women with breast cancer has remained virtually unchanged over the past three decades.

WHAT YOU CAN DO:

- Support WNH&E. Donations of any amount are gratefully received (and, over $20.00 tax creditable!)
- Speak up for prevention (especially when politicians are bemoaning the high cost of 'sickness' care).
- Adopt green alternatives in your home, community, and workplace.
- Call or write WNH&E at The WEED Foundation to subscribe to our newsletter, Connections.
APPENDIX D

POPULAR ADULT ENVIRONMENTAL EDUCATION CREATIVE PROCESS:
HOW MANY ARE FAMILIAR WITH THE RAGING GRANNIES? THEY USE SATIRE, WIT AND HUMOUR SET TO FAMILIAR TUNES TO EDUCATE THE PUBLIC.
THIS IS A CREATIVE GROUP EXERCISE...

YOU ARE AT A BREAST CANCER CONFERENCE AND THERE IS VERY LITTLE FOCUS ON ENVIRONMENTAL CARCINOGENS AND PRIMARY PREVENTION OF THE DISEASE. YOU WANT TO DO SOMETHING STIMULATING AND PERHAPS OUTRAGEOUS TO GRAB THEIR ATTENTION. YOU HAVE DECIDED TO PERFORM EITHER A SKIT, A POEM, A SONG OR A SHORT STORY. IT CAN ONLY BE FOUR MINUTES LONG. YOU HAVE 15 MINUTES TO PREPARE.

What are some key points you feel should be considered?
How can you make them quickly and succinctly so they will be heard and remembered?
You can use your own motivating forces to help initiate action.
Be as funny, stimulating and satirical as you wish...

The poetry does not have to rhyme
The song should be to a familiar tune like Old Mac Donald had a Farm

DIVIDE INTO GROUPS OF EQUAL NUMBERS. EVERYONE MUST REMEMBER THEIR NUMBER. THAT'S THE HARDEST PART OF THE EXERCISE.

APPENDIX E

CONSENT TO PARTICIPATE

I understand that I am consenting to participate in a participatory research project that has been approved by the Ontario Institute for the Study of Education (OISE), University of Toronto. I further understand that the project is being coordinated by Dorothy Goldin Rosenberg a graduate student in the Department of Adult Education under the supervision of Dr. Budd Hall.

I have read the material provided to me by Dorothy Goldin Rosenberg about the research project and understand the purpose is to explore "Action for Prevention: Feminist Practices in Transformative Learning in Women's Health and the Environment (with a focus on breast cancer)". Specifically our research will examine how our own learning and advocacy towards prevention of environmentally linked health problems can be improved.

As a participant in the project, I agree to participate in meetings to develop this work together with other health/environmental activists from April 1995 to approximately December 1996 I will be available to participate in the evaluation of our collaboration.

I understand that I may withdraw from this project at any time.
Signed

Date

Copy 1: To be returned to Dorothy Goldin Rosenberg
Copy 2: To be retained by you
REFERENCES


Small, D. "Reflections of a Feminist Political Scientist on Attempting Participatory Research in Aotearoa", Convergence, XX1, 2/3, 1988 p. 90.


Taylor, M. S. Our Environment - Our Health, Ecolutions. Winter, 1994/95


Figure 1
Feminist Transformative Learning on Health

FLOWER POWER

- Safe workplaces, no toxic chemicals, BWMF
- Social and economic justice, equity
- Political and community action, challenging patriarchal economic and social power relations
- Caring for each other, caring for the planet
- Mind, body spirit, earth relationships
- Sustainability, clean safe, production, public transportation, nuclear phase out, safe energy, conservation, solar power
- Activist women in decision making
- Environmental justice, anti-racism
- Head, guts & feet, Pathways to advocacy
- Peace and non-violence, demilitarization
- Strong health promotion legislation, no SICH or food irradiation, home food labeling, evaluation without interference
- Media approaches from drug industries
- Popular adult education, life long learning
- Needs of cultural groups
- Education in schools with children, parents and teachers
- Transferring medical establishment's thinking
- Educating health professionals, cancer organizations, ministries of health, environment and agriculture

Feminist Transformative Learning on Health
Figure 2

SOME PATHWAYS TO ADVOCACY

HEAD
- Thinking
- Cognition
- Intellect
- Memory

GUTS
- Feelings
- Motivation
- Heart
- Spirituality

FEET
- Planning
- Organizing
- Advocacy
- Action