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**THINKING ENVIRONMENTALLY:
ENVIRONMENTAL INFORMATION AND ENVIRONMENTAL EDUCATION**

by

Paula Christine Carty, B.A. (Hons.)

A thesis submitted to
The Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of

Master of Arts

Department of Geography

Carleton University
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**"THINKING ENVIRONMENTALLY:
ENVIRONMENTAL INFORMATION AND ENVIRONMENTAL EDUCATION"**

submitted by Paula Christine Carty, B.A. (Hons.)
in partial fulfilment of the requirements for
the degree of Master of Arts

A handwritten signature in dark ink, appearing to read "T. P. McKee", written over a horizontal line.

Thesis Supervisor

A handwritten signature in dark ink, appearing to read "M. Smith", written over a horizontal line.

Chair, Department of Geography

Carleton University
September, 1996

Abstract

An exploration of individual and social environmental information is a necessary step in understanding and evaluating human interaction with environment and environmental education. This thesis explores the linkages between various forms of learning and outcomes as public expressions of environmental understanding. A framework for environmental education is adopted to be representative of environmental learning as a whole, because it recognises that environmental learning is not uni-dimensional but stems from learning *about* environment, learning *in through* the environment and finally learning *for* the environment. Various sources of environmental information are investigated such as formal education and media. Other influences are also discussed including identity and experience as well as the discourse of environmentalism. A discussion of the utilization of environmental information during a local public consultation project illustrates environmental information in action. The method of inquiry varies according to information source, which is reflective of the variety of learning experiences. The thesis concludes that environmental information stems from many sources and influences the public and individuals in many ways; and environmental education as well as environmental decision making should take this into account.

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Any project, no matter how individual it is intended to be, is never produced in isolation. This thesis is a reflection of the many people that made it a reality (although, admittedly, the errors are all mine). In doing a project that was not based on "testing" but rather based on thought, experience and understanding, it became obvious to me how vital my support system was to my overall success.

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Chapter one Introduction

"Solving our environmental problems requires a new perspective that goes beyond science and has to do with the way that everyone perceives the world" (Botkin, 1990, p. 5).

"... if the ultimate aim of environmental education is to sustain our planet and its resources for future generations then a related aim must be to provide an education which encourages people to strive towards that goal. Presumably, if environmental education is about producing well informed and environmentally active adults, then those responsible for it should have some idea of the kinds of learning experiences which help to influence the development of environmental care and concern" (Palmer, & Neal, 1994, p. 3).

Some people interpret an image of wide open space as a sense of freedom, others as an agricultural resource and still others as an area for conservation. Our perceived view of environment is based upon what we have learned, which has in turn influenced the way we interpret, manage and discuss the environment and its potential. Callicott (1989) claims the meaning that we attach to the environment is our motivation behind our actions. Variation in meaning is a result of individual interaction with multi-sourced and multi-perspective environmental information. This is based upon the belief that environmental learning does not and cannot be isolated and attributed specifically and solely to formal education.

The purpose of this thesis is to explore linkages between various forms of learning and outcomes as public expressions of environmental understanding. It is based on the awareness that public environmental expression originates from different sources of information. The exploration is a critical review of environmental information sources and the impact of information on meaning. Several factors are seen as being paramount to understanding the way individuals gather and develop information into meaning. Through the development of an

environmental education framework, an understanding of the necessity and process of environmental learning emerges (chapter 2). A main factor that influences environmental meaning is based upon the packaging of the message. A form of packaging (or the language) which may influence our perspective is environmentalism (chapter 3): environmentalism is the discourse of environment including the direction of research. A second factor, identity and experience (chapter 4), has a very central influence on individual meaning: Individuals filter information based on personal experience. Formal education (chapter 5) and media (chapter 6) are obvious sources that provide similar information to many people. These both contribute to public knowledge, perception and understanding of environment that leads towards the formulation of environmental concern and thus environmental action: environmental action (chapter 7) is a process that not only is a result of learning but also is another level of learning, and yet another source of environmental information.

overall approach

Information about the environment is multi-sourced, and therefore research about the environment must be multi-faceted¹. The justification of this is simple. In order to understand and examine how we transfer² environmental information we must be able to examine the information in context. This paper does not engage in a single method throughout but does follow an overall research tradition which theoretically grounds, guides, influences, and often illustrates the presentation of the arguments as well as the differing methods used within. In essence, this perspective is the epistemological understanding that influences the development of the other chapters. Berg (1995) suggests that research itself is not separated from the ideological and theoretical environment in which it was developed. Not only does research, in general, develop and contribute to ideological and theoretical advancement but it also seeks

¹Being multi-sourced and multi-perspective.

²Transfer refers to use. See 'environmental learning'.

understanding of those influences. Because research is grounded in perspective, it is necessary that I briefly state my methodological influences.

This paper is based within the qualitative research tradition. Berg (1995, p. 3) states that qualitative research refers to "meanings, concepts, definitions, characteristics, metaphors, symbols and description of things". Qualitative research implies 'essence and ambiance' as opposed to 'events and measures' used in typical quantitative research (Berg, 1995).

Research involving the study of meaning and commonplace understanding has attracted much criticism for the approach, because validity is often not blatantly proven (Berg, 1995; Field and Morse, 1985). However, this perspective does not seek validity in a consistent re-evaluative sense. Traditionally, the seeking of validity is an expression limited within the correlation between reality and certainty. A non-traditional (for example) approach to research would, of course, seek a different state of validity where significance may be weighted in understanding. This paper, although often times more theoretical than evaluative, seeks to understand exposure of individuals to environmental information and to its eventual influence on individual actions.

Qualitative research permits an examination of how people learn about and make sense of the world around them (Berg, 1995). Theoretically, a qualitative investigation can allow for the reconstruction of social realities (Harding, 1991); and in this sense, it gave me the theoretical understanding that allowed me to deconstruct environmental information, to indicate that the formative structures of educational policy and environmental policy do not reflect all that is meaningful and influential in our understanding of the natural world around us. In this discussion of environmental learning it is not essential to understand information sources *per se*, but instead the context of information meaning. It is meaning that influences action most significantly (Callicott, 1989).

In seeking meaning it is necessary from a research point of view that we (as researchers) move away from constructed knowledge or formalised information toward the understanding of "common place". Kirby and McKenna (1989, p. 17) state:

"it is important that the process of investigating the world not remain a specialised activity. Our everyday lives teach us skills which we use to observe and reflect on our experience, we focus on problems, ask questions, collect information, analyze and interpret "data". We already 'do research' as we interact with the everyday world."

In relation to "common place" meaning, this project aims to illustrate that information, as a contributor to meaning, is developed from a multitude of experiences including formal and institutionalised learning, none of which, however, can be seen as the sole producer of meaning. This work discusses, if not questions, the production and acceptance of knowledge and looks toward alternative ways to understand meaning and the multiplicity of information. In this context research has been pushed into "marginal" arenas where we must question the construction of defined meaning. Research from the margins involves the recognition that change and explanation are only possible through exploration in everyday social meanings (Kirby & McKenna, 1989).

I have also affirmed personal identity in the research process. Post-modernity³ suggests that we must recognize our own positions and perspectives in our research to seek explanation to meaning (Gregory, 1994). Therefore, this paper often relies on anecdotal referencing. This fits within my theoretical framework that suggests all information has meaning; and secondly an anecdotal approach follows a tradition of environmental writing whereby writers often use personal histories to express individual meaning (e.g., Aldo Leopold, Rachel Carson). Life worlds represent a set of experiences, routines and conditions that influence the way we visualize and behave in the social (Buttimer, 1976), or more appropriately, the natural world. The focus of life worlds is upon the language and meaning attached to experience. As I am not representing a group of people or their interests and I am, instead, exploring the multi-sourcedness of environmental knowledge, I draw upon my own interpretation of information as evidence. I do not wish this paper to be a personal journey

³Postmodernity according to Gare (1995) is not a perspective but, in fact, an era that signifies participation in debate about change and transformation. Gare (1995, p.4) argues that the environmental crisis is the "ultimate disorientation accentuated and represented by globalization". Because postmodernism recognises the perspectives of 'living', social organization and fragmented culture it moves to more oriented understanding of environment.

per se but rather I feel I cannot represent meanings that are foreign to my understanding. I do suggest that there are more sources and more meanings of environment than what is discussed here, and by no means is mine exclusive. Through exposure and awareness of the multiplicity of environmental learning we should thus be able not only to push research into new domains, but also to improve the status of formal environmental education and the knowledge and understanding basis for environmental decision making.

Chapter Two: Environmental Education and Learning

introduction

Palmer and Neal (1994) claim that if we are to teach and ultimately learn about the environment then we must, as teachers and as students, understand that environmental information stems from many sources. Our environmental knowledge is not learned in one place or from one source, and because of that, our approach to environmental education should not be so uni-dimensional. This paper is based on the premise that to implement a successful educational program, and a successful environmental management program as an outcome of learning, we need to become fully aware of how environmental information influences work.

Environmental education and learning, whatever the source, are the building blocks from which other environmental analysis can occur. We cannot advance the current state of environmental education, or environmental knowledge for that matter, without clearly understanding what we know and how we learned it. To assume environmental education/learning is a constant for all individuals (across space and time), and it is transferable, potentially exacerbates any misrepresentation and misunderstanding of how we should use, manage, and think about the environment. Therefore when formulating the basis for environmental management decisions, environmental education curricula, and environmental analysis, in general, it is imperative that we recognize that there is not a singular method or style in learning and understanding and ultimately in 'using' the environment¹. I aim to illustrate the multi-dimensionality of environmental learning through a

¹"Using" the environment applies to most positions of human interaction with the environment. This paper assumes that the anthropocentric view of nature is what dominates, for the most part, our environmental understandings. Regardless of activity (whether it be recreational, agricultural, etc..) the environment has an implied use. Ecocentric

review of environmental education literature. Environmental education literature is limited to primarily formal learning and within that, is limited as more of a criticism of formal teaching methods than a celebration of success. However, the literature does provide a framework from which to judge how and why environmental education should progress. The environmental education literature centres predominantly upon the information presented through UNESCO (United Nations Educational, Scientific and Cultural Organization), UNEP (United Nations Environmental Program), IEEP (International Environmental Education Program) and local curriculum plans. Also of importance is the role of education as defined through documents such as *Canada's Green Plan* (1991) and *Our Common Future* or the "Brundtland report" (World Commission on Environment and development [WCED], 1987). However, it is necessary from a learning point of view to recognize that if government and non-government organisations and commissions are the driving force behind setting the environmental education agenda, then there is a need to recognize the role and direction this agenda may take. In other words, it is necessary to recognize that environmental education may be figured in a development goal rather than a goal within itself.

This chapter outlines a conceptual framework of environmental education which is used to guide the remainder of the paper. This chapter is divided into two sections. The first addresses the environmental education literature which defines the elements engaged in or influencing environmental education, and is applied to this overall study. A framework emerges that forms the conceptual basis of this paper. Second, this section addresses learning and how information is processed and transferred. We cannot discuss information sources, perspectives and influences without addressing the process that information undergoes at the individual level. Environmental education and environmental policy representation cannot occur until we understand process.

ideas do exist, and are very valid in influencing information gain and use, but I suggest that even ecocentrism is complicated by external influences that may work to direct this philosophy and have it appear somewhat anthropocentric.

environmental education (formal and informal education)

aims and conflicts

Environmental education is the process of developing knowledge and values about the environment which aim at cultivating skills and attitudes necessary to interact and manage the environment (Bennett, 1989). Environmental education is the practice of developing understanding in which learning and successful transmission of environmental information are prerequisites. Environmental education is not a new concept in that human societies, in some capacity, have always taught environmental interaction (in many cases survival and subsistence depended on that knowledge and skill). But it has recently been under much scrutiny as a 'school' subject as the environmental problems are believed to be deepening. Environmental education is seen as the root of success for the environment and the environmental movement as a whole (linking education with development). In order to be successful, critics (such as Kelly, 1977; Ewert, 1986; Bennett, 1988) have suggested that environmental education as a whole should reach toward the following aims:

- appreciation for the environment and its complexities;
- positive actions and participation (Arcury, 1990);
- realization and awareness of natural and human environments, realization of interdependency;
- achievement of healthy balance of positive and negative information (Kelly, 1977);
- initiate a sense of responsibility;
- encourage curiosity (in order to stress further learning);
- provide a balanced level of spatial understanding from local to global;
- appreciation of alternative views of environment;
- the importance of planning and design.

According to Kelly (1977) and Ham and Sewing (1988) many formal environmental education programs have failed. The reasons for the inability to reach goals lie in the nature of the information provided. I suggest that these drawbacks to environmental education programs exist across the environmental information spectrum. The following lists the most

common reasons for unsuccessful environmental programs, that I have observed', wherein these outcomes conflict with the aims stated above.

- a sense of alienation which is often realised in the form of individual separation from the natural world (Eversden, 1993);
- a large scale global perspective which minimises the validity of small scale and local concerns. The environment is perceived as too big for a single person such that individuals feel overwhelmed (Gore, 1993);
- blame and victim labelling in the realization of an environmental crisis;
- instillation of much fear (some argue fear implements a healthy balance that suggests respect). Fear in the form of repetitive negative information specifically concerning "health" is harmful (Caduro, 1984);
- mis-association between terms and mis-information (Huberman, 1994);
- the implications of under-estimating and over-estimating abilities;
- a lack of interest. This develops often as a result of fear, over-estimated information and unbalanced negative information (Kelly, 1977);
- a lack of action and participation as result of information exposure.

The aims and failings of environmental education need to be kept in view when discussing environmental meaning because then we can evaluate the source for learning as being open, democratic, inclusive and reflective of the best current understanding and practices.

global frameworks

Recently, with the re-emergence of a global environmental concern, attention has been drawn to the importance of environmental education. In this context the goals have been evaluated or refined so that "environmental education" should raise concerns and encourage co-operative human-environment interaction. The international recognition of environmental education (as discussed in chapter 5: Formal Environmental Education) has brought much attention to the changing needs of environmental education. Tbilisi, First Intergovernmental Conference on Environmental Education (UNESCO, 1977) initiated the recent changes in perspective. The Tbilisi conference introduced three recommendations for environmental education (UNESCO, 1977):

²My observations are based on a synthesis of the literature. The authors referenced here do not specifically look at environmental education, but rather perform research that may be applied to environmental education

- 1) To foster a clear awareness of, and concern about, economic, social, political and ecological interdependence in urban and rural areas.
- 2) To provide every person with the opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment.
- 3) To create new patterns of behaviour of individuals, groups and society as a whole toward the environment.

The ideas developed at Tbilisi and the Tbilisi revisit in 1987 (UNESCO, 1977; 1987) were capitalised on and developed further in the following years. Palmer and Neal (1994) stress the importance of Tbilisi as it provided "a framework for the development [of environmental education] in the world today" and, particularly for this study, it is important for recognising the role of formal and informal³ educators. Since their introduction, the Tbilisi ideas have found their way into the theoretical base of current environmental education literature, for instance in 'National Curriculum' in the UK.

The National Curriculum, adopting the Tbilisi recommendations, developed a significant understanding of the organization of formal environmental education by 1990. Palmer and Neal (1994) cite specifically the interpretation made by the National Curriculum Council in 1990 as creating a cast for environmental education from which other formal education should follow. The National Curriculum stressed the importance of the 'environment' as a subject matter which should be cross-curricular in that "an environmental dimension can be found in most aspects of education" (Palmer & Neal, 1994, p.18). Thus, the outline of environmental education⁴ approach provided by a synthesis of the National Curriculum (1990), Palmer and Neal (1994) and perhaps even Tbilisi provided a framework which justified the appropriateness of recognising the multiple influences of environmental information acquisition. The elements identified by the National Curriculum, and the

³Informal educators are, in general, to be considered non-school (and hence having objectives that are not primarily educational) but I define informal educators to represent people in the business of producing information (e.g. media) as opposed to knowledge gained only experientially (see chapter six on media; and chapter four on experience and identity).

⁴Although this paper does not centre around classroom environmental education, the field of formal education does provide a useful framework.

interpretation and framework design of Palmer and Neal (1994), is a basic premise of my work. It is elaborated below.

education about, in and for the environment

The National Curriculum (1990) identified three threads for holistic environmental learning: education *about* the environment, education *in and through* the environment, and education *for* the environment. These three elements mirror factors of 'an individual's perception, which is essential to learning and understanding'. Education *about, through and for* are defined (Palmer & Neal, 1994, p. 28):

*Education ABOUT the environment*⁵ - is education whose goals are based on the development of knowledge' (Palmer & Neal, 1994). I suggest that this is the type of information that has driven education programmes in the past. This type of information is often classified as "textbook", where information is gained by the memorisation of points. Information about the environment is positivist and where information that has been proven correct and therefore considered factual has been given precedence as 'knowledge'. The objectives of this approach are cognitive and are aimed at a large population (Palmer & Neal, 1994).

Education IN or THROUGH the environment - is knowledge or information that we gain through our interaction and experience (Palmer & Neal, 1994). Here, the environment, itself, is a resource for learning. Education gained *in or through* the environment is then by definition "hands on". Often this is enhanced with what we consider traditional, cultural and individual ecological knowledge. Values and attitudes toward the environment develop through learning. This type of information can be more likely be classified as 'understanding' rather than 'knowledge', where knowledge is contextual and understanding allows for transference. This is experiential learning.

Education FOR the environment - considers the exploration of personal responses and relationships to the environment and with environmental issues (Palmer & Neal, 1994). In essence, education *for* is about how we use what we know. This information is often associated with the 'action' side of learning. Attitudes and values are often associated in this category of environmental education as well, because education "for"

⁵Perception is determined by knowing *about, through and for*

⁶Education "about" is given the term of "knowledge transfer" in the research on learning

⁷Palmer and Neal (1994) suggest that "understanding" develops with knowledge but, in my view, "understanding" requires the ability to conceptualize, which stems not only from factual information but also from perception (and related values and attitudes) as well.

is reflective of behaviour. Understanding is fundamental at this point because action (from an environmental point of view) requires some sort of knowledge and attitude awareness (right or wrong). Environmental use, management and participation in decision making are example of our education *for* the environment. Education *for* environment cannot be singularly viewed as a product of education, but also must be considered an information source, since it produces information, learning and understanding and ideas as well. This is a measure of affective environmental outcomes.

Environmental education then, as a holistic entity, can be considered the sum of the three elements defined above (Figure 2.1). For environmental education to be holistic, while acquiring knowledge, skills and attitudes, we need to recognize that education is incomplete (not dysfunctional, but incomplete) without all elements included⁸. I began this project with an examination of formal educational structures where I intended to investigate 'what environmental information' is being represented, currently, in local school systems. This was an idea that had developed out of my attempts to deconstruct my exposure to environment through children's environmental projects. What was evident was that when schools did present environmental information it was categorically limited (this will be elaborated in chapter five). The definition of environmental education, in my experience, was different in that more weight had been given to materials such as texts, labs, and media (the *about* part of learning) than to what children know through experience, and have the capacity to know, and similarly have the capacity to absorb, understand and ultimately deconstruct. In this context, environmental education in my actuality was defined as in Figure 2.2 which shows that *education about* dominates the formal learning approach of the educational system and may be influenced only slightly by the other categories.

⁸This is not necessarily suggesting that about, in through, and for are and should be weighted the same but should be recognised as being a part of the learning spectrum (recognising that situations and individuals dictate varying degrees of influence)

figure 2.1: Holistic Environmental Education

simply where. ABOUT + IN/THROUGH + FOR = ENVIRONMENTAL EDUCATION

figure 2.2: Formal Environmental Education

The influence of *in through* and *for* develops from what teachers and students as individuals bring into the classroom, but these three elements may not have a mandated or formally recognised place in curriculum guidelines¹. The importance of *in for* is implied, in order to fill some obvious curricula gaps (for instance supplement education with experience or "hands on" approaches). If we look at environmental learning as being necessarily holistic, then I suggest that the form represented in figure 2.2 of formal environmental information cannot possibly add up to a complete environmental education as the focus is uni-dimensional. I suggest that incomplete recognition of the multi-perspective of environmental education cannot lead toward the type of environmental understanding and commitment that is necessary to bring about changes proposed at the World Conservation Strategy (IUCN, 1980), in the Brundtland report (WCED, 1987) and at the Rio Summit (1992) where these changes include international environmental awareness and sustainable development².

models for teaching and learning

Palmer and Neal (1994) suggest that responsible curricular planning must take into account the interrelationship among all the elements. The inter-related structure is not as simple as education being the sum of the elements. As Figure 2.3 illustrates, the framework devised in Palmer and Neal's interpretation of the necessary components of environmental education and learning, 'knowledge and understanding', concepts, skills, and attitudes are the central goals of environmental education. The goals cannot be realised, in part, as the core represents a nucleus that does not exist when it is fragmented. Nor can the goals be realised without inputs from all the elements.

¹It should be clear that this is a general observation based upon my experience and that, when some guidelines were examined, the three aspects (*about, in through, for*) were not present. Changes in some curricula planning such as *Common Curriculum* (OME, 1995) are still limited because the documentation lacks practical guidelines (refer to chapter five).

^{2,3}These terms have associated meanings (see chapter three), however, here they are used in the context of education for a better environment.

figure 2.3: Interrelated components of environmental education

after Palmer and Neal, 1994 p 30

figure 2.4: Model for teaching and learning in environmental education

after Palmer and Neal, 1994, p. 39

It is also notable that influences between the core and the outer elements (arrows) are bi-directional indicating that the advancement development of knowledge and understanding is dynamic. Palmer and Neal (1994) used this framework to create a model for teaching and learning in environmental education (see figure 2.4).

Whereas figure 2.3 illustrates the importance of the components of formal environmental education, figure 2.4 aims to present crucial elements of individual environmental learning. Palmer and Neal (1994) identify three critical elements of individual environmental learning that are "personal experience, the development of personal concern, and the taking of personal action on behalf of the environment". They also suggest that activities designed within the curriculum can be adapted such that the three individual elements have defined outcomes (they provide some examples where various tasks and objectives are categorised as being *about*, *for* and *in/through*, and the outcome is centred). My interpretation of this model varies slightly from their original intent. Palmer and Neal (1994) have designed and discussed environmental education specifically in a formalised structure, but I suggest that this must be expanded to include cross-source, multi-dimensional learning. As a framework about individual environmental learning (Figure 2.4) it is believed to illustrate a process that is transmissible across the spectrum of learning. I suggest that the activity conveyed in this diagram applies to most if not all environmental information acquisition, where inputs stem from various sources and at various stages of the development of "nature" and environmental outlooks. This is an especially important realization as environmental education is a lifelong ongoing process that exists external to the classroom as well as in it.

individual environmental learning

This framework of formal environmental education provides tremendous insight to understanding the interrelationships between information types and the processes and styles of learning (Young, 1993). The framework and its components are also easily transferred to beyond the classroom whereby everyday knowledge and learning suggest how we interact with

the environment and associate information, on a daily basis, as a public with opinions, and some as experts attempting to manage the environment for societal benefits (presumably). Environmental education programs have to change so as to recognize that environmental information is available from many sources. This realization, I believe, needs to alter the defined outcomes of environmental education to enhance and overcome obstacles in public environmental information. Also, I suggest that information type and process influence how we as individuals act environmentally, including our own environmental management and participation in policy formation. Therefore, my conceptual framework is based on a formal environmental education framework, but it attempts to take into account the different sources of information and associated filters to information transmission (outlined in 'environmental learning' discussed later in this chapter).

Figure 2.5¹¹ aims to illustrate the interrelationships between environmental information sources and information utilisation (or simply the application of what we know). Figure 2.5 emerges as an understanding of the many linkages to environmental learning. It illustrates that information is not just 'fed' to us from formal learning, but rather environmental understanding is a holistic process that entails the gathering, filtering and combining of prior knowledge. Figure 2.5 illustrates the difference in socially and individually produced information as well as the role of information vehicles such as media and schools. All information presented must pass through the centre box that represents an individual's ability to accept and process information. Each vehicle (information source) has many layers in front and behind. Each vehicle mainly represents a type of environmental information. For example, there is a complex relationship between the vehicles of individual experience and policy. Individual abilities and intuitions can be shaped by all of the different vehicles (e.g., formal education), nevertheless, what we accept as valid knowledge will be brought to the policy development process (our voices).

¹¹This diagram would better be represented with a third dimension as it only illustrates one of many layers of information. It is depicted as a 'slice' of individual environmental information.

When information contained within official policy becomes entrenched, it is then possible that we as individuals will accept this information as knowledge and subsequently use it to justify further research or planning measures. Thus there are multiple relationships depicted between the vehicles in figure 2.5. However, the diagram is not complete because it is reflective of a cross-section of individual information flow, where this represents a level of environmental information (particularly reflective of influences of an individual). Incompleteness must also be considered to be a result of the premise that I cannot map all information sources since I am only aware of/affected by a sample of the total. I would even suggest that each individual's environmental relationship (and consequently an involvement with environmental information) is unique, much like a signature, but where the influences are quite different.

The focal point where information gathers is placed at policy formation/environmental decision making because it represents an outcome of learning. Here, policy is considered a reflection of how environmental information is transcribed into consenting societal action, and how we perceive the environment. Participation in decision making, then, is a documentation of environmental information at work, but of course not an end point. But policy-dependent decision-making is also an input to learning as well, and influences information in other spheres.

An individual's ability to process¹² information is affected, I believe, by the sources of that information. For example, information related to individual experience reflects an 'agenda'¹³ in contributing to values rather than factual knowledge¹⁴. Information processing is affected by the method of communication or the context in which it is presented (Kail &

¹²see next section concerning 'learning and information processing'.

¹³Information may be context-dependent such that the source influences the message and presentation. Certainly information can be said to have an 'agenda' when it works to present a political message or aid/hinder social perception of the status quo. Special interest groups utilize common knowledge to influence their point and are therefore perceived by others as harbouring an agenda.

¹⁴It should be noted that factual knowledge remains factual, independent of whether it is actually valued or even recognised by a perceiver, but will only become knowledge for a perceiver who finds value/meaning/need in knowing that information.

Bisanz, 1982). An examination of the language or what may be considered the discourse of environmentalism is necessary to understand the relationship between language and perception, and ultimately learned information. Language and methods of communication act like barriers or filters, which affect the extent to which the information and its meaning is received by the individual for processing (Schunk, 1995). Use of information by an individual is also affected by knowledge and understanding already existing, the interpretation of information, and filters of communication (Schunk, 1995). The creation of knowledge, then, is a process of building on, and/or breaking down or replacing, already existing interpretations. This process reflects the idea of the Kuhnian scientific paradigm in which theory is replaced when new and more convincing theory is presented (Harwick, 1993). Information is based experientially and/or scientifically, and must add to, modify or replace existing information. Experiences are often fundamental in the formulation of original thoughts¹⁵ (Valle & Halling, 1989). Therefore, like the scientific paradigm, it is difficult to accept information that is contrary to our belief structures, regardless of what the message says. The impact of the message is clearly fundamental to how well the information will be processed or associated (linked to previously gathered information) by the individual: this explains the effect of news and information media, especially tabloid sensationalism.

The links directed by arrows in figure 2.5, between the elements are, in most cases, directed toward and from elements and the core, as well as between each other. This suggests, first, that no information and/or source of information stands alone. Second, I believe this diagram illustrates the dynamism between all components and that environmental information itself is in a constant state of flux, and may be individually constructed rather than communally constructed, societal communal belief systems notwithstanding.

¹⁵Original thought refers in this sense to an individual's first conception of an idea for him/herself, even though others may have thought of it before.

learning and information processing

Since this paper examines information processing, it is useful to discuss how information becomes meaningful. The value of information is based upon its perceived meaning (whether correct or incorrect). The meaning we attach to information reflects how we will act, and even our ability to act. What we learn, for example, can affect how we will make environmental decisions, practice environmental management and accept/use new environmental information. Therefore, this section addresses the internalised process of learning as we acquire, process and store information.

learning

Learning is a dynamic process involving the acquisition and modification of knowledge, skills, strategies, beliefs and behaviour (Schunk, 1995). Bloom (1956) looked at learning as a hierarchical taxonomy that saw the learner move from knowledge of a thing to the ability to intellectually analyze and synthesize information. Shuell (1986) defined learning as an enduring change in behaviour, or in the changed capacity to behave, which results from practice and other experiences. In general, learning is an internal process that acquires, assimilates and encodes information, thus producing meaning.

In classical behavioural theory, learning is about changing behaviour as a result of a consequence (Skinner, 1974). This approach is considered a stimulus-response model in which, for example, if a stove element is hot upon touch, we immediately release our touch. 'Stimulus and response' suggest our behavioural reaction, but has said little about the meaning gained or the situation in which it arose. It completely ignores the mental processes involved in understanding what has just happened. In contrast, cognitive theories of learning emphasize the role of developing knowledge and of making knowledge meaningful. Cognition is the mental activity associated with the processing of information (Piaget & Inhelder, 1969). Here, environmental conditions, the individual's social beliefs, values and attitudes, as well as the social situation, influence how information is processed. I consider the cognitive perspective

in association with current theories of information processing to be appropriate to this study. Information processing theories are based upon computer models, and provide discussion about processing, accessing and mindfulness (in the sense of conscious control over perceiving, storing and recalling abilities) (Thomas 1985).

Information processing is a generic theory which addresses the sequence and execution of cognitive events. Figure 2.6 is a model of information processing (Schunk, 1995). The information is acquired through an input mechanism, perceived through sensory components, and placed into working memory. The sensory components add perspective which then becomes the rational basis for meaning. The perceived information placed into working memory is the available memory dedicated to the immediate task. At this point a response can be formulated. However, the new information in the working memory is not the sole basis for a response. Selective information from the working memory moves into a longer term memory. In this area we have two types of memory: one that is active which we constantly rely upon; and long term memory where we simply store information indefinitely until needed¹⁶. The control (executive) process which appears to oversee the operation is what regulates the flow of information (Schunk, 1995).

This model also illustrates that material in long term memory can influence the use of the new material. There are two types of tasks (associative and cognitive) that explain how the brain deals with having to make decisions and execute actions based on the combination of new and past information (Domjan & Burkhard, 1985). Associative tasks rely upon familiar material which is firmly entrenched (Domjan & Burkhard, 1985). Here, experiential knowledge is very influential. Certain cues trigger responses. Riding a bicycle or driving a car are associative tasks in which the skills and knowledge necessary to run these tasks have already been learned and stored. Even though each event is new, the skills remain the same.

¹⁶Although need may not be apparent or defined.

figure 2.6 Information Processing memory model

after Schunk 1995, p 151

When a new situation arises, with new information being presented, then the task becomes a cognitive task (Anderson, 1982). New information must be processed while relevant past knowledge is reprocessed. Cognitive tasks can only occur one at a time, whereas we can engage in several associative tasks simultaneously (e.g., talking while driving) (Lavoie, 1989). Once new information has been processed and combined with past information, the individual's knowledge base has increased and presumably been enhanced. This illustrates the dynamism of learning: but retention and recall/access to the stored knowledge is not guaranteed.

Social cognitive/learning theory utilises cognitive and information processing models and gives consideration to the thoughts within the individual (Bandura, 1977). In this sense, the three theories (cognition, information processing and social cognition) of learning can be synthesised (which I adapt) as an explanation of individual learning processes. Social learning theory suggests (and perhaps assumes) that learning is influenced by three factors/sources of information (Bandura, 1977). First, individual learning is a product of the inter-relationship between the individual, his/her behavioural responses and the environment in which it was created (Bandura, 1977). Figure 2.7 illustrates the linkages. The *person* can be influenced by his/her previous *behaviour*, as seen with the stimulus-response model where we learn from our actions. Also, the person can be influenced by the social and natural *environment*. The *environment* includes, I believe, factors based upon demographic and socio-economic situations or what I will address later as 'situational knowledge', and outcomes of identity. The *person* can influence the behavioural outcomes and can bring about change to the *environment*. *Behaviour* and *environment* are also linked, suggesting a rather deterministic relationship whereby behaviour can be associated with certain environmental conditions. The determinism of this approach is one its criticisms (Mahrer, 1978).

Second, social cognitive theorists, such as Bandura (1977; 1986) suggest that cognition is developed through "enactive" or "vicarious" activities. An enactive task is one in which we are involved, in which we are participating (Schunk, 1995). We gather information enactively by becoming wilfully involved.

Figure 2.7 Triadic reciprocity model of causality

after Bandura, 1986, p.24.

This is considered 'learning through practice' which is often associated with formal education, but which can occur of course at anywhere any-time. In comparison, vicarious learning illustrates that we can learn by being an observer. Vicarious learning is non-participative, external and can be quite incidental. The media are considered the most significant way to learn vicariously. Both enactive and vicarious learning illustrate that learning is an activity that can occur anywhere. However, there is a barrier for any kind of learning: natural maturing processes prevent the acquisition and utilisation of any information that is not developmentally appropriate for the individual. The most obvious example of this comes from watching babies grow. Children cannot walk, for example, until their bodies are sufficiently developed. The same is true with mental processes; for example children must go through stages of learning (Erikson 1963, 1974; Piaget & Inhelder, 1969)¹⁷.

Third, learning is believed to be based upon performance. Piaget and Inhelder (1969) were the first to claim that interactive learning was much more successful among school children than non-interactive learning. They suggested that children could best understand "science" if they were experientially familiar with the material (Piaget & Inhelder, 1969). Understanding is considered more important than being able to memorise material, or remote learning. "Hands-on learning" as a formal education tool has gained much momentum through effective teaching methods research (Thomas, 1985). And integrated learning approaches, which use experiential knowledge in combination, can allow the learner to infer or to apply information in new ways (Elkind, 1976).

information transfer

Without the ability to transfer information all knowledge would be situationally specific (Schunk, 1995). For example, when we learn of a new research finding we must be able to take the finding out from the "lab" and place it into a real world context. Transferring

¹⁷The learner could gain information before developmental age norm, as in the case of accelerated maturation and exceptional learning (giftedness).

information occurs on a daily basis, with information of varying levels of significance to the individual and to the community.

Information may be understood to the extent that information, once processed, can be reapplied to a different situation. The individual and the information source are influenced by various internal, and especially external, factors which act as filters. These filters influence the effectiveness of the message sent to the individual from the source, the individual's processing, and eventually the individual's ability to transfer his/her knowledge in new applications (Kail & Bisanz, 1985).

The transfer of information is not guaranteed to be successful or even significant. But, I suggest that the transfer of new¹⁸ information to a new application requires a particular degree of understanding or perceived understanding. If an individual understands¹⁹ what he/she has learnt then he/she has the ability to transfer that knowledge to a new situation. The ability to transfer assumes that the individual has overcome the filter barriers or is at least mindful of their existence²⁰. Information transfer learning theory is similar to the communication model (figure 2.8). If no externalities existed then the 'destination' would completely understand, in context, the message of the 'source'. This would be a "pure transmission"²¹. And as a result, intended meaning would be the same as the received meaning. However, McPhail and McPhail (1990) claim that the clarity of message transmission is influenced by "noise". Noise is a set of factors (or filters as in the learning model) that influence, enhance or degrade message transmission.

¹⁸'new' means information recently gathered and processed that allows for transfers.

¹⁹Understanding does not suggest one correct way.

²⁰By saying mindful I am not suggesting that the individual be aware of certain situations (for example socio-economic factors) that are hindrances, but be 'alert' enough to overcome message interference even if the message is interpreted incorrectly.

²¹"pure transmission" is transmission without interference.

figure 2.8 Communication: Transmission of Meaning

after McPhail and McPhail 1990

perseverance and resistance

We make the assumption, that as new material becomes available, we replace the older information. However, our ability to accept new information is not based purely upon need - it is also based upon the entrenchedness of the old information. The theory of perseverance outlines how individuals resist new information (Anderson & Scheler, 1986). We often remark that certain individuals are "set in their ways" or are "narrow-minded" because they seem unwilling to accept change or new ideas. Resistance to new information is evidence of the strong significance of past information. It is also evidence of the brain's shortcomings in terms of handling large amounts of new information. In such cases, people use mental shortcuts to make sense out of the new information, and one of these shortcuts is the reliance upon the familiar, even when the familiar has been shown to be wrong (Anderson & Scheler, 1986). Sometimes people persevere with their old ideas because there is insufficient new information to use to make a quick decision (Baron & Byrne, 1987). In either case, perseverance is often an example of non-rational thinking. The impact of this resistance is often seen as countering the power of the media and of discourse, both of which will be addressed later. The meanings associated with the media's messages often carry strong values. For example, information that contains "threat", particularly found in the media, has a significant influence on our ability to accept subsequent information that is contrary and less threatening (Dake, 1992). For example, we have learned that being in the sun unprotected for a long period of time is threatening to our health. If someone were to present a contrary argument, we would have difficulty internalising that information because the previous message is well established within our understanding.

Other obstacles exist that complicate the relationship between new and old information. First, the "inference theory of forgetting" suggests that it is difficult to separate information, as it was actually presented, from the inferences that we make (Seifert, Robertson & Black, 1985). The second obstacle is a form of interference where we never actually forget what we have learned, but rather the meaning has been sorted and stored. The new

associations learned are remembered, but other, newer material becomes associated with the original. The result is mis-associated meaning (e.g., links between global warming and ozone depletion are concepts mistakenly associated with each other). Third, retroactive interference suggests that new information has made reliance on the old information difficult. What we have learned in the immediate past (or recently) clouds or dominates the prior information.

Learning environmentally

Learning environmental information is about the gathering of information that is both factual and experiential. Information can be learned through practice and through accident and observation, thus illustrating that formal education or information presented from the informal areas play significant roles in contributing to overall environmental knowledge. "Hands-on" learning justifies that we can learn much about the environment through experience, and that much of our experience allows us to give meaning to other information. "Older" information is retained and can be used later in our interpretation and understanding of meaning. Certain messages can dominate, thus resisting the acceptance of new and better information. New ideas may also enforce the perceptions we have already formulated. Information gain can be positive, as individuals are obviously building their knowledge base, unless there is misinformation which would only exacerbate misunderstanding. Often this is part of the process of stereotyping. This suggests that in terms of environmental management and environmental decision making, we need to be aware of the multiple types of information presented to us.

Learning theories are in a dynamic state. The literature illustrates that the practice of teaching often leads what we know about learning, instead of the practice of research leading what we teach (Huberman, 1994). In the case of environmental education, what we research about human interaction with environment and environmental information should lead and be reflected in educational policy: as of yet, it is not (see chapter five). I think that environmental education as a teaching area needs to reflect what we learn, know and think

concerning the environment. And again, it is necessary to recognize that environmental information is gained from many sources and in many forms.

Chapter Three: Environmentalism

introduction

Environmentalism is simply the process of acting or living in the interests of the environment¹ (Paehlke, 1995; Weston, 1994). Environmentalism is practised in everyday lives when we, for instance, recycle juice bottles or believe we have moved "back to nature". Often, the assumption is made that "environmentalism" and "being an environmentalist" requires specialised knowledge, but in definition, environmentalism and being an environmentalist is a reflection of how we live in environment and perceive nature². Environmentalism is simply being conscious of the environment in thought and action. Environmentalism, then, becomes a structured belief system with ethics and values instilled: it is comparable to a snowball collecting information and restructuring itself as it progresses. Our environmental interactions form and filter environmental facts, ideas and values. I suggest that environmentalism is filtered by individual experiences but I maintain that it is also a social process and has much cultural and social relativism³. Thus environmentalism is a social act⁴, as it influences environmental information production and policy development, as well as

¹The suffix 'ism' when added to the word 'environmental' simply means 'of the environment'. This can be expanded to be living within the environment or thoughts of the environment.

²Often the association between environmentalist and activist (one who acts in a political environmental way) is made. I argue that being an environmental activist is only a portion of environmentalism. I suggest that environmentalism is based upon individual interaction with nature and exists at all levels of the spectrum between ecocentricity and anthropocentricity (see end of this chapter).

³Relativism is in a classical sense a philosophy that suggests there are no absolute truths: truths are reflective of the individual who is creating them. Truths exist in context. Therefore cultural relativism, for example, suggests that there are elements of environmentalism that have significance within that particular cultural context (Vesey and Foulkes, 1990).

⁴A social act being the replication of social expectations and reasoning.

societal environmental perception and management.

The purpose of this section is to outline and review certain factors, especially 'packaging' or language which may influence an individual's ability to process information. Images, terms and values already established preserve and influence future environmental interaction (including learning new information). It is necessary, if we are discussing environmental learning, that we acknowledge ideas and assumptions that act as filters (if not interpreters themselves) for environmental information and experience. This section reviews influences on and of environment through discussion of individual reactions, environmental discourse and the use of value-laden terms, as well as an outline of environmental philosophies (that we may adopt as individuals or in a research approach). I outline some thoughts that I have evaluated as having significant impacts on me and my academic background. Environmentalism is an eclectic quilting of environmental ideas that I believe influences fundamental knowledge construction and processing, but also influences public involvement in policy, not always constructively.

the evolution of an environmental consciousness

"In the middle of the 20th century, we saw our planet from space for the first time. Historians may eventually find that this vision had a greater impact on thought than did the Copernican revolution of the 16th century, which upset the human self-image by revealing that the earth is not the centre of the universe. From space, we see a small and fragile ball dominated not by human activity and edifice but a pattern of clouds, oceans, greenery, and soils. Humanity's inability to fit its doings into that pattern is changing planetary systems fundamentally. Many such changes are accompanied by life threatening hazards. This new reality, from which there is no escape, must be recognised - and managed." (WCED 1987, p. 1).

The above quotation outlines one and reflects another significant event propagating the discourse of current environmentalism: the presentation of the "little blue planet"⁵ (initiating an environmental advocacy movement of the early 1970s), and the appeal by the World

⁵"Little Blue planet" is popularised in the arts and visual imagery.

Commission on Environment and Development for a better, properly managed earth. The first event presented us with the information that the earth existed majestically and phenomenally independent of human activity, and communicated an emotional plea for peace, justice and environmental harmony. The impact of the visual image coupled with societal awareness of the Earth significantly affected environmental education and the nature of informal environmental information (Palmer & Neal, 1994). The second event cited above marked a significant change in the way in which the global environmental system was viewed academically in particular, but also politically, socially and economically. The WCED's publication, *Our Common Future* (WCED, 1987) or "The Brundtland Report" appealed to government, business economics and social agencies to restructure human activities. It also became the doctrinal statement for governments, followed through current environmentalism and understanding, particularly 'sustainable development'. These two events marked a very distinct change in current environmental discourse⁶.

Environmentalism is then a concept which draws upon ideas, political ideologies and social awareness and seems to make its way into daily lives and into individual identities. I do not remember the sight of the 'little blue planet' for the first time; it was a visual image that seemed almost 'commonplace'⁷ for me by the time I was school aged, but those who did witness the sight admit that it was an event with tremendous effects on the way that we see ourselves⁸. The most significant event I remember was in the mid-1980s with desertification and the effects of famine especially in Ethiopia. Palmer and Neal (1994) also cite desertification and images of famine to have played a fundamental role in the environmental learning of an associated generation. The pictorial images, particularly from the media, have

⁶Other previous events such as the founding and continuance of the national parks movement, and the devastating environmental conditions of the 1930s, acted to initiate and direct environmentalism.

⁷The 1995 film, *Apollo 13*, a mission only a few years after the first lunar landing suggests that going to the moon was "routine"; likewise pictures of the earth from space were 'routine' by the time I was able to visualize and process them.

⁸However, I remember the discussions of amazement in following years - exclamations of "we put a man on the moon!" (and of course brought 'him' back).

embedded themselves in my consciousness to the point where I freely associate the images of famine with the global environment and global development. This period preceded the publishing of *Our Common Future* by only two years, a publication that dominated the thinking of my undergraduate academics. Environmentalism, then, is to be considered not only a philosophy and value system, but a learning system of derived perceptions that is often a key motivator for individual involvement in environmental policy decision making.

environment and nature

Throughout the literature consulted on this project, the terms "nature" and "environment" are often used interchangeably. Even simple terms of reference such as environment and nature lead or direct us toward specific meanings. I often use the terms nature and environment, but not interchangeably as does the academic literature and everyday media. Environment and nature are defined as follows:

i) *Environment* is a spatial concept (addressing both 'human' and 'natural' space). Environment can be considered all that is external to us. The environment is the setting that sponsors and influences place definition, events and activities. Environment is the space where we live. Our language or discourse has attached meaning to the word environment such that our perception of environment is often associated with "the environmental crisis" and hence the need for 'environmental studies', 'environmentalism', and 'environmentally friendly products'. Despite that, generally, environment has adopted many meanings. In this paper environment's definition is limited to the 'space that allows things to happen'.

ii) *Nature*, on the other hand, is defined by perception. Nature is an environment which has an attached meaning. Where environment can represent 'space', nature represents place. Generally, nature has some attached emotion; although the assumed definition of nature is non-human place.

nature and access

"...Everybody has a ditch, or ought to. For the ditches and the fields, the woods and the ravines - can teach us to care enough for all the land" (Pyle, *The Thunder Tree*, 1993, in Nabhan and Trimble, 1994, p. vii)

Both collective (social) and individual perceptions of nature, or rather 'definitions' of nature reflect experience. Experience with nature is a reflection of access. My interaction with nature is mainly associated with open space, particularly agricultural lands, cottage country and parks. Somehow my view of the natural environment is defined by human controlled space (space with boundaries). Having spent more time in an urban setting in the last few years, I have reformulated and rethought my perception of the natural environment. The rethinking of nature allowed me to broaden my definition of human-nature interactions. Nature exists for some in their neighbourhoods, drainage areas, parks, and river banks. To make assumptions that one type of controlled space defines nature more than others seems somewhat elitist (by ranking experience types). When children can be seen, for example, on edges of ditches where roadways abut, we need to ask whether or not the experience, as an element of learning is a different experience from children who do the same on the lakeshore in a remote area. Perhaps the environment (as the setting for experience), and the infrastructure varies, but the experience is nonetheless about interaction with people and environment and ultimately environmental learning.

In the terms of 'naturalists' or 'environmentalists' environmental experiences are ranked in terms of quality (Kaplan & Kaplan, 1989). To deny that natural experiences come in different forms would be like silencing voices. The experiences of the urban child should not be more valued, more reliable, or more important than those of others. Environmental policy formation/decision making, if to be perceived as a success (measured by meeting the needs and aspirations of those involved), must look to seek representation and would therefore not place values upon participants' experiences. In writing this thesis, I often sought out natural environments within the city particularly, but also within rural-urban fringe areas, as

'good places to write'. Undoubtedly, I would have preferred to have been among the fir trees by a lake on a rocky shore, but most of us do not have that sort of opportunity in our daily lives because nature access is restricted by space/time as well as social/economic/ political situations.

environmental threat

Even in August the sun is blinding. July faded, and August slipped in unassumingly, but the bright blue cloudless sky and warm sun remained. As the sun hits the windows, the plants and even ourselves - it feels gloriously warm. We wonder how we lived without it, but August always reminds us of impending harvest, impending autumn and long dark November days. So now that it is August, we hear the advice that we "must get out and enjoy the sun while it lasts". But our enjoyment is short and not without environmental consideration. Somehow, in every venture outside, we are reminded of 'human-caused' environmental destruction. We must think of the "UV rays"; we must protect ourselves. The state of the environment will/could lead to skin cancer. We are constantly aware of that risk when we feel the warmth of the sun on our skin. We know sun = risk; health = environment = problem. We are constantly reminded of the ozone hole, as if we could perceive it, touch it, see it. With that idea, children are being kept indoors on sunny days. We feel haunted and threatened by the sun. Somehow we feel more comfortable living in temperature controlled shade (even if that temperature controlling mechanism has its own environmental problems). An unfortunate turn of events?

The point to this reflection is that culturally and socially we have, with naive scientific backing¹⁰, managed to convince ourselves that the environment threatens our health. I am not suggesting that skin cancer and other environmentally related illnesses should be treated lightly, because they are real concerns and should be recognised as such. I am, instead, suggesting that environmental threats do not necessarily provide good educators.

Others agree with my position; here is the opening to Bast, Hill and Rue's book

Ecosanity:

"There once was a town in America's heartland where people lived in fear of their environment. They were afraid to drink tap water, eat apples from nearby orchards, or live near electric power lines. Fear of getting cancer from man-made pollutants was everywhere. Every day, new dangers seemed to come to light.

⁹This is a personal reflection.

¹⁰ Leopold indicates the naivety of science toward nature in *A Sand County Almanac*.

Even though everything about this town seemed pleasant and healthy, fear of environmental hazards hung like a cloud over the town's residents. Some bought bottled water for drinking and cooking because they were afraid of chlorine and other trace chemicals in the town's water supply. Others paid extra for "organically grown" fruits and vegetables to avoid pesticide residues. A group of young town residents picketed a local fast food restaurant because it used polystyrene containers, which the young activists believed would damage the ozone layer and contribute to a waste-disposal crisis." (Bast, Hill & Rue 1994, p. 1)

Instilled within environmental messages and in environmental knowledge is the concept of health and threat to human health/life. The extreme message associates environment with fear and the nagging sensation that one is jeopardising one's health. The media has been often accused of providing much environmental information in the form of a threatening message (refer to chapter six). Threat is so apparent in our perception of the environment that we freely associate how we define environment with an environmental crisis. For example, a certain marshland familiar to me, still exists as it did in the past but with that landscape I now see "loosestrife". Loosestrife is perceived as a threat to aquatic flora and fauna that inhabit marshland. Marshlands are perceived as being consumed by this plant. Marshlands are believed important to the ecosystem. Loosestrife was transferred by humans. Suddenly my perspective has changed. So much for thinking about marsh life and scenery! My environment is one that is disappearing and I am threatened by that. Threat is a difficult perception to overcome.

Environmental threat is deeply entrenched into our environmental consciousness whereby being outside, in the sun, in the park, drinking the water, eating the food could be a threat to our health. Environmental information is "catch twenty-two"; the environment is a part of everything we do: therefore ill health is a result of an environmental situation.

What does this tell us of the environmental information we are filtering? What does it tell us of the way we learn environmental facts? We easily try to dismiss environmental determinism. Soja (1993) claims that our identities are no longer grounded in geographical space, yet we are constantly reminded of the dangers presented because of the environment. Some time ago, an action group against violence designed a television advertisement

portraying a woman who said that crime and violence had not touched her and her family's lives - 'they had been lucky - but they had installed locks, alarms and avoided questionable neighbourhoods'. Violence had obviously touched her life. A similar scenario exists here - when children must go outside, we must slap on sunscreen, we know the daily UV index, daily smog levels, and pollen count - we know these things as we check the daily temperature before we dress in the morning - what does that tell us of how we perceive the environment? In working with children I remember certain parents stating what children were not allowed to do. Certain children were required not to play outside during certain hours, not to swim at the beach, not to play in beach sand, not to eat certain fruits without consultation of parents, and to drink only bottled water provided by parents. Many of my strongest and most vivid childhood summer experiences were doing the things these children were not allowed to. My colleagues and I shrugged it off. "Times had changed"; parents have to "protect their kids".

Protection¹¹ is the key word as we approach the environment mentally well armed. But not only do we arm ourselves, we arm our ideas and in essence our 'environmentalism'. The environment is not only threatened but threatening. The current paradigm for environmental knowledge suggests that the environment is threatened by our consumerist lifestyle, as well as a political economic structure that controls resources. Environmentalism, as it takes political form, is the protection against political-economic impacts that we believe to be environmentally destructive. We need to protect the environment as it is; we need to secure our health from perceived environmental hazards; and at the same time we are protecting our identities and our spaces from becoming that which threatens that identity.

Threat is both perceived and derived from knowledge (factually correct or not). Threat is based on the belief that someone or something may bring harm. For instance when I feel the sun's warmth I think of the knowledge of UV rays, and the threat is in the thinking and obviously not directly related to the sun's warmth (other conditions must exist). The

¹¹Protection implies the protection of ourselves and our health but also the protection of the environment. The concept of protection is quite paradoxical.

existence of a threat suggests the existence of 'the other', or that which is external or outside of self. The creation of the 'other' is the creation of that which is foreign to our identity. Otherness is created through the existence of threat. For instance, Europeans landed in North America and perceived Native peoples, and *vice versa* as different, and therefore alien. Being aliens to, and unaware of other cultural ideals, the actions are perceived by the 'other' as potentially threatening. Therefore racism begins from both superficial observation and the lack of knowledge and thus as a threat, or the inability to understand, and otherness is created as a result. So in the context of environmental threat, the environment then becomes created as something which is alienated from the self (Schachter, 1994). Perceived environmental threat places the environment external to identities (identities which I argue are in part defined by the internalising information). Environmental threat then creates a feeling of alienation from nature progressing thought toward anthropocentric viewpoints or speciesism (Warren, 1990)¹².

The instillation of fear regarding the environment brings about difficulties in environmental education. Since one of the goals of environmental education is to encourage commitment and appreciation as well understanding and concern, the assumption is made (Bennett, 1988) that fear of the environment interferes with reaching these goals. Within our daily lives we encounter individuals we do not trust, and the formation of that distrust is based on superficial observations and through not knowing what the individuals may do next, creating a sense of dislike and avoidance. A major concern for environmental education is, if environmental messages are repeatedly imbedding notices of risk to health, society and nature as a whole, we may learn to become uninterested. If the children are told they cannot play in the environment because they might 'hurt' the environment or the environment may 'hurt' them - what does that say about environmental learning and environmental perception? If I always see the loosestrife before I see the marsh how does this skew my perception? I think the

¹²Ecofeminist writers, coining 'speciesism', suggest that the alienation of people, particularly males from nature, stems from the technological overpowering of nature and the fear of nature (Warren 1991). Conquering nature, especially in the frontier sense, conveys the fear of the 'uncivilized' unknown, the contemporary sense of fear is the civilised, but scientifically unknown, truth.

result is one of "being on edge", always wondering, or perhaps even avoiding and becoming uninterested and ultimately less aware about other environmental information. Repeated threats to our health, or repeated blame for environmental threat, creates an uncomfortable situation in which the best policy may be ignorance, which is yet another process of alienation. Learning through fear creates a sense of alienation.

"Our vulnerability as increasingly alienated beings on Planet Earth has grown almost geometrically as technology has enabled us to become ever more dominant."
(Livingston, in Mowat, 1990, p. 274)

prefixing 'eco'

"take nothing but pictures, leave nothing but footprints"¹³

The above quotation, "take nothing but pictures, leave nothing but footprints", is representative of the philosophies of eco-tourism. Eco-tourism is an example of how environmentalism has been used to support our wants, hobbies etc. and yet still extend the image of environmentalism. In the simple discourse of "eco", or adding the prefix "eco", to our everyday words we have created a discourse that attempts to reflect "how environmental" we are, as a society and as individuals. For example, when we see "eco" on product labels - we assume we are buying 'environmentally sensitive products'. Even the media create their own environmental discourse, initiating headlining titles where environmentalists are "eco-warriors", environmental youth are "eco-kids" (see chapter six). For example, Svern Suzuki who spoke at the Rio Summit was characterised by the media as being an eco-kid. And certain recreational activities, specifically outdoor activities have become "eco-tourism".

Eco-tourism, as an example, brings to light an interesting thought upon the idea of creating a discourse of environmentalism and the realization that the prefix does not necessarily equate with our perception of environmental concern and sensitivity. The quotation "take nothing but photographs, leave nothing but footprints" suggests that people

¹³This phrase comes from a promotional literature on *Explore* magazine ("Canada's Outdoor Magazine").

take and leave nothing, but are we so naive as to believe that tourism (in whatever form) does not have environmental impacts? Taking photographs has been recognised as a 'least impact' of environmental tourist impacts (Wall, 1989). However, it also has been recognised as being problematic (Wall, 1989) because pictures encourage others' visits (though this may be the success of media such as *Explore*, *Canadian Geographic*). The extremes individuals will endure or seek for a picture may have significant impacts - such as soil erosion and soil packing (Nelson, 1984). The use of the camera is used as an example but we also must recognize the impact of transporting people and the impact of living requirements. Wall (1989) argues that the environmental impacts of tourism are in fact less on a beach resort areas than in wilderness parks. Even though use of resort beaches has environmental impacts, they are designed to hold large numbers of people for long periods of time, so the individual's impacts are less than if that same individual was in a more 'sensitive' environment.

in the name of sustainability

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987, p. 43).

The above quotation represents a classic environmental statement recited and rehearsed in most courses on environment. Sustainability is an approach to the environment which focuses on human needs. *Our Common Future* popularized sustainable development, labelling as the political-economic solution necessary to link environmental healing and human development. The Brundtland Report (WCED, 1987) suggests that the keys to sustainable development are particularly needs and 'abilities', and include overcoming obstacles such as technology gaps, politics, socio-economic as well as environment barriers, to meet predefined needs: the 'satisfaction of human needs and aspirations is the major objective of development' (WCED, 1987). However, the focus of the Brundtland Report is on development and not environment *per se*: the environment, in WCED, is viewed in relation to development

(especially as conceived as a threat to development). Sustainable development, I believe, contains a valid concept, and a current motivating influence on environmental education programming, and much environmental policy and decision making. However I do not believe sustainable development necessarily is in the environments' best interest as the terms sustainable and development contain meanings that are environmentally exclusive. 'Sustainable' is equated with maintenance and keeping the same, and 'development' means bringing about change. I believe the concept is an oxymoron in itself when isolating from environmental issues.

Sustainable development is presented as a means for gathering information, understanding and managing the environment. Sustainable development, thus, is a means to communicate about, and act toward, the environment. Since the publication of *Our Common Future*, sustainability has become the significant terminology and environmental tactic for policy. The abundance of environmental publications has illustrated the academic acceptance of sustainable development as a method¹⁴. Sustainability as a discourse of environment is extremely commonplace in so many different environmental addresses that it is almost cliché, and therefore may no longer intellectually effective.

The extent to which sustainability and its derivatives are used in environmental communication is significant. In introductory textbooks in environmental studies, introductory sections are entitled as "what is sustainability?" or "what is a sustainable future?"; thus emphasising from the start that environmental studies are in reality the planning for human needs. I am not criticising the position; I am instead criticising the language in which we talk about environment. Language after all, sways thought. We use the discourse of 'environment and nature' as a facade for human planning. We also see the concept of sustainability as being used interchangeably with 'environmentally friendly' but must realize that we marginally define 'friendly'.

¹⁴Sustainable development literature straddles across regions and topics such as southern states' development, local urban planning and tourism and recreation.

When we talk of sustainable neighbourhoods we talk of built-up urban areas with 'saved' green space to sustain local flora and fauna. The setting aside of spaces is done in the name of sustainability. For instance, we preserve space for the purpose of saving examples of natural areas. The entire philosophy behind the National Parks movement in Canada has been to preserve examples of the major bio-physiographic regions of Canada, as well as examples of unique environmental phenomena (Parks Canada, 1994; Lothian, 1987). The contradiction that exists is in the fact that environment is not sustained in the sense of providing and nourishing, nor in the meaning of keeping as is. Sustainability, especially in the park context, is instead a question of controlling space and of controlling the direction of environmental change (Smil, 1993). Under the jurisdiction of sustained space, individuals are permitted to engage in recreational activities which represent the other side of the National Parks objectives. The nature of these objectives alters the perspective of the space. For instance, Algonquin Provincial Park (Ontario) enables people to have camping and related adventures. Somehow, within our perspective the controlled, 'sustained' environment has been transposed to the 'place we go in the summer'. Thus, the park is no longer conserved "sustained" space but rather multiple use space. However, we still address sustainability as we pack our own garbage and return with our cans to the starting point, and pride ourselves on having been environmentally friendly if not environmentally sustaining, and believe our mark in the park is minimal. The sustained discourse may be associated with how many visitors the park can maintain without significant degradation: degradation should not be the issue, rather it should be 'is change sustained?'. We look toward more environmentally sensitive regions (environmentally sensitive again defines a level of sustainability of use, not of sustaining the environment) where, upon reaching a specific boundary, activity moves into the unstable portion of the spectrums, such as in Nahanni or Gros Morne National Parks which already have activities in excess of sustainability (CARC, 1984). The use of these parks has certainly led to questions about their roles in environmental preservation. So the questions that needs to be addressed are: Do the parks shut the doors, so to speak, and control visitation and provide and nourish the

environment? Do 'the parks' work toward improving quality of life for the present population, and perhaps in terms of developing experiential knowledge? From the point of view of information transfer we need to be concerned about how ideas are presented. If, for example, space is for recreation first and conservation second, we should be aware of that purpose. The duality of the National Parks' mandate (see Parks Canada, 1994; 1983 for National Parks principles) illustrates that we are not clear about meaning and thus we are likely to engage in conflicting activities.

In terms of environmental learning what does controlled space represent or tell us about the environment in which we believe¹⁵? Seeing nature through the filter of controlled space clearly influences the nature we see. In scientific terms we do research within controlled space: we study the pattern of wolves in Algonquin Park; and locally, we test snow depth in parks such as Gatineau Park and conservation areas such as Mer Bleue. Scientific knowledge is based on results founded in controlled space, and yet it is not necessarily sustained space. We learn through experience and interaction with nature, and the national parks have been foremost in the provision of opportunities for those experiences. So nature is presented within the context of contained space. Wilderness is defined by what we see in the remotest parks in the country. Space that is not 'park space' is assumed private space¹⁶, and therefore much of our experience with nature is defined by spatial ownership and access. The visitation of the controlled spaces is a form of classifying space. Our experience of the contained spaces has distorted our abilities to see other spaces as natural as well. We are led to believe that nature may only occur within the boundaries of these particular spaces. Another factor involved is that, if space is provided to us through 'sustainability' such that we believe that nature or environment is sustained, then the parks system is necessary to provide and nourish nature,

¹⁵This section seems, in part, contradictory for what I will argue (in upcoming chapters) is that learning about the environment is a "hands on" activity and "so what if there is an impact?". I have discussed accessibility to nature and have suggested nature itself is found anywhere, and I do not wish to undermine that thought.

¹⁶Non-publicly owned space.

because we do not know nature otherwise. I have begun to think that the philosophy 'to know it exists' is enough to satisfy the sustainability condition. To empirically know something exists requires some form of recognition, which in essence requires some medium such as *National Geographic* or *Canadian Geographic* to provide this for us - which opens, of course, another whole set of environmental use and education questions such as the desire to visit, see and photograph.

Regardless of the perspective on environmental education, I suggest that the discourse for sustainability leads our perception of the environment in certain directions. Not only does it suggest an environment in need, it also points to humans as aggressors as well as managers. Sustained environments also imply human usages and culturally-defined methods and purposes for sustainability. The other issue is, of course, that the environment requires the sustainability concept to survive our drawing attention to blame and threat from the environment. The concern for sustainability relates itself to management and policy. Protection in any sense calls for sustainability ethics.

Accepted sustainable development is concerned with harmonising human activities with environment (Sachs, 1993). Sustainability serves as a reminder that the Earth is made up of resources and is therefore finite (Sachs, 1993)¹⁷. We are told that our standard of living is dependent upon a delicate relationship between care, resources and population¹⁸ - all of which must be harmonised to reach sustainable living. Sustainable living is the goal, and a failure to reach that goal is a threat to human or environmental health. Therefore in order to maintain the harmony we must become stewards of the Earth.

¹⁷However, Sachs (1993) argues that the global management under sustainability is in conflict with cultural identity and sustainable development as a development policy has at many points been a contradiction.

¹⁸Based on the formula: $\text{culture} \times \text{resource base/population} = \text{standard of living}$
(from Kaufman, D.G., & Franz, C.A. (1993). *Biosphere 2000, Protecting our global environment*. New York: Harper & Collins.). This illustrates that environmental textbooks can set a sustainable development approach to environmental education.

stewardship

"Our kingdom is marked by everything the light touches"

-Mufasa to his son Simba, in the Disney film, *The Lion King* (1994).

In the world's dominant cultural perception the Earth is to be inherited and managed: the assumption is made that the Earth is under human jurisdiction. From ancient Assyrian and Persian scripts to Buddhism and Shintoism, from Muslim Koran to the Judaeo-Christian *Genesis*, cultures have established that the Earth is to be stewarded by humans (Glacken, 1967). Under the jurisdiction of stewardship, peoples were given the power to use resources, to alter and to care for their "Gardens" provided by a benefactor (depending on the culture in question) (Glacken, 1967).

Environmentalism is also defined by an ethic. This is an ethic of stewardship - a responsibility to manage the Earth, its resources and our own activities. Leopold suggested that a land ethic should reflect "the existence of an ecological conscience and thus in turn reflects a conviction of individual responsibility for the health of the land" (Leopold, 1949/1987 p. 221). Ecological stewardship then is to be considered a natural law, and should limit human activity and direct thought.

Within environmental ethics the notion of stewardship is a thematic struggle. Several conceptual ideas come to light within the discourse of stewardship. The deep ecologies suggest that any notion of stewardship should not be practised because stewardship honours human necessities and humanly-defined goals (Devall, 1988). Under this filter of environmentalism, stewardship is seen as an anthropocentric view of the world. A contrasting theme is that of misanthropy, popularised in the eighteenth century as a counterpoint to the ideals of scientific advancement of the Restoration period (Abrams et al, 1986). Nationalists such as Swift suggested that faulty reasoning had led humans to destroy what nature had given (Abrams, et al. 1986). But, perhaps, it is more useful to understand the balance, to think of balance in our daily action. By saying that a solution to the environmental crisis should be found is also indicative of the caretaker role. We assume, then, that part of our responsibility

is to maintain the environment. Since it is impossible not to be involved in the environment, perhaps stewardship is about managing, about making good decisions based on the knowledge that we have. However, because we are involved in the decision making, we are restrained by contextual variables that affect our environmental learning. Thus, part of the balance involves being mindful of our own involvement. Clearly, though, environmental decisions, whether seen in positive or negative streams, still involve power structures both of which can lead to environmental mismanagement.

Power within ecology is the underlying basis of stewardship. Structures of power influence, from the human perspective¹⁹, environmental perceptions. The underlying power structures, which I argue could be divine or of social-political construction, act as filters for the environment we see. For instance, in the loosestrife example I mentioned earlier, I suggest that I see the purple before I see the remaining landscape. Somehow my perception of the environment has been changed by 'the powers', who declare loosestrife as an environmental (or at least wetland) threat: and we support 'the powers' as having the expertise in environmental care-taking or stewardship. The stewards then agree that loosestrife is "bad" for the environment and that this environmental learning provides yet another indication of environmental crisis, threat and blame.

In making these environmental decisions, who then has the power to act as environmental stewards and why? To be stewards of the environment seems innate to our cultures. In most cultural structures, provisions are made for how, and to what extent, environmental management will be extended (Glacken, 1967). The innateness of the caretaking role within human cultures is of unknown source. There are several philosophies behind stewardship. First, the divine revealed in the Judaeo-Christian Word where, for

¹⁹The human perspective being from the position of the human - as we can question whether the 'perceived' environmental crisis is in fact a crisis from an environmental point of view. The discourse of environmentalism has labelled the current status of the environment as being "in crisis" and of "ill-health", yet it maybe embedded into the superstructure of the discursiveness of environmentalism rather than an environmental truth (as defined by humans)

instance, in *Genesis*²⁰ we are told the Earth and its resources are provided for our use and the animals for human maintenance. The Covenantal people were given the word to move out and populate the land beyond. Second, environmental stewardship also stems from the sense that nature has equal rights (arguably this idea is embedded within spirituality), that nature should be 'taken care of', for the sake of taking care of nature. And finally, other specific reasons or values in favour of stewardship dwell on the concept of sustainability. People must, in the best interests of themselves and their children, maintain the environment, and therefore make decisions regarding how resources are used and allocated. Stewardship involves understanding complicated power structures, whereby species and cultures as well the land are all players in a complex game. Stewardship is a layering of the environmental powers such that the break down of one would not unravel the others.

Stewardship is, in simple terms, the active management of land. When we think about the words "active" and "management" in separation we can draw on associations of what "active management" in fact is. Activity is often associated with drive, and controlled action and often associated with oppression. So the definition of stewardship develops defined power relationships. The landscape can be carved according to the cultural demands of the people awarded stewardship. The question is who become stewards, and whose cultural wishes become recognised within land management?

These become critical questions when it comes to environmental policy and management: who is represented and, who, in fact, calls for policy and eventually passes environment 'stewardship ideas' into laws and decisions? Stewardship not only brings to light questions of environmental rights and species' rights, but also questions of environment and nature accessibility. Accessibility is suggestive of nature experiences and of the types of environmental information and knowledge gained through local interaction. Political environmental decisions are therefore indicative of who has the means to access. People who

²⁰ I use examples which are more or less embedded in Christianity due to background familiarity.

then have inhabited urban areas, and rarely interacted with even small natural areas²¹, therefore do not have the accessibility that allows them to have the power to introduce or comment upon environmental policy (but might be allowed in some environmental decision making). Hummel (1995) suggests, in a proposal of the *Endangered Spaces Program*, that in order to maximize land conservation, space conservation and maintenance must be introduced and carried within the realms of private stewardship; however, private stewardship limits access considerably. Hummel claims that the national parks system, in terms of economics and available public lands, is no longer completely viable as the sole actor of conservation, and therefore conservation must look toward private lands. The debate then is how does environmentalism become acted out under the jurisdiction of private lands, territoriality and the need for alternative stewardship (as defined by others)? Environmentalists, or activists of environmentalism, lobby against the power of private stewardship to challenge the impact of control falling into 'unenvironmental hands'. The examples of power play situations are endless: e.g., Temagami, Clayoquot Sound and Tatshenshini. Situations arise because different cultural views of stewardship vary to the extreme of questioning who has the stewardship rights²². Examples of cultural debates of territorial ownership are evident in native land claims, where specific cultural values toward what defines stewardship prevail, displacing other values, other peoples and other stewards. Stewardship, then, at the policy stage is the political struggle for space and ultimately identity within space.

environmental politics and sovereignty

Environmental politics is the struggle for environmental values to be realised in space. Environmental politics debates accessibility, territoriality, identity and environmentalism which in turn affect the provision of environmental policy and environmental decisions and

²¹Small areas that generally attract children, for example vacant lots, ditches etc.

²²Between First Peoples, environmentalists, corporations and private industry or political powers such as governments.

interaction (at all levels: local, national and international). These factors are based upon value structures put in place by the powers that control space. The debate heightens as powers are contested for control of spaces and representation of the identities of power within space. I do not intend, in this section, to evaluate how environmental politics are created and implemented, but rather to discuss the implementation of environmental knowledge and information throughout environmentalist struggles for political agendas.

Environmental politics, as a struggle, represents a threat in some form (to land stewards, controlling agencies, cultural rights). The struggle is fundamental in the presentation and transmission of environmental information which is transmitted to us in a semi-cryptic fashion as information about struggle, rather than the issues. The majority of environmental information presented to us by media falls into the category of activists' evidence versus the stewards of land. Environmental politics plays an important role in the development of knowledge and what we accept as knowledge, often requiring the verification by 'specialists' to illustrate the opinions of those in power. Neo-Marxists would argue that the presentation of this information from the perspectives of power suggests that we are presented information in a way that smooths out contradictions in the politics. For example, this was illustrated in the Temagami debate where the environmental activists' position was presented as "deviant" (especially by the media), which diverted attention from the factual knowledge, and thus diluted public information. In order to protect the identity of the powers or stewards of certain environments, often the position of environmentalism is projected as being contrary to regulations which we have been socialised to accept. The position of the environment is therefore marginalised, perhaps alienated from public consideration. Even alternative cultural perceptions become alienated because stewardship propounded is different from our (the public's) own and cognitively separates us in some way. Land claims often are classic examples; native sovereignty over territory entails a different approach to stewardship, and an ownership that is exclusionary, which seems a lot more threatening to some cultures or, specifically, a threat to the dominant market culture because it contests powers of space.

Environmental politics debates the distribution of spatial powers and stewardship among those assigning, using and managing the environment regardless of who (what people and what powers) are involved. What is important is the concept that environmental stewardship is a struggle²³ amongst not only spatial identities, but between environmental principles as well. The Canadian-Spanish fishing dispute in the North Atlantic, March, 1995, is a classic example. Canadian environmental law required that fishing was not to take place with specific time and space regulations. The policy was supposedly in the best interests of sustainability and the maintenance of the turbot fish stock, but it also was a policy that established sovereign territory and control over space and resources (because the resources had been/were headed for) Canadian waters under international law. The struggle for resources between the Canadian government and Spanish fishing trawlers emphasised the contest of spatial control and ultimately environmental stewardship. Questioning environmental stewardship and sustainable approaches, or certain policies, raises the issue of what environmental policy means and how environmental policy must change to be acted out.

on participation and partnership

The term partner is being widely introduced in the context of environmental policy; for example:

Ottawa-Carleton residents will be active partners in the development of their community and will understand, be consulted on and involved in government issues which are important to them. (RMOC 1995b, p.2).

Canada's *Green Plan* represents the unique efforts and commitments of men and women in Canada from every sector of society working together as partners, in national environmental decision making" (Canada's *Green Plan*, 1995, p. 7).

The word partner draws distinct connotations - there is a belief of "sharing"; sharing risks and sharing benefits. A political partnership then is simply the joining of two forces in

²³But never recognised as a struggle by non-human and nature, because "recognised" struggle takes political form and is therefore human.

which decision making is mutual (equal) and has mutual benefit. When governments suggest that citizens are 'partners', we would assume that the power of judgement as well as the discourse would be derived through consensus and equal. But this is not necessarily the case, as final decisions and a large majority of the process is beyond the realm of the public.²⁴

Therefore the use of the term "partnership" has become a discourse of environmental interaction between people and government but has been given different meanings. When the inequality exists, the nature of 'partnership' has changed. It is not about sharing, but is about portions and overall control. What then are the new arrangements for partners in environmental decision making? At what point does the partnership change the nature of the negotiation? Environmental politics is undergoing change, which involves, in part, changing the way that we perceive public participation. The change is aimed at making the process more participatory by giving the public a 'recognised' point of view. Partnership implies that the "public" partners with policy makers in important decisions about the environment. But I suggest that "partnership" is a discourse of new environmental policy which has altered the meaning of partnership, implying consultation only, not necessarily hearing the "voices". This is a necessary distinction as it influences what we have learned about action.

Participation in public consultation requires familiarity with the issues involved. The public participation process, in theory, acts to give the public an active role in decision making regardless of the political and socio-economic powers of the participants. The belief is that active involvement of the public system is essential to the system as a whole because if, for some reason, we believed that our voices were meaningless in the process, then our participation would be non-existent. In some cases, even though the process invites and is open to the public, the nature of the information discussed and the language form presented

²⁴Mitchell (1989) suggests that the influence of public participation is occasionally significant but only at certain stages of environmental policy evolution. If the members of the public are involved as 'advisors' for a group, or committee then their potential influence is more significant especially at the problem identification and evaluation stages. However, most public, at best are uninvolved 'observers', and their influence is occasional and less significant at all stages of policy formation

often discourages participation. An example of this is when the information, and hence the language, is too technical for the population as whole, such that even though a session is open, the language of address suggests otherwise. This occurs within the discussion of techniques such as environmental impact assessment which requires an understanding of various data collecting and scientific techniques. Even though the language may be presented at a perceived public level, the meaning (which is context dependent) is not. This is an important distinction. The presentation of more technical information, or a different level of understanding by another individual may alienate others whose basis of information does not include that type of understanding (Sinclair & Diduck, 1995). Others may feel discouraged/uninterested upon realising their information is not appropriate and therefore not legitimate; or they may attempt to transfer other information, thus creating misinformed discussions. Not only does a more technical approach interfere with the process of environmental response, the use of too simplistic information does as well. For example, the Regional Municipality of Ottawa-Carleton (RMOC) standardises their public documentation at an 'intermediate' level of reading comprehension²⁵. Although many participants may have been formally educated beyond the intermediate level. Referring to formal education methods, we often see teaching to the lowest level of performance. The reason for this is to be inclusive and not to set standards above the expected norm or above normal capacity. Classic research on "above average" or "gifted" children has shown that these children can become easily bored in the classroom and are not interested in material if the material is much below their level of understanding (Heckhausen, Schmalt & Schneider, 1985). At this stage, learning is not a challenge because the information presented does not fundamentally present anything that is new. In media agenda setting, editors have suggested that for news to be "front page worthy", it must contain information that is familiar but also must present something new, otherwise the

²⁵RMOC does not have a specific standard regarding the comprehension level of public documentation. However, according to the Department of Corporate Communications, RMOC offers in-house training to their writers to facilitate communication to the general public.

public is not interested (Bowman & Clarke, 1995). A similar scenario occurs in public consultation. Where the information about the topic of concern is aimed at the public's level of understanding (or below the majority of participants), the material may appear, to some potential participants, to be "nothing new" as well as being a "waste of time". This illustrates that if partnerships are to be effective as planning tools and education tools, then information in and around the issue of concern should be reflective of, and representative of the individuals involved and not necessarily standardised.

activism

Environmental activism is the main and most radical realization of environmentalism. Environmental activists have adopted a certain style of environmentalism within their self-titled role of environmentalist. However, despite the discursive connection associated with environmentalists as radical activists, "environmentalists", literally defined, are individuals who practice any combination of the various approaches to environmentalism. Environmentalist roles do not require specific qualifications such as botanists, zoologists, etc.. We often mistakenly associate environmentalists solely with environmental activism. An environmentalist is one who validates the values of his/her perceived environmentalism (as a philosophy) and acts upon those values. Because "environmentalist" is usually associated, for better or for worse, with activism, and a main source of environmental information and especially environmental newsmaking, I will briefly touch on it as method of providing information.

Mulcahy (1992) claims that environmentalism is meant to instill a sense of responsibility²⁶ in which environmental movements (read: environmentalists) define the initiatives of progress. The initial objectives taken by environmental advocacy groups are to influence policy. However, of the environmental groups Mulcahy surveyed, he found that over

²⁶The use of "responsibility" implies specific ideas about stewardship and the present state of the environment.

80 per cent claimed that public education was the main goal of the group. Public education brings greater influence in terms of policy persuasion and gives the group more political ideological support (Mulleahy, 1992). The media, in particular, is used as a vehicle for bringing environmental information to the public. Difficulty arises in the approach used by environmentalists in their educational mandates. First, the approach of "environmentalist" or radical activist is that which separates people from the cause (Weston, 1994). The perceived identities of what an environmentalist is often influences the value of the information provided. The information validity is reliant on the social perception of the group presenting (e.g., Greenpeace has been referred to in the newspapers as having an 'up and down' affair with the public (Mulleahy, 1992)). The public often perceives itself as external to environmentalism, as 'being' an environmentalist is often defined with a specific skill or value system and thus the public has an "us" - "them" relationship with the environmental movement. In general the information believed to be held by environmentalists alienates those not categorised as such. Second, often the message of environmentalists is one of impending doom, which is ignored quickly by the public (Hackett, 1991). Repeated negative messages cause us, in general, to be selective as to those which we process (heuristic encoding). If we were to internalize all the warnings, Ewert (1986) argues that we would become paranoid and almost ineffective at even the planning stage in terms of resource environmentalism (assuming that we believe that the Earth is our resource). Third, environmentalists often focus their attention on large scale or big events, thus undermining the environmental activities participated in by individuals in their daily lives.

environmental ethics, values and philosophies

Environmentalism can define a set of values and ethics. Environmentalism has a history that coincides with human history, for as long as people and nature have interacted, people have acted in environmental ways. Whether these ways should be considered detrimental by today's standards is not the issue. For example, even in the Puritan sense, the

conquering of the land was not about destroying nature for development's sake, but rather, moulding the land for the image of God or the construction of place based upon the perception of God's wishes (refer to work of John Winthrop 1588-1649 for example of Puritanical ideals in American literature (Baym, et al, 1985). It is not the intention of this section to trace environmentalism throughout, but rather to discuss facets of contemporary environmentalism, particularly as they influence environmental ideas. In order to be authentic to my culture and my culture's environmental paradigm, the analysis must focus on the contemporary.

Current environmental awareness²⁷ and environmental thinking have been fundamentally promoted in the search for an environmental ethic in two significant writings: Aldo Leopold's *A Sand County Almanac and Sketches Here and There* (1949), and Rachel Carson's *Silent Spring* (1962). Both works are significant, partly as historical documents, but also because they reveal the process of development of environmental awareness and suggest solutions by appealing to an ethic and value system. Leopold devotes half his volume (the *Sand County Almanac* portion) to his understanding of nature across the spectrum of his life. He describes nature according to his and his colleagues' treatment of nature. Leopold's interpretations stem from his personal relationship with nature, space and place, but he also draws upon his professional knowledge and calls for a land ethic. In other words, his work is a reflection of his identity and societal position. Despite the criticism that Leopold's work is contradictory within itself for describing the 'hunt' and then calling for an ethic (Lalonde, 1994), I suggest instead that his work reveals a process of environmental realization, or self-defining environmentalism. Similarly in Farley Mowat's interviews with the "greens" (active environmentalists), the interviews have included a point where each said "this isn't right" or "this should be done ...". I suggest that it is at that point that we move from being curious children toward becoming stewards. The foundation of stewardship requires an ethical framework from which policy and policy ideas and decisions stem. My environmentalism is

²⁷Environmental awareness is used here as a condition (or mental preparedness) necessary to influence and initiate environmentalism

skewed in the direction of the protection of spaces, an ethic of environmental protection.

Rachel Carson's realization is similar to Leopold's but at a different level. Her book, *Silent Spring*, described the effects that she saw, emotionally and scientifically, from chemical destruction. In letters to her pen-pal and close friend Dorothy Freeman, Carson admitted her passion in writing was behind what she perceived as the disappearing landscape and seascape (Carson, 1995)²⁸. Her book was her main voice and has become one of the most significant and inspirational, yet scientifically based pieces of environmentalists literature. I found her work to be less significantly important to me as the chemical environmentalism had passed by me or maybe even my generation (although it has been the focus for much national and international legislation in the 1970s and 1980s). I identify more with Leopold's work - he talked of endangered spaces - and my concern is with space. Nonetheless, I think works like Carson's set the stage for the sighting of the 'little blue planet', the horrors of famine, the burning of the Amazon and the detection of the ozone hole. In essence, early writers such as Leopold and Carson, while paving the way for the rhetorical environmentalist debates under the titles of 'environmental ethics', also initiated a deeper search for understanding.

Since I will later elaborate on certain environmental philosophies including ecofeminism, there is little need to dwell upon them here as individual environmentalisms (especially since the environmental ethics literature is widely accessible). Instead, my approach is to outline themes within current environmental philosophies in an attempt to illustrate environmental values. These values, although seemingly theoretical, influence activism; they influence the transmission of environmental facts, acting as perceptual filters; and they are intrinsic to social ethics.

Timme man (1990) suggests that environmentalism can be simplified in a four quadrant organisational structure. His structure depends upon labelling extremities from

²⁸In *Always, Rachel* a published volume of Rachel Carson's letters to Dorothy Freeman (compiled by Dorothy's daughter, Martha Freeman). The letters outline Rachel Carson's motivation behind her work which is her great attachment to natural spaces.

shallow and deep on the vertical axis and left wing and right wing on the horizontal axis (Timmerman, 1990). Timmerman maintains that human motivations and perceptions regarding nature and the environment can be placed within these two spectra (figure 3.1). This does assume then that philosophies can be pin-pointed to a specific spot on the "map". I maintain that environmental information and thus environmental values are multi-sourced with multiple perspectives, and therefore appear more as Venn areas on the spectral scales. I present the multiple ecological perspectives²⁹, in categories for ease of presentation, despite overlaps in perspectives.

i) the earth as a resource: Seeing the earth as 'a resource'³⁰ is an anthropocentric view, where the Earth is to meet human needs³¹. Here, environmental action is seen usually in the form of management geared for human use. Popular arguments for environmental quests, policies and change such as 'saving the rainforest for its unforeseen medical possibilities', or 'replenishing renewable resources' (e.g., 'trees for tomorrow'), the conservation of non-renewable resources and 'for the children' are suggestive of the 'earth is a resource' approach. I would suggest that environmental policy has focused much of our environmental action within an anthropocentric point of view through the political perceptions of conservation, usage and planning. Within policy debate, human environmental use is drawn upon in the justification for conservation for the sake of conservation. For instance green space promotion may also be justified as 'also effective for' recreation, or as an urban buffer (chapter seven addresses human need for space).

²⁹ multiple ecological perspectives are reflective of multiple ecological learning.

³⁰ "Resource" by definition assumes some human use.

³¹ In some cases there is support for resources for other species but in that context resource need and species' need is perceived by the human.

figure 3.1: Timmerman's structure for environmental ethics

after Timmerman, 1990

ii) social justice - environmental justice: I explicate this area of environmental philosophy because it addresses environmental concerns as being related to social inequalities. The work of social ecologists, such as Murray Bookchin, is the main focus. Bookchin (1979, 1993) dismissed the approach of deep ecologists for trying to place humans at the same level as other species because a material history had proven otherwise, and to ignore it would be, in essence, to fall into contradiction (in a Marxist³² sense). To design environmental management based upon a contradiction can be expected to lead to mismanagement. For social ecologists, the ecological goal is to be realised through social theory (Bookchin 1993). Environmental justice needs to be recognised through the same paths as social justice. Post-environmentalists³³ argue that environmental problems are linked to, and are results of, social inequalities (Young, 1990). Structures of domination and oppression are driven by specific power structures which are in place regardless of whether the situation involves social or environmental conditions (Warren, 1987). The concepts of social justice and environmental justice are also adopted in part by ecofeminists (chapter four), who argue and ally with Bookchin, yet are founded on a different spirituality (social ecology on the other hand is devoid of spirituality *per se*). The difference between the social ecology perspective and anthropocentric perspectives is that the social ecologist approach emphasises quality of life, not through consumerism, but through political representation, which can be environmental and/or social (but does run the risk of becoming human dominated by anthropocentric thinking). If social justice and environmental justice must trade off - which would a social ecologist sacrifice?

iii) nature for nature's sake: The title "nature for nature's sake" reflects a spirituality of nature as well as a rationality in nature (Livingston, 1981). This perspective looks at nature

³²Marxist contradiction is the belief in structures that overcome or at least hide social inequality.

³³Post environmentalists believe that the environmental crisis is a realization of social injustice such that when social injustice is overcome the environmental crisis will disappear. The environmental crisis does not exist on its own.

through a filter of "humanism" but in turn sees nature as an entity in itself rather than as a use. This approach, when expressed in policy, uses conservation philosophy (which apologetically is an anthropocentric term) as a good enough reason for its implementation (conservation for conservation sake rather than conservation for the sake of future need). This approach is ecocentric, where nature is the only focus of concern. The spectrum of this approach spreads from a mild ecocentrism toward deep ecology. The proponents of this approach (Livingston, 1981) suggest that 'environment' exists for its own sake, but I question how do we maintain that perspective? And second, how do we know what constitutes 'environment for its own sake' (in decision terms, e.g., what is right, true) when knowledge regarding this is built upon human perception, language and information?

iv) the ecological footprint and bioregionalism: Difficult dilemmas arise in environmental philosophy because, although there is a desire to embrace deep ecology and 'nature for nature's sake', there is a reality that humans cannot separate their own needs and their own cultural and social knowledge from the dilemma. The bioregionalist concept, developed from the biological concept of a 'bioregion' defined by a river's drainage basin, incorporates mini-ecosystems from which an ecological community can be defined. People are to maximize their quality of life within the community, socially, politically and economically supporting the region, and being aware of their impacts as individuals (and as social entities e.g. cities) within that region. Thinking of these concepts in relation to policy, Bill Rees re-introduced the idea of the ecological footprint (Rees, 1996; Wackernagel & Rees, 1996). Rees is an environmental philosopher placed within the constructs of a planning field. He finds the ecological footprint idea important as a educator to present environmental information in a way to embracing the ideals of bioregionalism (Rees, 1994)³⁴. The ecological footprint is similar to the way footprints are left in the wet sand on the beach after walking; after turning around the

³⁴As discussed in a lecture, Carleton University, 1994

tracks are visible illustrating where we have been. The ecological footprint philosophy is founded upon such illustration whereby we need to become aware where have been and where we are going (Plant, 1994)³⁵. We need to be aware of the space and the environmental factors required to maintain ourselves (Plant, 1994). For example, enjoying Columbian coffee and living in Canada, the ecological footprint then extends all the way to South America (Plant, 1994). The environment and the space required to provide the necessities and the frills extends the space required to maintain lifestyles. Each individual has a different impact or ecological footprint, and has therefore different expectations of the environment and in environmental policy planning. Our lifestyle choice/necessities often influence what we are willing/able to learn about the environment and ultimately what we will conserve, change or manage.

v) deep ecologies and eco-fascism: Deep ecology is in contrast to most of the above approaches, which are considered "shallow" ecologies because of their inability to separate humans from the ecological equation. Arne Naess (1976/1989), the patriarch of deep ecology claims that shallow approaches to environment are intended more to fuel the needs and interests of wealthy peoples particularly of the North. Naess (1976/1989) designed several principles of deep ecology which I summarize: i) human and non human lives have values within themselves, which is emphasized and illustrated through 'richness and diversity'. No one (human/non-human) has the right to decide the trimming of any richness and diversity. Balance is a reflection of the will of nature. Therefore extinction and expiration are acceptable if based upon natural action as opposed to human intervention. Natural extinction is acceptable over human induced conservation. ii) The present environmental situation, as perceived by deep ecologists, is no longer acceptable and should therefore be changed through policy. iii) Subscribers to deep ecology principles are under direct obligation to see them

³⁵Based on a lecture given by Judith Plant "Developing Sustainability: an Ecofeminist Strategy for a Sustainable Future", Carleton University, February 9, 1994.

through. The obligation to seek change is the principle that invokes new policy development; it also influences changes in the perception of nature as a whole. Ploys to bring about change are marked by activist tactics or 'monkeywrenching' such as sabotaging the forest industry.

Certain groups practising the philosophies of deep ecologists have been accused of approaching radicalism and even eco-fascism in their attempts to persuade others of their ideas. In creating an equal basis for life, extremists have, on occasion, terrorized and killed people - such that the ideas could be realised and accepted through fear and force. This kind of extremeness often undermines the environmental message by drawing attention to the act rather than the perspective, and makes negative social and political messages for the general public. These, in turn, may turn people away from environmental care, or turn to more shallow, 'kinder' environmentalism (whereby kinder refers¹⁶ to a gentler approach to activism including information).

environmentalism in summary

Environmentalism represents a way of thinking about and expressing 'environment'. This section has touched upon various influences to understanding as well as implied meaning in messages by discussing terms and ways of referring to environment. Many of the areas discussed here are reflective of factors which influence if not skew my environmental understanding from a personal to an academic perspective. Ideas such as nature and access, the Ethiopian famine and threat affect me personally, while ideas such as sustainable development and stewardship have so intricately placed themselves within my academic environmental understanding. I argue that given the coverage in much environmental literature the academic influences have also affected others as research on environment seems directed by any of the variety of philosophies and approaches.

Environmentalism as described here acts as a starting point for environmental

¹⁶Ironically this discourse is a paraphrasing of past US president George Bush and his "kinder and gentler nation" rhetoric. In this context kinder means less intense

education, because environmentalism, in its many forms, acts as barrier, filter and/or noise in the transmission of ideas between people, and within individuals understanding. Individuals store many of the described concepts and ideas which are often preserved and resist new and perhaps different views. The quilt of environmentalism (as described at the beginning of this chapter) is woven complexly and tightly. This often acts as a filter if not a barrier to more open education and environmental policies that are inclusive to concepts and realities external to the cultural norms (cultural experience is discussed in the next chapter). We must recognize the packaging of environmental messages in order to overcome the filter or be aware of it; a reality necessary for information transmission which is also a necessary step for successful environmental education programming. I suggest that environmentalism overlaps the other information sources discussed in this paper, as concepts, meanings and expression find their ways into everyday experience, formal education, media and certainly, and more blatantly, within the sphere of public participation in environmental decision making.

Chapter Four

Identity, experience and environmental knowledge: From where we stand

This chapter, similar in style to chapter three, illustrates the quilting effect of environmental information. However, in this chapter the focus is upon information we gain as individuals through personal 'hands on experience with nature' and by the way we have defined environment and/or nature according to the position from which we stand (our identities). This chapter is concerned with learning *in/through* the environment. Because I believe that the learning *in/through* the environment plays a huge role in motivation, the main focus of this chapter is upon representation in the sense of bringing many perspectives of environment, gained mostly by experience, into consideration for environmental education programming and environmental decision making. Representation has been considered fundamental in meeting all needs within social policy and I would argue within equitable environmental policy as well. Environmental education runs on a similar belief. If we are concerned about environmental education meeting the goals defined in chapter two and forming the nucleus of "knowledge, skill, understanding attitude and values" (Palmer & Neal, 1994, p. 30) then it is absolutely necessary that we recognize environmental information gained *in/through* education. Representation, or a place for individual beliefs and experiences, must be recognised within the learning framework. We need to recognize and attach value to childhood experience and gender language (as examples) if we want education to be equitable, 'interesting' and to persevere resistance (see chapter two).

This chapter addresses individual 'identity' as a theoretical concept that may allow environmental perceptions and experiences to have voices, and to recognize the process of

suppressing voices. The remainder of the chapter into is divided into three parts: childhood experiences, gender and gendering the environment, and environment through culture, in order to provide examples of experiences and positions of understanding.

in/through the environment

Learning *in* or *through* the environment is concerned with meaning developed from individual perspectives and information gained through experience. Learning *in* and *through* the environment is the construction of meaning that quite often leads to action. Callicott (1989) states that personal understanding of the environment is what motivates us toward 'environmentalism'. Leopold (1949/1987) also recognised the importance of individual meaning when he suggested that the success of a land ethic required an education that was based on personal environmental interaction. This chapter addresses identity and experience in the formulation of an individual's environmental knowledge. Identity influences our ability to process information, influences perception and the attachment of meaning in present and future environments. Experience affects perception and influences how we will learn new environmental information. The combination of identity and experience can act as perceptual filters that bring meaning to information, but also they contribute to the 'perseverance' of older ideas (see chapter two on perseverance and resistance). The two are necessary because without some understanding of meaning, we cannot have environmental concern nor can we have a structured value system.

Identity, and its constituent parts, positionality and situatedness, play crucial roles in creating the perception or the filter from which individuals absorb and process information. Tuan (1977) suggests that the perspective from which we experience is our definition of place. Relph (1976) agrees that our sense of place stems from experiences which are grounded by components of ourselves. Keith and Pile (1993) claim that positionality and situatedness, which define identity, are unique to individuals but are also grounded within social

experiences¹. Even though we could argue that childhood, gender and cultural identities are in fact social experiences or products of social interaction, their influences upon the individual largely account for a person's unique psychology². Consequently, definitions of space, place and environment vary from person to person, and experiences within space, place and environment are variations of core ideas and core experiences. This is the creation of individual spatialities where spatialities are based upon knowledge and an understanding of social interaction rather than physical space. Spatiality is used, or has meaning, in four ways in human geography (Gregory, 1993): i) human spatiality is based upon a relationship between space and place where a physical base (geographic space) is necessary for experience; ii) spatiality (developed from structural Marxism) identifies 'links' between social structure and space (e.g. modes of production); iii) spatiality (developed from the work of Lefebvre and Soja) refers to space that is socially produced. Here, spatiality is not (necessarily) a physical entity, but rather a system of social process; iv) spatiality (from a post-structuralist perspective: Foucault) is indicative of how power and knowledge are inscribed in space and how subjective positionality is constituted³. Quintessential social space⁴ is the move toward a spatiality that links physical characteristics and social intent. I believe that understanding environmental meaning depends on the relationship between power, knowledge and social process, but should also include a reference to a perceptual (if not conceptual) view of physical space. [h]ooks (1990), Soja (1989) and Jameson (1991) all agree that physical space has less relevance in cultural identity, but hooks (1990) maintains that our identities and senses of place have an attached spatiality. The geography of identities is the realization that identities and situations arise from interruptions of social actions, although they still have a

¹Positionality and situatedness (situated knowledge) is discussed on page 74-75

² "Unique" refers to the combination of an individual's biological make-up, and ability to learn and adapt making each person and their capabilities unlike any other.

³Subjective positionality is the knowledge from an individual standpoint that is influenced by internal and external factors.

⁴Simply, quintessential social space is the blending of physical space and social interaction.

"real", but sometimes contested, sense of space. For example, environmental meaning may differ between two entities based upon background and interpretation in which their meanings have an associated space. As a result of individuals' meanings competing within political fora, ungrounded environmental decisions can be made. Such poor, ungrounded decisions will in turn deepen the struggle. For example, the James Bay projects illustrate the need to recognize cultural identities as a whole in environmental decision making. This section outlines what may be considered the key influences in individual views toward the environment. The concept of identity and its components are outlined. And the examples of childhood, gender and cultural identities are evaluated. I maintained throughout this project that representation is a key to development of environmental learning which requires the hearing of many voices. However, I realize that I cannot represent that which I do not know exists⁵. Therefore I must use examples from my own experiences and examine my own culture's inability to solve environmental questions, as well as the inability to recognize the many influences of environmental understanding.

identity

Identity politics is simply the political organization of marginalised peoples to reflect their experiences. Identity is a word derivative of sameness and continuity. In the past, identity represented permanence among change and unity among diversity⁶ (Plummer, 1993). Modernists expanded the idea of continuity and linked identity with individualism, the person representing individual unity among the societal change (Plummer, 1993). More recently, the term 'identity', as associated with individualism, refers to the search for identity among the

⁵Not knowing in this context is different from first and second hand experience (outlined in chapter six in relation to media. This is concerned with the inability to understand a culture one is not a part of or while being a part of another

⁶This is derived from the original Latin word '*idem*' which implies sameness within continuity. Unity within diversity is as a definition of identity indicative of obvious implications for representation of individualism fundamental to identity politics

lost meanings of society (Baumeister, 1986). Identity politics is not really a "90s" concept although we perceive it as one. Identity politics emerged in the late 1960s stemming from ethnic, gender and sexuality issues that were never addressed in the normal (at the time) hegemonic political forum. Identity politics developed from traditional Marxist models of class consciousness and the recognition of contradiction, although it moved beyond class to be more extensive and comprehensive. In the post-modern⁷ period, identity politics moved toward the establishment of new alignments from which to base future political and social considerations. Identity politics has a role in environmental knowledge acquisition and in environmental policy formation because it recognises that personal identities and experiences should be heard as voices. Identity brings recognition to the way research is biased and gives validity to this recognition. Environmental knowledge, or much of it, is defined by the identities which have been created by individuals and their experiences (the creation process will be outlined later), which establish frameworks of learning.

Identity offers an explanation for understanding values and definitions of nature and natural components. Identity is believed to be the inner core of the psychic structure which remains constant even through conflict and change (Liechtenstein, 1977). Erikson (1968) claimed that identity was a reflection of a process key to individuals, yet also key to communal culture, and was basically a merging of the two (thus linking social values of nature with individual perspectives). A lost sense of personal sameness (individual unity) is associated with an identity crisis. Another way of phrasing this would be to say that an identity crisis exists when choosing between two 'others' where the 'self' is unknown. A more social interpretation of identity develops the concept of the self - where the self has the ability to be reflexive to itself, and to society at large, through methods of communication and language (Mead, 1934). Erikson (1968) also argued (drawing upon the early work of Mead) that the self is formed on the basis of two phases: the first is defined by the "I" which is

⁷Simply, post-modern represents the participation many voices and research which engages often in multiple perspectives in order to de-construct meaning

internal and subjective but is also determining and unknowable; the second is the "me" which is external and determined by social interaction. The "I" is considered as a set of attitudes of others which the individual identity assumes, whereas the "me" is the identity which we take upon ourselves based on the objectives by which we define ourselves and others. Identity, in theory, was believed to be mostly socially bestowed, socially sustained and socially transformed (Berger, 1966). We believe people build identities based on the culture in which they live, or more currently the culture with which they align themselves.

In a more contemporary analysis of the definitions of identity, particularly identity politics, we start to question the existence of identity, and how to bring about social change without sacrificing the continuity of identity - to be rid of assimilation (as a cultural process) and still recognize the interests of others. It is a question of representation and the importance of representation in the realms of social justice, whereby social justice is not just a reaction to hegemonic power but a recognition of the many. Social justice seeks basic rights for all in co-existence (Shue, 1980). There simply is not a clear 'marginalised identity' or 'other' as was originally suggested in early feminist writings (an idea confirmed by McDowell, 1993a). The grouping and classification of all people who meet certain characteristic criteria (e.g. colour, gender) do not portray a universal truth about their identities. For instance, my feminine identity does not portray the identities of all women; my identities (the "me") do, in fact, extend across a larger base than gender alone. In terms of environmental policy we try to establish voices which can be heard by implementing some sort of political identity (or correctness) in our public participation process (DeBues, 1991). For example, forming a committee or group, established out of a "quasi public" identity to define public needs and preferences seems to be a choosing of what we believe to be the various and dominant voices, and yet there are those who are marginalised from even the socially recognised marginal groups: there are mainstream and marginalised environmentalists (and then those beyond the margins).

The "other" is that which is outside and external to ourselves, usually symbolised

through difference. Defining the "other" puts us in the rather uncomfortable position of tagging marginality and defining just how far identities external to hegemony can stray. Tagging seems detrimental to the entire process, as being 'on the margin' is only offered to those who have the capacity to be recognised. Environmentalists follow a similar pattern - those who have the power to define themselves as 'recognised' are often given a voice in some forum whether or not it may be skewed to represent the status quo⁸. Events of the *Global Forum* illustrated the relationship between recognised and non-recognised environmental groups where some environmental groups, even though marginal are given recognition status unlike others which are beyond margins and struggle for recognition. I am not suggesting cultural and individual identities are in fact equivalent to environmentalism/ environmental advocacy, but I am suggesting that environmental ideas often are accepted/not accepted on the basis of whether the ideas exist within accepted boundaries. It comes as a shock to realize that the underlying premise of identity politics has been based upon an approach that is detrimental to the entire process. In looking directly at feminist theory again, we can see the words of Linda McDowell (1992b) who suggested that it came as shock to her when she realised that she and her colleagues' (generally white, upper-income academic researchers) very existence had defined a 'universal woman' based upon the marginalisation of one group of women. The only solution is of course to recognize that boundaries are in fact fuzzy and not clear cut. And it seems only logical when we are discussing individual identities that they can be adopted from a wide range of experiences and situations, to the extent that any given identity cannot be a universal.

After much criticism, the realization occurs that frameworks and theories must be altered to recognize the 'fuzziness' of identities if they are to take on a practical application. No longer can binary relations (e.g. black-white; male-female, culture-nature) exist on their own: these classifications or models are too simplistic. Post-modern thought helps us

⁸I refer specifically to media coverage, and media definitions of "concerned parties" and related interests, which are often re-figured into the public decision making forum through environmental advocates and individuals

recognize that there are spaces between the localities⁹ of identity. With this awareness, we see that spaces of construction and conflict are not binaries but are, in fact, multiples of many aspects. Learning to be aware is challenged by the difficulties faced through "language" (as a cultural entity) and through the inability of words to adequately express thought unique to individuals (Pyles & Algeo, 1982). The concept of language will be developed further in the next chapter.

Thus, identity politics focus on the question of cultural difference. The essentialist¹⁰ approach is fundamental as it defines the "personal" coupled with social and cultural creation. Essentialism is the backbone to individual identity since meaning is sought in the reflexive.¹¹ Situatedness and positionality, key elements of identity, define how we 'interact', including the way we learn and how we internalise what we learn. Situated knowledge is a map of where we as "selves" have been and in essence where we are going, thus confirming the earlier work of Erikson (1968) who believed that an identity crisis could be worked out through 'finding oneself' in a position between dualities. This is not a commitment to the humanistic ideal (where all is decided by individual choice), nor the psychoanalytic¹², since we need to recognize that there is multitude of social relations and power structures which create a map with many symbols. The symbolic representation of the way in which we interact, or the language used, also suggests a particular positionality.

Positionality is often demonstrated in research or in government by allowing the content to incorporate a more subjective stance, and as McDowell (1992a) pointed out earlier, often times our inability to place ourselves in others proverbial shoes (and position) has made

⁹Localities are a set of social relations.

¹⁰In the Platonic sense, 'essence' is knowing by sensation. Essentialists, then, support the idea that knowledge is innate.

¹¹Reflexivity is not only an examination of the past, but a critical reaction to ideas that preceded current thought. Past thought gives rise to new thought.

¹²Psychoanalytics believe in the idea that who we are, and what we will become, is determined by our past (e.g. childhood) experience. Existentialists, by contrast, would argue that we are free to choose. We cannot change the past, but we can ignore it.

us stand back and reassess the way we 'do research'. Hence, we see research which admits and promotes reflecting the researcher's positionality, i.e., a very reflexive and almost 'sensed' approach. The justification for this method is that we cannot discuss the positionality of all others but we are often aware of our own, and that ours is multi-dimensional as well. David Harvey (1993) criticises this research approach as a mere life book which reduces our abilities to assess, and critically review, and generalize from, situations as they socially exist. In essence, we have created a framework that devalues the conflicts (identity struggles) and the political power structures involved because we focus on individual experiences (Harvey, 1993). Realising this, Linda McDowell questioned whether research can represent the 'other' or does it focus away from the 'other'. Focusing away from the other may be seen as the ignorance of the political struggles (Harvey, 1993). I would agree with Harvey's thinking that in our attempts to treat subject matter with 'kid gloves' or 'tread lightly' we have opted for a less objective/rigorous approach to research. In terms of environmental research, difficulties arise in that, first of all, the environment is a system and, second, the global environment requires research into the diverse perspectives in order to bring about effective environmental understanding. Unfortunately, this process is enhanced as the subject matter attracts some attached urgency or price tag (socially, economically and environmentally). I think that often in trying to meet the needs of many and all people who have a stake in environmental policy we opt to best cover by not covering - we do not want to misrepresent so we avoid the tactic of representation. Instead we present the facts as we see them and how they affect us as individuals. This idea becomes more obvious in the discussion about learning and space in chapter seven. Although we are still blatantly aware of "us" and "them" in our environmental research, often in attempts to recognize that we cannot represent others, we nevertheless create a binary discourse where duality cannot be avoided.¹³ So it seems that even this whole thesis writing process, is in fact a personal journey, justified by peers and those who share similar

¹³It is worthwhile noting that similar ideas about fair representation were addressed by the concept of utilitarianism as early as the post-Romantic and Victorian periods.

views or at least similar backgrounds. The process, however, is a trap. In order to extend beyond the essence of identity or political correctness, we seem to be re-justifying hegemony. Concurrently, when we talk of environmental learning and why perhaps environmental policy has failed at being representative, the failure occurs because we have not represented the identities of groups nor individuals who may be involved or should be involved. As the person behind this work, I would suggest that without my own language of identity, much of the discussion would be lost as would the motivation behind it (particularly a need to give my environmental views a voice and an identity). Political representation does not occur through the hiding or oppressing of life books. What I say is a reflection of the language of my identity.

Part one: Childhood Experience and Nature

Experiences of childhood are fundamental and essential to our definitions of the natural environment. Lynch (1960, 1977) suggests that our greatest sense of place derives from our childhood experiences with places. Often in defining places never visited, we rely upon memorable places of childhood as the basis for our formation of place definition. Lynch (1977) says that we form our own maps of the environment in which much of the map draws upon perceptions of early childhood experiences. Our perceptions of childhood landscapes are idyllic (Sebba, 1991); and these landscapes are usually enhanced by experiences, social interactions and perspectives of time. Linked very closely to this is the perspective that you can never go back to places of childhood without experiencing disappointment. Returning and re-seeing through adult eyes and adult interpretations taints the perspective. Lynch (1977), Tuan (1977) and Sebba (1991) suggest the places that we cherish, which hold most emotion and provide the most vivid memories, are places of childhood and it is these that often motivate action. Lynch's (1977) argument of the significance of childhood should be expanded, however, to include not only an individual's childhood but also experience with children. We

also experience senses of nature in childhood through other children - especially children in close contact. Parents often comment that seeing nature through their children's experiences shows them (parents) a different perspective of nature (Nabhan & Trimble, 1994). Sometimes the memories of children/grandchildren 'in nature' are stronger and in essence more significant than memories of one's own childhood.

What do the experiences of childhood suggest in terms of environmental learning and, more significantly, environmental policy? Environmental learning peaks through childhood (Sebba, 1991), and the significance of the experience, such as those covered by Lynch, follow us through our lifetimes. We define and redefine nature on the biases formed in our own or others' childhood. Individual learning styles and the manner in which children prefer to seek new knowledge in part determines the kind of information that will be deemed important (Young, 1993). In terms of environmental action, often experiences become the passion behind reason, involvement and commitment. Often we try to protect that which is sacred to our childhood experiences, and places where we remember old friends, relatives, and our own children (Nabhan & Trimble, 1994).

Childhood is essential to the environmental movement as a whole. "Tomorrow" is considered key in environmental movements and environmental values that attempt to preserve for tomorrow. Children are considered the representatives of tomorrow. Because we socially accept that children have the future - a future we will not see or cannot even imagine being a part of - we are told we must act to maintain the environment so that future children will have choices. Current environmental thought recognises that we will probably not witness true environmental disaster in the remainder of our lifetimes, but are socialised to accept that maybe our children's generation or our children's children will. This is a fear experience that triggers our sense of responsibility. And thus we believe (and teach) that the environment is the children's future. Children are synonymous with the environmental crisis. The media even use children as a communicating tool. Somehow environmental disasters such as Chernobyl, desertification etc. seem so much more devastating if we can picture the involvement of

innocent children's faces. Repetitively we see the environmental crisis as a children's crisis which appeals to our own pasts and our paternal and maternal senses which suggest we should protect children and that which contributes to the goodness of childhood (Nabhan & Trimble, 1994). Often at the policy formulation stage we hear people suggest that they would like to "have my child have the chance to have the same experiences I did" in response to changing land uses. Childhood becomes often the discourse of environmental reason. Land and communities are often preserved and/or changed on the perception of being responsible for children. Opinion and involvement in environmental decision making often is motivated by the protection of the space of childhood. Space associated with early environmental interaction becomes almost sacred, especially as it has been formulated in our understanding. The attachment to space/place is often associated with people/events of the past. Perceptually then, the past is believed to disappear if the space disappears. We also believe that the same space can represent similar experiences for other children. Even so we need to recognize that experience and the identities that have cemented themselves in space, particularly natural space, should be recognised as a source of learning: knowledge and experience that is undeniably existent and should be represented as such. What we have learned has transposed our perception into a motivator and/or the information behind decision making.

This perspective has fundamentally influenced 'environmental education'. The belief in children holds some hope for a sustainable environmental future, and so we recognize, encourage and sponsor environmental education. The International Development Research Council (IDRC, 1993) claims that solutions are invested in education whereby the idea of inheritance of environmental crisis should be the reason for more research into environmental education. Perhaps the sense of some urgency to change environmental education policy is my motivation. My need to preserve space is fundamentally linked with my faith in proper environmental education as a security. Environmental education then is to prepare children to make political-environmental decisions when they become adults.

*on being truant*¹⁴

"Nature education is a contradiction of terms, because formal education is where you're *supposed to be*, and nature is where you go when you are *truant*" (Franklin Burroughs, in Nabhan, 1994, p.39).

As a school child, I enjoyed the natural sciences or environmental studies or whatever title was fashionable at the time (it seemed to me it changed rather frequently - although the subject matter rarely did). Although I dreaded the dissection, I always wondered why we had to examine pickled toads and bugs. If natural science was about life - why did studying require the dead?¹⁵ I could learn from textbooks the parts of the body, but not about a life. I remember the frog's muscles, tissues and the preserved grasshopper in the stomach, but I do not recall ever seeing a live frog in its natural habitat during formal class time. I saw frogs from the viewpoint of sitting on the bow of a row boat with my cousin as we looked over into the murky water near my grandmother's summer place. But there was a clear difference. School science was dead; alive science was really play.

Nabhan (1994) suggests that nature in his pre-college education was to be treated as "a distant abstraction". Teachers prepared children for "careers inside buildings, as if what was learned in the natural world had little or no practicality in the real world" (Nabhan 1994, p. 39). So children look beyond the classroom, not in search of education but in search of the outdoors for outdoors sake. I used to think that if I really wanted to learn about nature I would need to be a part of it. Doing homework or school work outside was improper, similar to staring at the television while doing mathematics. "But if I really wanted to..." didn't matter because outside was about "playing hooky" or being truant.

The natural environment, for a child, is often a place of freedom - it is the place where

¹⁴This title was adopted from Nabhan and Trimble's work, particularly from Nabhan's chapter called "Going Truant" where they discuss nature education as an indoor rather than an outdoor event.

¹⁵Interestingly, two professors at the University of Ottawa have developed a state of the art multimedia computer program called DigiZoo in order to teach biology/zoology students, while at the same time increasing experimental accuracy, saving money, and of course, reducing the need for specimens.

"nothingness" is allowed to occur. Nothingness is the social act of 'hanging around' where children learn and experiment with interaction (social interaction specifically but natural as well).¹⁶ Nothingness always takes place in a specific environment. The natural environment is often a backdrop or a setting for social interaction.

the child's outing

'Nature outings' are believed to be an effective teaching strategy for adolescent environmental education (Jacobson & Bergman, 1987). Nature outings usually consist of what are called 'walkabouts' where children/students are expected to visualize all attributes of the surrounding natural communities. Walkabouts form a celebrated approach for removing nature from the classroom building (Gibbons, 1984). But it is a failed approach in that a walkabout is simply walking around (about) nature, not with nature. Walkabouts have been criticised for being too "prepackaged and formula oriented" (Nabhan, 1994, p. 44). The walkabouts centred upon the pre- or early-adolescent, children who were not yet with 'responsibility' but who were beyond the nature of the playground (Gibbons, 1984). I remember being subjected to a walkabout when I was in the seventh grade, but this one was a 'historical cultural community walkabout'. I remember how dreadfully boring the trip was - houses, buildings and monuments about people whom I doubted ever existed. A few of the more anxious children began to fall behind and get into mischief and they were sent back to the picnic spot where a chaperon awaited. The idea spread - if we illustrate lack of interest and misbehaviour we would be sent back. In the end there were only about 10 students out of a possible 30 who endured the whole walkabout. "If I really wanted to learn" about history, I needed to know that people were alive - not a facade but real people. Likewise, "if we really want to learn"

¹⁶ Nothingness has been coined in Robert Paul Smith's anecdotal book *"Where did you Go?" "Out" "What did you do?" "Nothing"* (1957). Doing 'nothing' can actually be referred to as a form of play and a form of social interaction. Children contentedly report on doing nothing. We refer back to our childhood with envy for the nothingness - it is the nothingness that creates the perception of summers past as being long, endless days. Doing nothing requires a well defined sense of place - hanging out requires a 'hang out' spot. And Nabhan and Trimble (1994) as well as Shepard (1982) suggest that children often find that place within natural spaces.

about nature we need to feel it is alive. Nature is not a museum. Some people believe that children should be taught the "don't touch" rule, but this only raises the question of lack of interest. If we engage in hands-on-learning, we need to accept that pre-adolescents will be selectively destructive. Nabhan and Trimble (1994) suggest that this is a necessary risk in order to enhance environmental experiences. The experiences gained through childhood interaction with nature lead to positive experiential memories. Perhaps 'aliveness' means we set the 'irresponsible' pre-teens out in nature: perhaps they will be destructive, but perhaps nature would be otherwise boring. Perhaps if all we can remember of nature and childhood is a boring uneventful walk, then we will be less concerned about nature when it comes to valuing environmental education, information and making valuable environmental choices. Does nature matter if it does not have any significance? When childhood experiences weigh heavily on our environmental actions and understandings as adults, then we should be concerned about how the environment is presented to children. I still remember my walkabout and I still talk about it - I would not choose to do it again.

children should be seen and not heard ..

In Farley Mowat's interviews with what he calls the "green crusaders" in the book, *Rescue the Earth* (1990), I found an interesting similarity between his participants. Each of these unique personalities felt compelled to bring their childhood into the discussion, and to define themselves from their childhood experiences whereby each individual was an environmentalist, naturalist and animal lover as far back as he/she could remember. Childhood interaction with nature remains such a significant portion of our past and part of present environmental consciousness, as illustrated by these individuals. This is not to suggest that early 'nature interests' lead to "environmental careers and interests", but rather suggests that children's little voices can lead to bigger voices of/for the "environment". Here are several examples from *Rescue the Earth* (1990):

"Almost all young children have a natural affinity for other animals, an attitude which seems endemic in young creatures of whatever species. I was no exception. As a child I fearlessly and happily consorted with frogs, snakes, chickens, squirrels and whatever came my way" (Farley Mowat, p. 13).

"Ever since my childhood in England I've had an interest in animals, wilderness, wildlife. All kids are fascinated by nature. Children readily identify with other animals. That's how it was with me. But there was never any dramatic revelation that changed my life in favour of working with animals over people." (Paul Griss, Canadian Nature Federation, p. 64).

"At a very early age I decided I enjoyed working with animals; I had a way with them. That way with animals has improved, albeit leaving a fair number of scars. (Michael O'Sullivan, World Society for the Protection of Animals, p. 128).

"My family didn't dote on animals although they liked them and respected them. In my early years I lived in the mountains of Wales where there was a lot of wildlife. I just simply liked animals for no reason I could put a finger on. I spent much of my time in the woods, in the mountains, just enjoying the closeness with nature." (Brian Davies, International Fund for Animal Welfare, p. 145).

"From as early as I can remember my greatest joy was to go out on a bicycle and dip in the creeks with nets for bluegills, sunfish and catfish." (David Suzuki, p. 169).

"I was born with an environmental consciousness and I don't know why. I was much more interested in the natural environment - my mother says - when I was little, than anything man-made. When I was about three I told her I didn't like airplanes because they scratched the sky. I can remember feeling very attached to teeny weeny little flowers that I could only see because I was close to ground" (Elizabeth May, environmental lawyer and activist, p. 188).

"Paul Shepard says youngsters literally ingest the experience of nature and it becomes apart of them. I believe this is so. In my case, it happened to be a fascination with newts and toads and frogs and stuff when I was a small child. Then I got interested in birds. I was a keen birder all my childhood." (John Livingston, Professor and environmental philosopher, York University, p. 267).

The admissions are all the same - nature as childhood fascination was not something that matured and disappeared. The situations are not unique to these people and only those who are socially and politically recognised environmentalists. Events and interactions in our childhood define how we wish to see our environment (whether a natural or human environment) in the future. My own experience is similar. I remember the tremendous sense of freedom; I remember at play with nature; and I remember social interactions that took place

in natural environments. As with Farley Mowat's associates some of the greatest joys were in meadows, trees and at lakeside doing 'nothing' in particular. I know the lost, devastating feelings that accompany the thought of losing the places of my childhood and places like them. In essence my memories and expressions find their voices now. They existed for me in childhood and they have voices in adulthood. These voices obscure and often filter new knowledge. Protecting and providing nature opportunities for tomorrow's children is a paradigm intended to speak from the voices/experiences of our childhood - protect what we had, expand what we had, provide more and better opportunities. When we talk of the participation in public policy we cannot separate knowledge as it currently exists from the knowledge gained in childhood experience. The sentiments above illustrate this. These past experiences can be masked but it is important to realize the voices do exist. The evidence of their realness exists in simple justification of each of these environmentalists as being self-professed nature lovers as children. The fact that their personal childhood information is readily accessible suggests it enters information association and the production of knowledge during the environmental learning stages. The thought of losing my sacred spaces was often an incentive to learn more about urban control and conservation techniques. And maybe in part this project is to do the same - I need to know other kids will be able to look at the bullfrogs from the bow of the boat.

for the children..

"We have got to learn,
We must leave here a garden for our children,
When we are gone forever" (Chris DeBurgh, "Shine On", *Power of Ten*,
v1992 A&M).

The image of the child is the essence of the environmental movement. Environment and children seem somewhat linked to the extent that the environmental crisis is almost

considered a children's crusade.¹⁷ This is illustrated in the discourse which emphasises resources and an earth for tomorrow. The media, especially, uses children not only in their discourse but within their imagery such that children are portrayed as victims in an environmental struggle. The environment interferes with children's health, and their futures. We are to feel responsible - not for ourselves but for our children. As much as we recognize or believe the environmental crisis exists we believe the responsibility of providing for children is ours. We see solemn, wide-eyed children in despair. We are urged to bring about environmental change for them and on their behalf.

Children play an interesting role in the environmental movement, not only as ambassadors of future inheritance, but also as political and social advocates of environmental issues. As later outlined, we see children instigating environmental programs within the current events and other areas of the school curriculum. Children have been described as being active in environmental roles at home, spearheading family recycling, composting and waste control programs (Suzuki, 1990). Youth action programs such as "environmental youth corps" are actively encouraging children to take a role in community environmental programs. We as adults openly admit that children seem to be more 'on top' of the issues of the environment (Nichols, 1990). Children have a knowledge or a quest for knowledge about the environment but we seem to dismiss it or ignore it or show lack of interest. Children rarely have a voice. Children are not included in public participation roles in environmental planning. Public consultation is set up in adult hours by adults for adults. Often times children are asked to attend as a class by their local political advocates, but the context usually has more to do with the study of civics than environmentalism, and even so, it must be asked what weight the children's opinions would carry anyway. Part of the problem may be that nobody helps children to prepare their opinions in advance, and so the children seem awkward

¹⁷ A history of environmentalism illustrates the way in which children are expected to protect nature. Currently, we often witness media using the phrase children's crusade in response to environmental crisis (special edition *Omni* magazine, 1989). Metaphorically, this is reflective of the battles fought by children (spiritually and politically).

or frustrating to others who just want to be finished with the public process

An interesting paradox develops in our lines of thinking. We believe that children are the victims, the ones to inherit the future. We believe that children have knowledge that is more current and up-to-date and we believe that children have a purity about their experiences with nature, and yet we rarely recognize those roles in environmental policy formulation. We instead suggest things such as "I want my child to have this opportunity" , "the community's children need this" but we never invite the voice. Frequently in the defence of decisions and environmental policies we construct the visions of what we want to see in our community for children or what we remember as children.. When the facts (as we define them) are presented, we often justify decisions by deferring to children's needs, as when we say "do it for the kids"

the good ole days

"Most of us know that the past was not really like that. Life back then seems brighter not because things were better but because we lived more vividly when young, even the adult world of yesteryear reflects the perspective of childhood. Now unable to experience so intensely, we mourn a lost immediacy that makes the past unmatched. Such nostalgia can also shore up self-esteem, reminding us that however sad our present lot we were once happy and worthwhile. Childhood thus recalled excludes the family quarrels, the outings dominated by waiting in queues for grubby loaves. 'nostalgia is memory with the pain removed'. The pain is today. We shed tears for the landscape we find no longer what it was, what we thought it was, or what we hoped it would be." (Lowenthal 1990, p. 8)

Wilson (1993) claimed that our greatest interactions with the environment occurred through a notion of childhood, either our own or with other children. The dangerous position in which this places us is the inability to separate reality from reflection. Much of the environmental information that is dragged out from within us is in part made up of reflection. Looking back and analyzing from a position of the past creates a tainted view which may not be in the best interest of environmental decision making. Reason, based on knowledge of the past, may overlook the positionality of the identity that experienced acquired the knowledge in the first place. Lowenthal (1990) draws attention to the changed landscape suggesting that the

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environment no longer is the way we remember. Expectations of reliving a past or seeing through the positionality of the past ignores the knowledge gained in the intervening time. Knowledge gained can be considered both a benefit and a liability, but nonetheless, our situatedness has changed.

I remember the distance between my grandparent's house and the street seemed quite a far ride in my pedal-buggy and yet upon a recent visit, I noticed it was in reality a mere few meters. My first thought was the subsequent owner must have moved the house, even though I knew there would be no point in moving an entire house forward to reduce driveway length. But how could I have been wrong? And remembering the longer driveway seemed so much more pleasant to me - I wanted it to look as I thought it looked - but of course, my perspective had changed. My physical body changed as I became taller and physical space became redefined. My situation had changed as did my ability to assess the house and driveway²⁶.

Lowenthal (1990) also points out that looking back at childhood and youth is without pain. The places we remember and the experiences we remember were in fact not as they seem now. We also have to remember, that, if we continue to represent children and children's needs and concerns in policy making, we need to recognize that childhood is an identity in itself - not just that which we can remember. Perspectives change because our situated knowledge changes. When I was an adolescent, I attended a rural school where many of the students came from farming families. I remember many of these teens saying that they would never live in the country because they themselves disliked being country children. But now that time has passed and childhood experiences have become something that is valued, childhood places are sacred places, the same individuals are returning to the home-towns to live because they believe (we can assume) that this is the ideal environment for children to be raised. I don't question whether one environment is better than the other. Instead I question

²⁶Admittedly, this happens in adulthood as well but because childhood perceptions of space and nature are weighted significantly even in adulthood it is more significant to discuss changes in spatial perceptions of childhood

the change in perspective. Environment space and place are different in retrospect from our current perspective.

The lesson to learn is that when we bring our own perspectives into environmental communication (thence environmental education) and decision making, we need to assess the basis of the information. Neither environmental education programs nor environmental policies are intended to be a personal mission to preserve our pasts - which I think is an unfortunate limitation to all knowledge. Knowledge is situated not only within identity but also within time. So when we say 'Do it for the kids' we have to wonder if it is for the kids or for our own memories.

Part two: Gender and Nature, and the Gendering of the Environment

What I have learned about the environment and how I use nature is not separated from my gender. This section is designed to draw attention to the role of having a 'gender', and 'gendering' the environment, and how it plays in our formation of environmental knowledge. This section addresses the issues of gender and environment ranging from childhood experiences, to experiencing geography as a discipline to the spirituality of ecofeminism, women and environmental interaction. The links between gender and environmental perception are paradoxical - the way we learn about the environment often becomes gendered. To ignore this position of identity would be to ignore the nature of us as individuals and the nature of our culture. Again, I draw upon the cultural relevance of nature as a social construct. This section is structured in two main sections. The first is reflective about gender experiences, and the second section questions the ecofeminist position. I use much of my own experience to indicate the embeddedness of our perceptions. I do not expect that anyone else will see/saw things as I do did - but there are culturally relevant structures in place which I

believe influence what we learn and how we process the information. It is fundamental that we recognize gendered voices at this level as well as the relevance of the way in which we communicate the relationship between gender and nature.

gendering the environment

boy frogs and girl frogs

At a very young age I think children become fascinated with the distinguishing of sex of living creatures. I remember specifically becoming very concerned about the whether to call a creature "he" or "she". At the time, the misplaced pronoun was a devastating thought - how dreadful to be 'misrepresented' - it was simply inappropriate. Children need to define the roles of what they see in nature and relate it to their own lives (OML, 1995). Typically, we would perceive nature differently if we identified something as male or as female.

Children often distinguish gender based upon appearance, especially when they reach the age where they create alliances with children of their own sex (or simply the "boy germ" - "girl germ" phase). Creatures which had inherent qualities of "dolls" I perceived and characterised as being female. Generally and typically, my classified female creatures had likeable appearances, those with harsher appearances such as toads and snakes were male. The definition of maleness was suggestive of what we believe of little boys.

"What are little boys made of, made of"

Rats and snails and puppy dogs tails,

That's what little boys are made of." (anonymous)

We perceive that maleness in nature mirrors these qualities and therefore we associate them with boys and male-like creatures. Not only do we genderize creatures - we genderize our expectations of boys and girls by defining what girls will like and what boys will like. From an educational point of view, the genderization of the environment as a whole is a very dangerous approach for learning for the same reason that stereotyping is frowned upon. Poorly

developed associations lead to misunderstandings, and misinformation is destined to create sensations of alienation and hostility.

For the small child, classification as maleness or femaleness is an easy process (even if it is not correct). As a child's knowledge base develops the child realises that most species have two sexes (Best, et al, 1977). Each species comprises mummies and daddies, or potential mummies and daddies, and their roles are defined as such. Though sex roles may vary in each species, many children perceive through their socialised ideals of the nuclear family (Emmerich, Goldman, Kirsh & Sharabany, 1977). In my perception, nature worked according to the gender roles socially and culturally established. In my society, it seemed those parts of nature which did not follow those rules were somehow deviant to nature-society¹ as a whole.

Nature could be adopted and cared for by children. Growing up female and playing stereotypical games, I was clearly socialised into domestic female roles. Nature could be an imaginary domestic setting. Thus creatures in the wild could be cared for as children - they, in fact, needed to be cared for. So within the caretaker role we built houses as well as provided food and toys. Even when the creatures did not really exist other than in the hope that they would come after we had gone. We prepared 'just in case'.

As I moved away from early childhood, nature started to lose its familiarity - often times being foreign. "He" became my discourse of nature. Gender was not an issue. The use of 'he' was just an easy reference. The caretaker role I adopted earlier changed and reached a new plateau. Views of nature changed from the limit of what I could be involved in to the more panoramic. And with that change I was more acutely aware of the landscape and how it

¹"Nature-society seems like a paradox or even an oxymoron, but in the example of children constructing nature in their own images, nature is its own "society" with its own set of rules, norm and values similar to that of the way we perceive our own.

could be manipulated into improving quality of life. Nature then became a tool for social interaction, a little environmental management could open space into a much more sophisticated play thing. My use of nature had expanded away from the individual toward the whole, but a whole that was interpreted by my needs rather than for its own sake. In a sense, the environment was a "whole" that included natural and social entities. The transmission of the social values and information to the natural meant an increased adoption of human roles to the non-human.

a frontier of men and boys

Even now as adults we seem reluctant to classify the nature experience as 'gender reinforcing' for women. Males are "real men" in nature, as if masculinity finds its identity in the natural environment. Historical conflicts and struggles of the frontier environment were personified by the battle of males and nature. In western views, we would send mere boys into the wilderness and we would celebrate the return of men. And yet we sent many women to the wilderness as well and they endured the basics of survival for themselves, and for their frontier born children. Writer, Suzanna Moodie, Canadian frontier settler, writes

"I sketch from Nature, and the pictures true,
Whatever the subject, whether grave or gay,
Painful experience in a distant land,
Made it my own" (*Roughing it in the Bush* 1882-1970)

We seem to argue at much length, especially in light of ecofeminism, that nature is feminine (Merchant, 1980) yet interaction with nature is masculine.²¹ In a recreation sense, even though men and women seem to enjoy the outdoor adventure equally, we commercialise

²¹ "Quality of life" is reflective of the needs of the child - e.g. the creation of forts - private and social space. Improving quality of life through nature means creating nature as a plaything where hills are for sliding, dirt is for digging etc.

²² Masculine use of nature has been often associated by ecofeminists with the rape of nature.

outdoor recreation as a man's sport. Outfitters alike specialise in a wide range of products suitable for men but less so for women. Unisex clothing usually means that it is designed for men. Women who are interested in defining themselves in nature are often looked upon as reaching tom-boy energies within themselves. I guess we need to ask why is it that males who fear nature, and females who want to interact with nature, push their genders beyond the socially constructed boundaries?"

boys will be boys

I remember that as girls we were concentrating more on the whole environmental management practice, and it seemed that boys concentrated on a focused nature. And thus boys' knowledge of nature was much more detailed than mine. "Natural science" was boy's material. To me it seemed true that boys had a connection with nature that I never had. But, it also seemed that boys were encouraged to "connect". Scientific instruments like microscopes were toys, as well as tools, for boys but only academic instruments for girls. We, as girls, were told that a desire for such a toy would be short-lived. It seemed true enough - girls apparently lost interest quickly, but I often wondered if the loss of interest was an excuse for lacking base knowledge in the minute.

Fear of nature is also a learned genderized characteristic (Gilligan, 1982). When I was a child it seemed that boys were never afraid of nature. Those boys who were afraid were generally faced with the possibility of being called girlish or a "sissy". Snakes, mice and spiders seemed to be the most attractive or the most feared. Boys in my neighbourhood delighted in handling, and much to the dismay of school girls, holding these things in our faces to see if we would scream. The scream was essential and its social importance much greater than the fear. I remember having a conversation with a female school friend who confided one day that she was afraid of mice. At that point, I could not recall if I ever had

seen a mouse other than in pet shops or stuffed in a museum. So I was forced to think about whether I was in fact afraid of mice. But why did we even contemplate the issue?

Attending a rural school usually meant that the natural differentiation between seasons was very apparent and spring was always the most significant. "May" days were always very warm in the small windowed classrooms and, as school was nearing end for yet another year, meant we were restless. So, with open windows, we usually had what seemed like an abundance of flies. During the dull classes of trigonometry, flies became the main focus of attention. Some of the male students would remove the wings, such that the fly's movement was restricted to a hop, and then place them upon a series of books, staged as an acrobatic arrangement, and study the performance. These acts were, in retrospect, somewhat gruesome and certainly raise the question of power, but they also indicate a rather exploratory learning habit which seemed more appropriate for boys rather than girls. After all, girls were told flies and other insects were dirty and we "shouldn't touch". In essence boys learned about nature with a hands-on approach, whereas girls were generally discouraged.

...the environment: a male discipline

For a moment, ignoring the power structures involved in interfering with nature, the hands on approach is socially acceptable. Society is permissive of boys dissecting and detaining ("jarring") for their own curiosity. These acts are dismissed with the phrase "boys will be boys". But some girls were told repeatedly about its inappropriateness and although the ethics of it goes either way, girls were to appreciate and leave well enough alone while boys were allowed to explore. Perhaps it does not matter that I did not learn what makes the little tails of fire flies light, but perhaps, if I did know, within the positivist, socially recognised validity of science as means toward "proper" environmental management, I could play a more recognised (male) role in environmental policy.

Environment is a learning subject more oriented to men. I was a little taken aback, and perhaps even overwhelmed, at the 1995 meeting of the Canadian Association of Geographers, (at the Learned's Conference), Université du Québec à Montréal, where an obvious division of men-women and topic areas was notable. Women generally only attended sessions related to gender/feminism and development studies, but rarely in other topic sessions. Even the proposition of other women presenting environmental papers was not enough encouragement to persuade other women to join in. Geography, in its exploration of the environment, with the exception of certain studies, is a male subject, and hence learning about the natural environment is as well. McDowell and Massey (1984) suggest that one of the initial and primary phases of feminist geography had been to make "women visible in geography" (McDowell and Massey, 1984). But apparently, making women visible is only within certain areas of geographic research, and not within the discipline as a whole. In essence, feminist geography creates even a more segregated discipline: isolating men who wish to be involved in gender studies and women who wish to be included in the non-gender areas of the discipline. But somehow in the search for equality we have created a sense of alienation. Maureen Reed (1993), in an address in autumn 1993:

"Several speakers equated women geographers with feminist geographers only if they were undertaking explicitly feminist research. By exclusion, those not engaged in (predetermined) feminist research were considered non-feminist ... I attended several of these [feminist research] sessions and enjoyed both the substantive learning as well as the connection with the tangential field of research. In contrast, I saw few feminist researchers (especially professors) drifting into other venues where their support may have been appreciated. I realize that people's times and interests are stretched during a short conference. However, the complete absence of support further reinforced a feeling of isolation for me."

I find that I have often been faced with the realization that 'environment' is a male discipline despite that learning, social reproduction and values have been so often, but incorrectly, associated within feminist or gender studies. And in that, there is this realization that I need to

justify my identity and my alliances. Perhaps even to the extent of including gender here, or apologising for a discipline that I can be associated with by gender, but not necessarily by approach.

ecofeminism: gendering environmental understanding

Simply, ecofeminism postulates patriarchal power structures where the social constructions of men and women is a process similar to that which occurs between culture and nature. Rosemary Radford Ruether (in *New Woman: New Earth*, 1975) suggested that we could not expect an ecological solution from a society that still supported relationships of domination. And therefore, an ecological solution must stem from a socio-economic revolution of sorts, where she saw women's movements as fundamental in the breakdown of the hegemonic structures. The spirituality that joins women with the earth and the essentialism that drives feminism is the same. Ecofeminism is often seen as a method for feminism - and has often been criticised by some (myself included), especially deep ecologists (Cheney, 1987), for being preoccupied with the feminist issues and less concerned about the environmental issues at hand. An ecofeminist response usually indicates the necessity for social justice prior to ecological justice.

The ecofeminist perspective is based upon the view that the earth has feminine characteristics. Women have a unique and more acute link with nature than men, based upon women's connection with giving birth and maintaining of life (Warren, 1990). Women are linked with the environment through biology, cultural icons and historical evidence (Warren, 1990). Links with the earth are maternal: the earth, like mother, provides and nurtures its species and or children. The reproductive energies of women are in replication of nature. The menstrual connection (Warren, 1990) with nature is also drawn to attention by ecofeminists suggesting women are held at the transcendental joining with nature following

cyclic patterns²². This should be considered the female (human) dominance of nature. Linking women with nature suggests that women will be better able to care for the environment and will hence be better environmentalists (Jackson, 1993). But this is, of course, based upon stereotype.

Ecofeminists profess that there are several woman-nature types of connections. The belief in these connections in various extremities is the backbone of the ecofeminist movement (Warren, 1994). If any of these arguments seem familiar to us or if we have made these assumptions, then we have learned to gender the environment - even if only subtly. I do not support many of the ecofeminist points of view, as I do not support fully any ecophilosophy. However, ecofeminism raises concerns that seem so imbedded in our cultures and our identities, which I think need to be discussed, especially when it concerns the language of environmental communication and when it affects the rights of representation during the public consultation arenas of environmental decision making.

Ariel Salleh's (1990) work with women and development, addresses the inability of women's movements and women's interests to infiltrate what she calls "patriarchal economics". She argues in theory that women's discourse is not the language of environmental politics, particularly in the South. Salleh outlines barriers for women and women's movements in playing a role in the decision making process - public participation. She suggests that patriarchal economics uses its own language that is considered the language of men (1990), and often feminist language is not given social weight and is, thus, not given much status at the decision making level. The information we know, and how we aim, at any level to present it, is fundamental to understanding how we learn about and act upon the environment. If a goal is to make public environmental policy participation an inclusive option, we need to

²²Despite that cyclic patterns are found in most female mammals. All nature is influenced by cycles

water, but then suddenly, poor human health is a result of poor mothering. This is personified more when women and children are portrayed by the media as victims as well²⁷.

Ecofeminists search for an epistemology that seeks not to perpetuate the so-called harmful value dualisms and value hierarchies. The search for new feminist epistemologies has linked feminism with the ecological quest and offers to critique the dichotomies of nature and culture (Warren, 1994; and also in Salleh, 1990). We cannot separate culture and our social constructions, but ecofeminism suggests that we separate nature from the human in the debate.

Ethical connections are basically the ability to place a non-biased, or at least non-male biased concepts, into the field of environmental ethics. The importance of the role of gender in the formulation of environmental knowledge is foremost. Our own genders are inherently and perhaps even stereotypically suggestive of how we view the environment and nature. I would suggest that there are two types of gender-specific viewings of the environment. The first view is innate, and is based upon roles attributable to an engendered sense of sexuality. The second view is socially created, identifying the focus of masculine and feminine roles. These are important as they dominate what we learn, what we are socially willing to learn, and what we are presented with about the environment. Knowledge and association of gender and the environment and/or gender roles and the environment affect environmental decisions. We need only look at the example of women and poverty, specifically by the work of Vandana Shiva (1989), which concludes that the outcome of environmental decision making often accords with gender relationships. Furthermore, we have to be distinctly aware of the ineffectiveness of gender arguments within the decision making structure. The work of Ariel Salleh (1990) suggests patriarchal economics marginalises women's movements. I think we

²⁷In chapter six which addresses environmental coverage in printed media, it becomes apparent that women and children are often used as a sensational tactic. Environmental sensationalism is definitely gendered. In Lutz and Collins' (1993) work examining the *National Geographic* a similar depiction was used to illustrate the poverty

social revolution (Plumwood, 1991). Second, proponents of this approach seem to over-romanticise the women-nature link and fail to recognize that romanticising only exacerbates problems of gender segregation. And third, clearly defined links of women-nature-body and men-culture-mind assumes clearly defined gender/sex boundaries. I argue that boundaries are fuzzy and that the divisions between culture/nature and mind/body are not distinct, especially in terms of labelling masculine and feminine. As discussed in regards to identity, gender is not a clear binary association; rather variations occur within. Therefore dualisms themselves are not specifically masculine or feminine but may be seen instead as ends of the spectrum of gendered characteristics, especially at the scale of the individual. The female body may not necessarily occupy socially-associated feminine characteristics. Essentially, "tomboy" natures and "sissy boy" mentalities need not be outside the bounds of the associations (a mistake that is also made by ecofeminists).

Links between Earth and femininity find their way into popular or common discourse. The Earth is to give us life and to maintain us during our lives. *The New Testament* also recognises human stewardship over nature - an image that should be understood if mother earth is to be recognised in ecophilosophies (the justification must be in context) (Merchant, 1980). Mother Earth is a western view but others such as Gaia exist, and become symbols to ecofeminists. This is to be celebrated as it requires the understanding of women's spirituality (Spretnak, 1982). In art, the female figure is depicted with or about nature and "culture" is pictured in association to male (Warren, 1990). Ecofeminists capitalize on this imagery suggesting society has created a language that has genderized the environment by reiterating these icons. However, ecofeminists embrace the symbolic link of women and nature. The connection creates the illusion that all women by their nature (being of earth mother) are environmentalists, or at least have the potential to be environmentalists. An illusion such as this, I think, is environmentally restrictive (as well as socially and economically restrictive).

new material to be taught.

of trees and culture

Trees are fundamental to the way I define the landscape, but perhaps this is a blatant reflection of my culture (being from south-eastern Ontario). Never having had the opportunity to visit the north and view the aesthetics of 'treelessness' - I do not know landscape minus trees. To me, trees define regions, climates, seasons and places. Trees are icons of place. Places can be remembered by the positioning and appearance of trees as landmarks and map symbols. Places are also defined by the trees in lanes, avenues and drives named after oaks, maples, pines and elms. The perception of trees carries much weight in the construction of nature. This being the case, I have reflected that trees are representative of how nature can be culturally perceived.

Trees, themselves, differ between species, age and some would even say personality, but trees are, in definition, ecologically and biologically just "trees". Even though I can distinguish between some trees, between places and between landscapes via trees, the reality is that trees are - as I see them - trees nonetheless. Trees seem to play an interesting role in our daily lives. Suburbia is dotted with trees. One can actually establish the age of a subdivision on the basis of the maturity of the trees. Mature trees give a sense of hominess to neighbourhoods. Real estate capitalises on the attractiveness of neighbouring trees by advertising the benefits of a house on a "wooded" lot. 'At home' we welcome trees around us - they give us a sense of the natural and yet we feel that we must trim them, control the irregular growth. Neighbourhood trees are carefully moulded. In the autumn when the leaves change to such vibrant colours we flock (in the Ottawa Carleton region) to the country or to Gatineau Park - to be among the trees to see the colours and smell the freshly fallen leaves. The trees appeal to our senses and yet when one of those beautifully coloured leaves fall from

reflection of femininity and/or masculinity but a reflection of individual preference and stakes²⁴.

Poverty, gender and environmental destruction as well as domesticated gender roles in food production and the working of the environment are linked. When environmental blame is placed it is more often than not placed upon those who are as much victims as they are aggressors and exploiters²⁵ (Lutz & Collins, 1993). In situations of population analysis, poverty ridden countries are often targeted for contributing to what is seen as world overpopulation, and the generation of disease, rather than being 'responsible' and 'maintaining' balance. Inability to cope with exposure to environmental crises is a problem that stems from poverty, and perhaps a problem of little or no education. We believe in the benefit of educating those who encounter the environment and the consequences of ill environmental management on a daily basis. But targeting groups to be 'educated' usually points toward women. Gender segregation begins.

Domestic roles of women have made them caretakers of "home" and thus caretakers of children. Despite efforts of paternity advocates, and the slow but important social recognition of fatherhood as being nurturing, child welfare is dominantly defined as woman's domain. In current events, issues of child care, child health and safety are focused on women's lives. Issues are much more personified when we talk of health, disease and malnutrition. Starving children are to be pitied as the mother is 'not providing' or 'can't provide' and sick children are products of their mothers allowing playing in dirty water²⁶. Target education programs are often condescending: we know children get sick from dirty

²⁴Jackson (1993b, 1993c) refers to much of the environmental concern to be in consideration of each individuals or group's stakes

²⁵especially considering environmental information presented in media.

²⁶ Dirty water is used as a symbol of poverty, and is not to be read in the literal context.

water, but then suddenly, poor human health is a result of poor mothering. This is personified more when women and children are portrayed by the media as victims as well²⁷.

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also have to recognize from a planning point of view that many environmental movements (and social organisations) have formed many of their ideas on the basis of gender.

Ecofeminism has been criticised by other environmental ethicists for creating a specific agenda (Salleh, 1990). A goal of ecofeminism is to break away from what they call male biased environmental ethics, and ecofeminism is to provide environmental ethics external to the social structures of domination. This agenda seems, in many instances, to be more concerned with feminist debates than ecology.

Part three: Environment Through Culture

de Certeau suggests that "every story is a travel story - a spatial practice" (de Certeau, 1984, p 115). Keith and Pile (1993) reiterate this idea suggesting that even if not blatantly obvious, narratives are grounded in and can be 'unpacked' according to spatialities. In the discussion of childhood especially is the evolution of stories indicative of environmental understanding. Spatiality (see page 68) is considered to represent not only space but also social interaction and the construction of meaning (Keith and Pile, 1993). Space as a physical entity is an environment, and therefore the construction of the environment (or nature) is in itself important in the spatialities of individual identities (or individual stories reflecting their understanding of nature).

The use of spatiality is not grounded particularly in physical space but can be illusionary and transcendental (Soja, 1989): geometrical space (or physical space) is passive and inappropriate as an indicator of identity. Soja (1993) believes we have illustrated that space is no longer a necessity within our identities: in brief we no longer need space to identify ourselves (e.g., being from the "east"). Even though we do not focus our lives solely upon space, nor is it oppressive as believed in the past (e.g. environmental determinism), it is

nonetheless basic in our language, within ourselves, and temporarily within our communities [h]ooks suggests that to claim irrelevance of space is a dangerous political reality practised by Soja (1989, 1993) and Jameson (1991): instead suggests that for those where space is believed non-existent it represents a struggle to recognize place (hooks, 1991). Space, often associated with the emotions of home, if non-existent, is associated with an identity crisis²⁸. [h]ooks defines a new spatiality symbolised by radical openness (less structured by definition) in spatial definition, not deterministic, but still grounded the importance of place. She, in part, agrees with Soja in that appropriateness of past definitions such as cultural stereotypes- which are passive, fixed and dialectical - are no longer appropriate. The inappropriateness is due to what she calls "interruptions", which break down the construction of space as a "box" for social interaction. Perceived values placed upon others through associated spatial attributes is based upon assumptions which often detract from "the struggle"²⁹. For example, when we examine environmental issues we may suggest that the interests of a certain group of people are grounded in specific understandings based upon certain cultural assumptions. This is not necessarily the case and often the assumptions only divert energies away from the issue or away from the mentioned groups' "real" concerns. Cultural relevance plays a significant role in environmental perception and in environmental decision making.

Placeness, valued and defined through cultural filters, sets values upon environments. Certain landscapes are valued and so placed hierarchically above others, just as land uses are ranked according to cultural values. The spatialities of individuals and communities (hooks suggests that temporary communities³⁰ are established in the struggle for localities) are the

²⁸ Or the creation of placelessness.

²⁹ Here, struggle is the seeking of representation

³⁰ alliances built upon common ground.

motivators and political power structures behind environmental policy formation and maintenance. Callicott (1989) argues that we are empowered by the threat of losing the place by which we define ourselves (sense of place). Therefore we must discuss the relevance of culture in understanding environmental perception as well as seeking a more representative method of teaching about environment, and making representative environmental decisions.

why cultural identity?

Culture influences the filtering process of perception and thus affects the information type and form that we bring into environmental decision making. This section illustrates the influence of cultural identity in determining and defining environment, environmental goals/concerns, and environmental policy. The approach taken here is not to illustrate cultural differences and variation but rather to address the idea that we cannot possibly stand outside ourselves, and thus our culture, when trying to define and even comprehend others' environmental perceptions. Nor can we assume what we learn and give meaning to in the context of the environment is devoid of cultural interpretations. This section outlines examples that to question the cultural perceptions through the examples of symbols. Cultural identity is to be considered "mixed" (in the sense of mixed in mixed races) and thus follows the struggles for identity and the threat of alienation.³¹ In postmodernity, representation through cultural association is a public policy practice, but in light of mixed associations the process of representation needs to be re-examined.

³¹ Naomi Zack (1993), whose research focuses on mixed races, talks of non-acceptance/alienation within culture. These ideas can be transposed to space and the struggle for political representation in environmental contexts.

nature and culture

environment: as a cultural construct

So what is culture, or what is it not? Culture is juxtaposed with nature in a definition of exclusion. Culture is what nature is not³² (Williams, 1983). With that definition, environment and culture are at odds - opposites in fact. In a simple classification we have alienated ourselves from nature. Some societies perceive culture as that which separates us from nature, and in many ways, culture is believed to be placed higher than nature on the hierarchical scale of importance in defining civilization. Culture is assumed to be the civilising agent that allows people to have a collective consciousness and organize accordingly. Organization and structure are the characteristics that we celebrate as being civilised, and yet we believe nature/natural to be primitive, notwithstanding that nature has organisational and structural tactics which allow it to produce and reproduce. Some critics (particularly ecofeminist but also others such as social ecologists) have challenged the dichotomies of culture and nature suggesting that the separate sphere of culture and nature should be collapsed (Bookchin, 1993). The collapse of the culture-nature dichotomy requires ecological reason and would illustrate that environmental unity can be realised (Lalonde, 1994). Arguments put forth by environmentalists suggest that people must learn about the impacts of culture upon the environment, since a goal of environmental education is to be more aware of the human-nature interrelationship (UNESCO, 1975).

Cultural geography, is defined, in the introductory text *The Human Mosaic* (1986)³³, as being the study that "emphasises human cultures rather than [on] the physical environment people live in". The text begins from this definition and progresses to discuss spatial

³²Culture is equated with civilization.

³³ The textbook of my undergraduate cultural geography class (Jordan, T. G., & Rowntree, I. (1986) *The human mosaic: A thematic introduction to cultural geography*, (3rd Ed.). New York: Harper and Row Publishers.)

variations of living standards, production and cultural contents such as religion etc.. The text makes the blatant disassociation between culture and the environment as if the two were separate worlds or separate studies. And although the threat of mentioning environmental determinism is ever present we have chosen to teach culture as separate from environment. And yet I argue that we define culture in part by our environment and we definitely define the environment by culture³⁴. Socially we recognize the human impact on the environment, the environment's impact on us in terms of health and living standards, and yet we seemingly choose to ignore the intricate and systematic relationship between people and the environment. Ironically, Jordan and Rowntree's text pictures, on the cover, the Gansu Corridor of north central China. This photograph shows a beautiful stepped, patchwork green landscape which is certainly carved by culture but does not actually show people which seems surprising in that the authors have described cultural geography as outside of the physical environment in which people live. What does this suggest of the "environment" we are being taught?

Communication of ideas is fundamental for setting our beliefs, norms and associations. A situation occurred while I was at the Biodome in Montreal, Quebec, where I observed people interact with a "environmental" display. At the "St Lawrence Ecosystem" display, a man made a motion to his son indicating a fishing rod, line and "reeling in the catch" where fish were present. Somehow this man made the immediate association between fish and food, despite the indicators of conservation and environmentalism associated with the 'biodome'. We cannot divorce our own cultural histories from the environment that surrounds us. Our histories or identities will influence how we will perceive, learn and use environments. This indicates the entrenchedness of environmental ideas that educators may find at odds with the

³⁴Drawing upon the classic example of northern peoples and the number of words within their language describing snow and snow types (Brody, 1987) - we recognize that environment (whatever the conditions are, and whether natural or human created) influences culture

new material to be taught.

of trees and culture

Trees are fundamental to the way I define the landscape, but perhaps this is a blatant reflection of my culture (being from south-eastern Ontario). Never having had the opportunity to visit the north and view the aesthetics of treelessness - I do not know landscape minus trees. To me, trees define regions, climates, seasons and places. Trees are icons of place. Places can be remembered by the positioning and appearance of trees as landmarks and map symbols. Places are also defined by the trees in lanes, avenues and drives named after oaks, maples, pines and elms. The perception of trees carries much weight in the construction of nature. This being the case, I have reflected that trees are representative of how nature can be culturally perceived.

Trees, themselves, differ between species, age and some would even say personality, but trees are, in definition, ecologically and biologically just "trees". Even though I can distinguish between some trees, between places and between landscapes via trees, the reality is that trees are - as I see them - trees nonetheless. Trees seem to play an interesting role in our daily lives. Suburbia is dotted with trees. One can actually establish the age of a subdivision on the basis of the maturity of the trees. Mature trees give a sense of hominess to neighbourhoods. Real estate capitalises on the attractiveness of neighbouring trees by advertising the benefits of a house on a "wooded" lot. 'At home' we welcome trees around us - they give us a sense of the natural and yet we feel that we must trim them, control the irregular growth. Neighbourhood trees are carefully moulded. In the autumn when the leaves change to such vibrant colours we flock (in the Ottawa Carleton region) to the country or to Gatineau Park - to be among the trees to see the colours and smell the freshly fallen leaves. The trees appeal to our senses and yet when one of those beautifully coloured leaves fall from

our pruned maple onto our manicured grass it must be raked. In our defence, we do insist on being 'green' by placing the unwanted leaves into the municipally provided compost bins such that way we can use the organic materials. This may sound condescending and critical. It is not. Instead, I exaggerate our use of trees as a reflection of nature perception as being not only a little contradictory but also very culturally specific. I cannot deny that I as much as I am a critic and I am criticised also. I also want to recognize the subtle routine of information that influences daily understanding.

Another prominent place where trees are evident is consumer goods. How often do we witness in furniture shops the unspoken recognition of pure wood, particularly hardwoods as being particularly a desirable thing to want to own? Socially, shoppers for furniture blatantly share the cultural understanding that not only would the oak table look fine in our dining rooms, it would also be a source of great social prestige. Culturally we share and approve the use of good wood in furniture. Here, trees again, have a cultural meaning and are valued accordingly. I have often wondered why many people cannot tell the difference between tree species in "nature" yet can distinguish wood types in furniture.

The above examples illustrate certain views of trees which are indicative of culture. I would suggest that the way individuals look at trees (as an analogy for nature as a whole) is indicative of a specific pattern of perception. A specific culture has a distinct pattern which somehow finds its way into the construction of a perceptual definition. I would suggest that the position from which we perform environmental business is flawed by the use-specific philosophy. The effort needed by many environmentalists and perhaps people of varying cultural groups is the need to step outside our positions and see things in a different light. Seeing the tree and perceiving it from a very different angle suggests that I will not necessarily alter my perception, but rather recognize that the way I see trees is clearly a reflection of who I am (individually and culturally).

'displaced histories' ...displaced environments

The Canadian Museum of Contemporary Photography (CMCP) of the National Gallery of Canada created a series entitled *Displaced Histories* which explored the representation of place and exposed the various layers of meaning about place. The basis for this collection (which includes the works of Marlene Creates, Stan Denniston, Christos Dikeakos, Stan Douglas, Blake Fitzpatrick, Don Gill and Robert Houle) was to illustrate artists' interpretations of concerns such as misrepresentation, lost meanings, layered meaning and marginalised groups. The series is "informed by post-colonial discourse which, in exposing Western thought as Eurocentric, has reasserted the presence of marginalised groups" (CMCP 1994, p. 3). In essence the series illustrates a different way to look at the same landscape. So in this section I intend to draw upon these works, not to examine lost histories and misrepresentations, but to examine displaced environments. I suggest that in some of the works of *Displaced Histories* the layered place meaning and place discourses suggest environmental perspectives that are bound within various cultural identities. These identities are different from my own as I would not be able to see the displaced environmental meanings nor would I be able to comprehend the extent of the displacement without help of others' work.

Don Gill explains displaced identities and I would suggest he touches on displaced environments and makes his spatiality evident:

"The idea that a site can produce meaning is central to this series [*Sites of Production*]. It is a notion that is compounded by the act of naming. This act is an initial exercise in the colonisation of areas that it is expedient to believe are in a 'natural' or uninhabited state. To ignore or erase history, and append a new (or old but of a different place) set of meanings that are specific to the coloniser, is an act determined to set in place the phrase "but there was nothing here before". A name therefore provides entry into a labyrinth of information that constructs a particular history; it is the crux that signifies an integral change to the meaning of a site - before and after - region to international - indigenous to colonial."

"Maybe the word I'm looking for is 'filter:' naming as a filtering process. Rather than layering of information that can be excavated or read in a uniform manner like the rings of a tree, perhaps naming processes act as a mesh, an information filter. References that fit the sieve become separated from context and slip through the grid while the mass of information is reduced to circulating in a jumble against the wrong side of the filter. Fragments torn from context and juxtaposed with other decontextualised fragments creating new meanings and new references. The raw material of historical construction is derived from commonplace." Don Gill, *Sites of Production*, 1993.

Don Gill's work suggests that by renaming places we erase history, by altering environments we eliminate the previous. His work illustrates places which have clear geographical names - names which we recognize with associations (for example, 'Halifax harbour'). The ease with which associations are made is clear but can be threatening to holistic understanding. For example, Halifax harbour is an authentic place. Halifax harbour is suggestive of merchant-trade-business skyline, hub of the Canadian Atlantic. Halifax itself has social and political meaning which is linked with the harbour. I see the image and I make the associations. It is straightforward association but by doing so we do not know what it may have been (Gill, 1993). We have named and associated terms with natural spaces. Tatshenshini comes to mind as an 'environmental' space which has an attached meaning. Environmentalists who advocated the preservation of the Tatshenshini came up with the slogan 'Tatshenshini wild' which sold products to raise funding for the lobbying. In my mind, every time I see the name Tatshenshini I attach "wild" to it. I am not alone. An article in the *Canadian Geographic* (Obee, 1993) did the same. However, even though the initiative behind this was preservation of wilderness, 'wild' has the connotation of white water rafting or some sort of recreational adventure, and this is to be expected given the imagery presented. Naming places filters our perceptions in such a way that language leads us to draw conclusions about place. If all we know of the space is its name and to that we attach understanding about its characteristics then we forget that places had other meanings.

A similar example arose at a public meeting, where I was observing political interaction, regarding the preservation of natural corridors in the Regional Municipality of Ottawa-Carleton (RMOC). Specifically the local meeting in Greely, Osgoode Township (1990), debated the issue of the 'Osgoode Bog'. I had lived in the township for a large portion of my life, and although I had spent most of it as a child/adolescent I had rarely heard of the Osgoode Bog.³⁵ But it is there on the topographical map, and referred to as such. The Regional Municipality had raised concern because the bog is an "environmentally sensitive" region and thus should be treated with care. The region was proposing an environmental corridor. The preservation proposal was not well received by the local people. The locals debated several issues. First, the semantics of the bog became an issue: is it really a bog? Somehow 'marshland' was considered much more appropriate as the word bog seemed so negative for land that had its place in the township for recreational use (above all). Second, on the region's proposed map, placenames in the surrounding area were spatially mis-located causing the local people to question the planners' credibility. Third, surrounding farmers had suggested that the RMOC had overemphasised the bog size as much of the mapped area overlapped and abutted arable farmland. The local people felt offended by the fact the regional government had misrepresented their place and their space. Not only was there a feeling of misrepresentation and the suggestion that RMOC should "do the homework" before consulting the people, but there was a feeling of devaluation of local property. Misrepresentation coupled with the threat of a new spatial authority which had little regard for the 'sacredness' and place names, was considered unacceptable.

The concept of renaming draws attention to the colonial redefinition of land and environment. Many North American placenames are derivatives of aboriginal words and terms

³⁵As it turns out, the Osgoode Bog is located close to where I and friends have lived

which no longer apply. Not only this, but upon colonialization, placenames were changed to honour monarchies and family names, redefining space and eventually redefining the history of certain environments. In the Disney animated film *Pocahontas* (1995), the concept of cultural-based environmental knowledge is elaborated. As the Native North American Pocahontas leads the European John Smith across her land, she proposes:

"if you walk the footsteps of a stranger;
you will learn things you never knew [that],
you never knew."

Not being aware of what we do not cannot know is difficult to comprehend but raises a distinctly unique question for environmental education and environmental policy: how do we represent cultural identity and environmental interaction if we do not know the basis of the interaction. In attempts at political correctness, certain identities are recognised in the form of committees - by selecting and including what is considered to be the cultural identities and the nature of the interactions. The inclusion may seem complete but what is missing may not be obvious, in that the extent of ignorance may not even be known. James Bay projects³⁶ are examples - we select people, ideas and concepts that we think are appropriate but in reality we have committed gross cultural misrepresentation and in the end, I argue, we might have made biased environmental decisions.

Misrepresentations are easy mistakes to commit because often, even when the best interests are intended, assumptions are made based upon cultural expectations, or even how other cultures appear within our own culture. We cannot assume environmental roles or expect environmental answers from other cultures to be the same as our own. As the concept of culture becomes more of a melting pot, cultural meanings evolve and often become more

³⁶ The James Bay projects are a prime example of misrepresentation in that the values of land, power and jurisdiction were not understood. Assumptions were made about the impacts (James Bay originally did not have an environmental assessment) on people and values without recognising situation.

similar. Nabhan and Trimble (1994) suggest, after interviewing children in Arizona (Sonoyta, Quitovac, Sonora, Ajo, Avra Valley, and Marana) that their environmental interests were grounded in popular culture. They had seen more "nature" on television than in the wild. These children remarked about the marvels of science and brushed aside the information of their elders as being inappropriate.

Cultural environmental knowledge changes also through time. The environment is time-sensitive as culture transforms the landscape. In transforming the landscape we have created layers of place outlined by the various artists of *Displaced Histories*. Christos Dikeakos, in his series, *Site and Place Names*, illustrates the layering of spaces in Vancouver and Saskatoon where he "establishes a potent analogy for histories made visible through culture erasure, he devises a strategy for cross cultural representation" (CMCP 1994, p. 4). Dikeakos photographs commercial, and industrial scenes and overlays each print with a sheet of glass with the etched locations of where flora and fauna were once abundant. The shadows of the etched words are to leave imprints of the past on the present: or what he call an "ecological commentary on the present" (Dikeakos 1993). I found one of the most interesting to be his work "*deep hole in the bottom*" which depicts a paved surface which has a perpetual puddle in which people have remarked they do not know the source of its existence. Environmental history illustrates an ancient well was located at that particular spot which is continuing to provide water to the surface.

final thought on identity and experience

Identity and experience are concerned with "stories" (refer to de Certeau (1984), who said that we have 'stories'). In essence, identity and experience are from the perspective of living lives. On numerous occasions through this chapter I refer to some of my own experiences (as stories). If at any time we reflect upon our own stories, or are reminded of

stories, the necessity of giving representation and including *'in/through'* into environmental education programs is clearly obvious. These are our motivations, our concerns and our lasting perceptions of nature. Events, places and things we remember, for whatever reason, indicate that individual perspective has an important place in learning. And thus environmental education programs should show awareness that environmental information comes from intangible and unmeasurable places. Seeking representation in education and environmental policy is about being aware of the multiplicity of information and their sources and language. "From where we stand" examined education *in/through* the environment and focused particularly on individual information. However, learning about the environment is not isolated to individual experience because the social production of knowledge must also be considered. Learning *about* the environment will be outlined in the next chapters: "formal education" and "media influence and environmental coverage".

Chapter Five: Formal Environmental Education

The International Institute for Environment and Development (IIED, 1989) refers to education as the process of building awareness and sensitizing an individual or a group of individuals. Education is an element of the socialisation process that develops individuals to be members of society, or more broadly, education constitutes institutionalised transmission of knowledge and the development of belief systems (OME, 1984). Pateman suggests that education is synonymous with school, but the Canadian Council of Ministers of the Environment (CCME, 1992) argues that public education is a range of activities delivered through a spectrum of activities over a broad range of channels. The activities delivered by the channels include information transfer, awareness heightening, knowledge development, training development, "social marketing" (spreading ideologies) and mobilization programs (CCME, 1992). Formal education systems have specific mandates for the transmission of knowledge and values. Formal programs such as "environmental studies" have curricula and expected outcomes; whereas informal educators have agendas but outcomes are not often specifically set.

The purpose of this section is to assess the role and effectiveness of formal education systems in the formulation of environmental knowledge. Environmental education is outlined referencing provincial (Ontario) and local level perspectives. At these levels, goals, barriers and conceptual constraints of environmental education are placed in context. If the formal structure fails to provide appropriate¹ environmental information then the question arises as to

¹appropriate in meeting goals, objectives or outcomes of environmental education

which other channels are believed to be more essential in the transmission of knowledge and to the generation of environmental policy.

background

environmental education

The concept of environmental education reflects the way the environment as a concept is perceived (UNESCO, 1980). If the environment is socially perceived as being composed of physical entities such as rocks and soils, then environmental education will be formed on the basis of that image. UNESCO (United Nations Educational, Scientific and Cultural Organization) and UNEP (United Nations Environmental Program) claim that environmental education is a lifelong process, thus illustrating that we derive our information continually and (as a result) from many sources (OECD, 1992). The main goal of environmental education is to "develop a world population that is concerned about the environment and its associated problems and which has knowledge, skills, attitudes, motivations and commitments to working individually and collectively towards solutions of current problems and prevention of new ones" (UNESCO, 1975, p. 14).

global recognition and environmental education

UNESCO and UNEP called for (and has been concerned) with the international restructuring of environmental education in 1975 (and has continued to do so: for example 1977, 1987, 1989). At the International Conference on Environmental Education, Belgrade, UNESCO and UNEP established the International Environmental Education Program (IEEP, 1975). The purpose of IEEP is to promote environmental education to people of all countries, in all age groups, both internal and external to the formal education structures (UNEP, 1992). At the Tbilisi International Conference (UNESCO, 1977) on environmental education, schools and school boards were urged to promote and embrace environmental studies. This represented a turning point toward the recognition of "environment" as a necessary school

subject.

The global recognition of environment in education gained further momentum with the publishing of *Our Common Future* (WCED, 1987). The Brundtland Report placed environmental education at the forefront of international development program agendas. International environmental education programs are expected to lead to lifestyle and technological changes that work in the best interests of sustainability. The 1987 UNESCO *Moscow Congress on Environmental Education and Training: Information Strategies for Action in the Field of Environmental Education Training for the 1990s* addressed the link between education and sustainable development. People need to be aware of the effect of the environment on their well being and the impact of people's lifestyles on the environment (UNEP, 1992). The Congress suggested that "if people are to play an important role in accelerating and sustaining development², environmental information should be out in a language they can understand; and in a form they can relate to" (UNEP, 1992, p. 45).

objectives of environmental education

To achieve the goals of environmental education specified by UNESCO (1977) concerning developing knowledge and attitude, I believe the following objectives must be realised.

- 1) Students should be made aware of the problems and the corresponding attempts to find solutions that surround environmental management. This objective is in line with the Learning Attribution Theory (LAT) which postulates that when students understand why they need to learn about a particular topic, they will selectively attend to relevant information across all disciplines (Milheim, & Martin, 1991).
- 2) To help overcome environmental misinformation, already in students' minds, educators must identify the source and nature of the incorrect information (Ballantyne & Packer, 1996). Corresponding with LAT, people will attend to information that affirms their already established beliefs, even if the information is mythical (Milheim, & Martin, 1991).

²It is interesting to note, as discussed earlier, that sustainable is used directly with the idea of development (accelerated) and not with sustaining environment

- 3) It must be ensured that school curricula include environmental study unit(s) in as many different relevant disciplines as is possible (Agenda 21, 1992; Biswas & Biswas, 1982). This will encourage an appreciation for the significance of the human-environmental interaction (Biswas & Biswas, 1982).
- 4) Learners should have the opportunity to develop the skills that will ensure their knowledge is accurate. This will in turn improve their attitude and foster the desire to learn more (Ballantyne & Packer, 1996). These skills include the ability to observe and classify; to identify the role and interactions of all organisms within an ecosystem³; to know how to conduct a field investigation and/or research an issue; and to be able to interpret and present environmental information (Palmer & Neal, 1994).
- 5) Educators should foster a curiosity for, and an appreciation of, the complexity of the environment and environmental issues (UNESCO, 1980).
- 6) Knowledge, skill, and attitude must be evaluated frequently for the benefit of the individual student: to assist the elimination of misinformation; and to provide feedback regarding the progress of the environmental education system (Palmer & Neal, 1994).
- 7) Environmental education programs should be pluralistic reflecting ecological diversities (Orr, 1994).

barriers to formal environmental education

Environmental education in the classroom has met limited success due to structural implications as outlined by Ham and Sewing (1987) who discuss the constraints regarding environmental learning in the American classroom. They state that there are four main barriers to environmental education:

conceptual barriers: - the inability to reach a consensus on what environmental education is, what the components are, and how it should be taught: structured programs are not created under these circumstances.

logistical barriers: - the perceived physical constraints such as class size, lack of time, funding, and inaccessible resources.

educational-type barriers: - address the concern of teacher expertise: Ham and Sewing (1987), claim that 60% of US school teachers consider their own competence in the subject area to be a major obstacle to environmental education in their classrooms.

attitudinal [value] barriers: - such as the limitation of environmental education in the

³ not that biological science can achieve this except in a very restricted 'sample' environments.

sciences, the lack of urgency to environmental learning in comparison to the subject matter, and failure to address the validity of environmental studies.

Bennett (1989) suggests that another barrier to education is the inability to establish a systematic method of judging worth/value of an educational program. The inability to establish an evaluation system stems from conceptual and education barriers and a failure to reach consensus and to examine validity.

theoretical limitations to environmental education

Several theoretical limitations exist within the field of environmental education. The conceptual limitations result from the inflexibility of formal education structures and the neglect of theorists to address the issues of information type and transmission. Difficulty in the transmission of environmental information is believed to be related to type and quantity of information. A challenge to the transmission of environmental information to the public is to provide accessible, comprehensible information without attaining information overload (CCME, 1992). An overload of information swamps individuals who selectively choose information to store. Selective information can be inadvertently linked to the generation of misinformation.

Environmental education in an international context is also under examination. Environmental education is believed to be most effective when individuals can relate to their own experiences; information should be relevant to the individual (CCME, 1992). The inability to relate is equivalent to the creation of the environment as a foreign entity. Foreignness is believed to be detrimental in the learning process. Foreignness initiates a loss of interest and concern: pessimistic perceptions and attitudes can develop as a result. In environmental terms, when we discuss the environment as being in a crisis on the global scale, I believe we are making the problem too large, thus alienating what we know from our own perceptions. The environment becomes only an imagined entity instead of that which we can experience. Environmental crises are often viewed as someone else's problem to solve. Therefore, environmental information should be addressed more locally than on an international scale. Those who argue against local scale learning, in favour of national and

global scale (CCME, 1992), fail to realize the impact of having a broad information base on the production of knowledge and perception. Broad information about the environment creates several problems: information is too vague and below individual's understanding, information is too foreign and separated from the individual, and information cannot be related to personal experience.

Certain trends have developed with the international recognition of the validity of environmental education. (CCME, 1992). The quest for environmental information has switched from awareness development to being action based. The focus of the information has begun to centre on the sustainability issue (CCME, 1992). 'Sustainability' now drives educational change. The theoretical impact is related to values where sustainability is already established the language and direction environmental education may be directed (see chapter 3 for a discussion on the use of sustainability as a discourse of environment).

Environmental education has also been criticised for not properly balancing the optimistic with the pessimistic points of view. Positive elements are a reflection of the benefits of a healthy environment, hope, and cooperation. Educators such as Kelly (1977) believe that repeated negative imagery or environmental discussion also leads to uninterested attitudes. Re-occurring environmental discussion is dismissed just as "another environmental crisis". People tire quickly of repeated predictions of doom and tend to ignore the information. Learning negative facts about the environment also leads to panic and threat. Environmental appreciation is concerned with developing and building upon an understanding that is rewarding or satisfying and not hopeless (Caduro, 1984). The portrayal of the environment for its aesthetic value, for example, is believed to be "sugar" that aids in the education about the crisis.

Difficulties are also faced in the integration of environmental education concepts into formal education systems. Certain philosophies of environmental education may require the formal education system to be more flexible so that our educational principles (Trudgill, 1991). For example, the introduction of environmental concern may be closely linked to

"activism", and may or may not be in direct conflict with formal educational policies for producing good citizens.

the Ontario Ministry of Education and the environment

The Ontario Ministry of Education (OME) is responsible for setting curriculum guidelines that are followed by all schools within the province. In the Strategic Plan set out in 1980, the Ministry recognised that to serve society, an educational system had to be developed to reflect and honour the values and ideals that were important to current society (OME, 1984).⁴ Such an educational system would in essence provide the "knowledge, skills, attitudes, motivations and commitments" deemed necessary to find solutions (UNESCO 1987). Environmental information is apparently valued by society, given the amount of environmental coverage in the media and as a topic of conversation. And therefore, it is expected its importance is reflected in the educational system.

Traditionally, environmental education has been placed in the sciences. An Ontario Ministry of Education publication *Science: Intermediate and Senior: A Curriculum Guideline* (OME, 1988) outlines expectations for environmental studies. Environmental education follows a continuum whereby the primary level students receive a unified (integrated) education; a diverse (mosaic) education is given at intermediate level; and the specialised (single discipline) type of education characterizes the senior level. This design is based on the understanding that by the time students are at the senior level, they realize that science is revealed in a number of subjects (OME, 1988b). Specific environmental topics are focused at the senior level

⁴This section begins by looking at the Strategic Plan of 1980 in order to demonstrate that curriculum policy evolves in light of educational research findings and changing political agendas (Hammer and Champy, 1996). Traditionally, guidelines have been developed for each subject area, and for various divisions (e.g., primary, junior, etc.). School board developed adopted teaching material had to meet these guidelines (Leithwood, Cousins and Eider, 1990). With the development of the Common Curriculum (adopted in 1993 and formalised in 1995 by the New Democratic Party of Ontario, many of the former guidelines developed by the Progressive Conservative and Liberal governments were rendered obsolete. However, much of the teaching material developed prior to the Common Curriculum is still in use, and for this reason, criticism can still be directed at the insufficiency of formal environmental education.

emphasizing global interrelations and the integration of political, social and environmental issues (CCME, 1992). Courses such as "Canada and the World" and "World Issues", which are intended to promote environmental studies, are reflective of such a system (OME, 1988a), but are in fact short on science. Environmental science courses are optional because only two science courses are required to graduate from high school.

Prior to the adoption of the *Common Curriculum* by the OME in 1993, guidelines for environmental studies, I believe were not sufficiently developed. The environment was considered a topic of interest and not a core consideration and was therefore included in classroom study if time allowed. Environmental awareness was being developed by devising 'home grown' (developed by individual schools, teachers and even students) environmental programs, quite often using the media as a tool in the classroom for examining the environment⁵. Environmental studies provide a chance to bring current events into the curriculum, thereby illustrating the impact of the media in bridging the information gaps.

Environmental studies in the past have had multiple foci. The environment included the physical, natural and social space that comprises a child's world. In *Education in the Primary and Junior Divisions* (OME, 1975)⁶, the OME suggests that environmental studies examine the familiar environment. Nature is examined in parts - the role of nature in the whole is intended to be comprehended from the sum of the parts. Focus on the environment is also involved in the development of skills for a multi-cultural society, and a knowledge and pride of Canada (OME, 1975). Primary and junior studies focus on "relationships." Children are to be taught the relationships among people, among things ("natural and manmade

⁵The Newspaper in Education (NIE) Program (a program run cooperatively by relatively major, urban newspapers such as The Ottawa Citizen), offers a wide variety of resource material to be used in conjunction with local media and schools.

⁶The OME has not outlined anything more recent as after this period the responsibility was given to individual school boards. During this investigation the local boards had only limited and somewhat dated requirements for environmental education that awarded much freedom to teachers on how to execute environmental programs. However, as Caduro (1984) suggests the effectiveness of teacher implementation is met with many barriers such as inadequate training, doubt of information, and uncertainty with extent of program.

objects"), people and things (people and the natural world) and the relationships between the above and the individual child (OME, 1975). The purpose of this approach was to encourage the students to explore and understand the familiar (OME, 1975). From the environmental perspective, the inclusion of nature in junior education was anthropocentric. The natural environment was limited to an exploration of its relationship with people and the social-technologically constructed world. This characterised environmental studies of the 1980s. By the mid 1980s the idea developed that the children beginning school at that time would be the graduates of year 2000. This, coupled with the realities taking form in international fora and such as *Our Common Future* (1987) brought concern about the outcome of the current education programs. Environmental politics was believed to be an issue that would be of concern by 2000. With new outlooks for the future, environmental education, especially at the senior levels, adopted a world development outlook.

Environmental education programs have been criticised for the failure to recognize the interdisciplinary nature of environmental studies. Much debate has focused on the need for environmental studies to become more holistic, incorporating chemistry, biology, physics, geography, economics, politics and sociology. In evaluation of the approaches used, many critics believe that to be most effective environmental education should be "holistic" (Biswas & Biswas, 1982). Holistic education is the inclusion of a wide range of disciplines on the environment. Environmental issues are considered contrived across a wide spectrum including art, science and social sciences.

The progression of Ontario education policy as a whole has been directed toward holistic education in all disciplines. Key words of the new educational guidelines in Ontario have put "integration" and "reflection" in the centre of all studies. *The Common Curriculum* (OME, 1995) has adopted "integration", the inclusion of common disciplines into four so called 'all-encompassing areas' of study. The distinct areas are encompassing but not inclusive: fine arts; language; math-science-technology; and personal and social studies (self and society). Conceivably, the environment as a topic overlaps in 'math-science-technology' (addressing

ecology for example) and in 'self and society' (covering issues such as sustainability and international environmental decision making and environmental security). However, in both areas the environmental topic focuses attention more on human activity and the global scale, rather than non-human and local.

The Common Curriculum places priorities on several "Principles Underlying Learning" that affect the process of conveying environmental information. The first principle is that learning involves values as well as knowledge and skills (OME, 1995). A child brings personal and social values into the classroom. In terms of environmental information, the learner can bring socially accepted perceptions of the environment such as media information, and also innate knowledge of the environment, including concepts of space and place, into the classroom. The second appropriate principle is that learning involves interrelated topics and issues (OME, 1995). The intended outcome of such a process is the construction of meanings of everyday life (OME, 1995). This principle is in agreement with the belief that the environment is that which should have significance to individuals and should not be foreign. The structure allows for the integration of a more realistic portrayal of environmental information, but fails in practice because environmental education is still constrained by other subjects taking precedence and by a lack of specific implementation guidelines.

Project WILD was developed initially by the US Forestry Service and adopted by Environment Canada (Project *WILD*, 1992). The intention of such a program was to put learners into the position where they could experience nature and practise conservation tactics. *Project WILD* was adopted by certain provincial educational ministers in Canada and in several states in the United States. *Project WILD* is currently the most attended in-service workshops for teachers in the US and is significant in Canada as well (Project *WILD*, 1992).

The Ontario Ministry of Education has developed the *Project WILD* program to

enhance environmental education programs in local school board⁷. For instance, Project WILD reflects the ideas practised in the Toronto Islands Public School where children take residence in a semi-pristine environment and engage in "naturalistic" activities. The Toronto Islands Public School and *Project WILD* emphasize the benefits of the "hands-on" approach; and the ability of children to observe, adapt and appreciate the delicacy of the ecosystems.

Project WILD is important for the "innovation" of introducing school children to the environment. The activities devised in the *Project WILD Activity Guide* (1992) introduce many key concepts in ecology, environment-human relations and sustainability. Activities also urge children to question their knowledge of the environment. However, the program is flawed by the systems into which it has been developed. Local teachers accompany children to the camp, reiterating the educational type barrier suggested by Ham and Sewing's research. Activities may be constrained because they reflect a certain ideological language.

The Royal Commission on Learning, *For the Love of Learning* (1995), recommends several guidelines for educational systems in Ontario. The Commission suggests that school boards need to seek external community support. External involvement in the school is intended to provide the resources and the expertise to prepare students for occupations for the future, and to manage schools in a business and community forum. Thus schools become more responsive to their communities in terms of environmental education; more external influence is beneficial in that expertise or special interest environmental knowledge will be included. However, the investment in public education by corporations and business organisations should be questioned as it environmental education may be in conflict with consumerist tendencies..

The OECD (1992) suggests that environmental education is growing in importance because effective regulatory environmental protection requires decision makers and the public

⁷ Project WILD has been adopted by the Ministry but is also put into practice in certain boards. However, Project WILD is in danger of losing government funding. In 1996, student teachers (at the University of Ottawa) were given only a half a day of training when in other years it would be a full day workshop.

to have knowledge, skills and motivation to promote environmentally sound management (OECD, 1992). But, I think the formal education system lacks the ability to meet this demand. First, formal education currently affects so few of the decision-making population and has not yet played a significant role in the school systems of the past. Second, traditional education systems have been too fragmented in the type of information they provide (UNESCO, 1980). In order to meet the goals of environmental education, the focus should be on a representative education of the general public (which may include informal educators and culture). Therefore environmental information should be reflective of an individual's daily life, and awareness development should be a lifelong and recurrent (UNESCO, 1980).

Recent budgetary cuts in Ontario and in local school boards have caused educators to reassess the crucial elements of curricula. In evaluation of core needs, 'environment' as a unique subject area does not have essential status. For instance, funding for nature is expected to be reduced outings to the Lake Macskimming conservation area, used by local schools (in the Ottawa Board of Education) for *Project WILD* training or "hands on" environmental learning. Therefore, environmental education is being placed, again, within other subject areas. With possible changes such as these, I suggest that formal environmental education risks moving backward. Environmental learning within the formal education structure is being locked into the position of only "teaching about" the environment, instead of offering an integrated approach. Teachers will be, by necessity, reliant on external sources of environmental information such as media environmental coverage. Students' environmental experience will only be gained primarily outside the school system.

Chapter Six: Media Influence and Environmental Coverage

If environmental knowledge is not fully gained or is limited in formal education structures, we must assume that information is made available from other sources - principally media. The last chapter on formal environmental education demonstrated that the media is often used in schools as a source of environmental information from which to base discussion and projects. This is especially an important source of environmental information in schools because 'environment' as a curriculum subject has struggled and has lacked consistent recognition as a core subject, therefore, often has lacked formal resources.

This chapter aims to examine media as an environmental information source. I have divided the chapter into two parts. The first part explores the theoretical background of media (specifically newsprint) as an influential environmental information source. This theoretical section draws together the ideas of hegemonic production of information, second-hand experience and the creation of foreignness all of which, I argue, play a role in what we, as societal members, talk and think about in terms of environment. The second part "Canadian Environmental Newspaper Coverage in Practice" aims at presenting a practical side to theory. The section is to provide not only a practical side but a personal one as well as I (and we) interact with Canadian newspapers on a daily basis. Part Two examines the evolution of the subject 'environment' in *The Globe Mail*, Canadian daily environmental headlines, and also touches upon environmental headlines in magazines.

Part One: Media and Environment in Theory

Environmental critical analysis has been criticised for being locked within rhetoric, often sacrificing practical outcomes (Mcnaughton, Brown and Reicher, 1992). In rhetoric, experience is believed lost and overgeneralised. However, from an information perspective, the written word is an effective method of transferring information or knowledge. Written work, as an information form, is perceived as being representative of the truth and reaches large audiences across time and space (Ostman and Parker, 1989). The reach transcends boundaries which are culturally and socially produced and related to language and literacy. Thus, written media are influential in the transfer of information having the quality/validity of the written word and the benefits of mass circulations (Furnham and Gunter, 1988).

This section is intended to examine the influence of newsprint media, as a provider of information, for society and individuals. Newsprint, as an example of media in general and as a source of environmental information, is discussed here under several general and reoccurring themes, as evident in the literature: i) as a reflection of, or as a tool of, power; ii) as a contributor to popular knowledge and public experience; iii) as an institution - its structure, format and policy; iv) impact on individuals particularly in the definition of being the 'audience'; v) overview of the Canadian media scene; vi) role the media plays in experiential learning. An examination of Canadian printed media concludes this section looking at trends in environmental coverage and its discursive context.

media and different points of view ..

..the view from here

Culturally speaking, an unwritten expectation of being a graduate student is to be aware of current affairs. Mid-morning coffee periods in the graduate room are swamped with

a discussion of what was featured in "*The Globe*".¹ Monday mornings witness the pinnacle of academic interpretation reviewing *The Saturday Globe* material. *The Saturday Globe*, above all other, represents what is considered by students to be socially and critically important. I have often been put into the position where I was 'unfamiliar' with *The Globe* material, having skipped out on the 'required' readings. I have often wondered if I should seek out the back issues in the library - to keep afloat. Other newspapers rarely enter into our conversations, but on occasion a valid question may be raised concerning an article in a local paper: is the article sensationalism or even propaganda? Verification from *The Globe* is what is needed - if *The Globe* says it - it must be true (or so we perceive it).

The irony of my own world is significant - *The Globe and Mail* is truly the most powerful newspaper in Canada (Merrill, 1968). It is read, supported, and believed to be a product of Canada's professional and educated classes (McPhail and McPhail, 1990; Merrill, 1968). Therefore, a large portion of the Canadian public involved in decision making processes is influenced (if only slightly) by the way *The Globe and Mail* portrays the world.² What does this indicate about what we, as a public, know about the environment - locally and globally?

power, hegemony of the media or the view from up there ...

"...the power of the press is the greatest power of them all - I tell the city how to think; how to vote. I shape its future." (The dialogue of Pulitzer in the Disney film *Newsies*, 1992)

Media are believed by many, and perhaps Pulitzer himself, to have a significant power to influence the public. *The New York Times* according to Noam Chomsky is very important in defining the news *vis à vis* the world. "All the news that's fit to print" has, in essence,

¹The Globe is a colloquial name for The Globe and Mail. The Globe and Mail was The Globe until mid 1930s when it merged and became as it is titled today.

²Other newspapers and alternative forms of media may also be influential - *The Globe and Mail* is emphasised at this point.

placed itself as a decider of 'news material' - and what becomes public information. Chomsky suggests that *The New York Times* is the trend setter of the communication industry (Chomsky, 1992). Information deemed appropriate, by *The Times* and its editors, is indicative of news printed in local dailies across the USA (Chomsky, 1992). Not only are many American dailies financially affiliated with *The Times* - they are also significantly affected by its influential coverage. As with *The Globe and Mail* in Canada (although at a smaller scale), much prestige in readership and support for *The Times* stems from the professional, and, what Chomsky would call, the elite class, and is therefore a model for dailies. *The New York Times* and *The Globe and Mail* are determinants of the newspaper industry but also in culture.

In a democratic society, the popular significance of newspapers developed as a reaction (challenge) to politics: the voice of the press is perceived to be one of the checks of democracy (Chomsky, 1992). In a true democratic state, "free-speech" and political criticism are allowed in order to encourage good government (Chomsky, 1992). The press is often perceived as the voice of the public. Newspapers, and the so-called free press, provide a means to challenge those in power. However, some critics suggest that the 'free press' should not be interpreted as the same as free speech. Albeit certain papers began as a radical challenge to politics, their survival in the newspaper industry were/are dependent on conformity, especially considering news-corporation dominance (for example: Hollinger, Thompson, Southam and Toronto Sun Publishing; each are major owners in the Canadian newspaper scene, which will be discussed later). The conformity, and hence generalizations, lead to mass reiteration of the status quo. And consequently, the culture of those in power is justified and re-justified and information across space becomes relatively uniform and almost identical.

Newspapers and media for the most part are not funded by their subscribers - the funding comes from advertisements (Hackett, 1991). As a result, media is considered a corporate product (Hackett, 1991). In being a corporate product the media obviously reflect

the persuasions of its sponsors and/or the corporate/political elite. Media is intended to make money for its sponsors (advertisers) by 'convincing' the public, thus illustrating the assumed 'convincing' power of media.

Chomsky suggests when the news is presented through these filters it works to exclude what he calls 'dissenting voices'. Challenges to the status quo behind media are often conveniently excluded from coverage. In theory, this process is in direct conflict with the view that newspapers exist as a forum to present a variety of political views within a democracy. In essence, the media is a machine, producing information that is deemed to benefit society. "Manufacturing consent" is an attempt to define shared common values and knowledge throughout a population (Chomsky, 1992) and is used as the basis of illusions that maintain society (equivalent to Marx's contradictions). Those with the power to control communication are the magicians of social culture (Davis and Baran, 1981).

Hegemony was originally defined as the domination of one nation over another, or the dominant principle around which a group is organized (Bocock, 1985). Hegemony is believed to be accredited with the research of Antonio Gramsci (1979), which he defined as the power of control underlying the organizational factors of society (Mouffe, 1979). Controlling information, and hence knowledge is equal to the control of society as a whole. Hegemony is the domination of certain people to maintain the dominant principle of the group that allows the principle to continue as a function of society (Mouffe, 1979). The ideas of how people view themselves in society, and their relation with others, is dependent on the dominant social system of society (Bocock, 1986). Holub (1992) states that hegemony is not only delivered through political structures but is also constructed in mundane everyday life. Media again, in its occurrence in our daily lives, plays a role in refining the hegemonic states.

Communication of ideology is necessary to maintain a functioning society. The media obviously holds a great ability to influence the views people have of themselves and their

environment. Included in the power to perceive oneself is the power to establish "otherness"³.

According to Hackett (1991), one of the more significant hegemonic influences of the media is the creation of otherness. The defining of "us" and "them" and "our place" and "their place" is extremely important in environmental education. The creation of "foreignness" is not an advantage of or unique to environmental learning, but it is a technique used frequently in the media in the creation of "news", including environmental news.

Shared information (or collective consciousness as discussed later) can, in part, be attributed to the agenda-setting power of the media. Agenda setting is the establishment of what is "news" or the amount and approach of the coverage. Each paper is believed to have its own prescribed agenda for maintaining paper standards and/or subscribing to a particular political idea (described by its editorial guidelines). Shaw and McCombs (1977) suggest in their study that what people judge to be important or salient is reflective of what the media have emphasised. The process of emphasising topics through agenda setting is referred to as "priming" (Hackett, 1991).

Priming the public is believed to influence the standards by which the public judges political decisions (Iyengar & Kinder, 1987). Public judgement is never based upon "all knowledge". Decisions are made upon selective, accessible memory (Iyengar & Kinder, 1987) as described in chapter two. Media are pivotal in providing a selection of accessible information through its continuous and repeated method of transmission. The routinization⁴ of communication is fundamental in priming of public awareness. Hackett (1991) suggests that agenda setting and priming effects can be viewed as a provisional version of a map of the world beyond individual experience.

Propaganda is the product of manufactured information (news). Propaganda is the

³Otherness is discussed in chapter four. Otherness is defining that which is external to self as other. Other is foreign to the self. Here the example is media's power to influence self definition and therefore definition of that which is outside

⁴Routinization of media is a result of continuous, regular and repeated messages.

adoption of a political elite's agenda, by the media, as it is the values of the elites that dictate what is "fit" to print⁵. Propaganda is successful because it manages to capture an audience, relay its message and have the message travel quickly across given space (Taylor, 1992). Harold Lasswell (in Davis & Baran, 1981) is considered foremost in his description of the propaganda effect. Lasswell's work conceptualises the impact of mass communication during the first World War. Lasswell claimed that the media targeted particular people as vehicles of propaganda: from the point of contact propaganda worked similar to a hypodermic needle. The message is directly injected into the population and then incurs a spreading effect across a spatial region of similar cultural ties.

Newspapers are products of their advertisers, where the advertisers establish or subscribe to mandates that are endorsed by newspaper owners and editors. Journalists struggle within editorial guidelines to provide material that is acceptable for print from the editorial perspective, but which is also controversial enough to capture audience interests. Controversy within guidelines seems to be a difficult task. Sensationalism is often the product of trying to make the ordinary extraordinary. The tight deadlines and routinization of the news often creates news generation or sensation (propaganda).

A news story, to be appropriate for audiences must contain several key elements. News is event-driven and is intended to represent what is new (Dalby, 1994, p. 4). An event has to be newsworthy - pulling the reader, convincing the reader and selling to the reader. In essence, news production is a race - newspapers compete to be the first. Often it is believed that news production is the pitting of groups against each other by drawing on the cultural givens of societies and creating controversy within (Dalby, 1994). Deadlines are met and stories are created: public discourse is influenced by media practices.

⁵Pember (1974) re coined the *New York Times* slogan "All the news that is fit to print" reflecting on the relationship of meeting the ideology of the elites (and gatekeepers - keepers of the ideology) to "all the news that fits we print".

authorship

To be in the position of being the source of a communication system assumes that there is information to be transmitted. The author, as in the case of the written word, has knowledge that is needed to be passed to a receiver. Authorship (or having some authority) has knowledge and the power to distribute/communicate the values of the author (Foucault, 1984). Therefore implied in the author-reader relationship is the idea of a hierarchy of knowledge. Certain individuals are authorities on certain subjects. The "Dear Abby" section of the paper, for example, assumes that "Abby" is the authority of dealing with social situations and etiquette. A name associated with the information gives the information more authority and thus more credibility. Publicly recognized credibility of a newspaper is an important goal of a paper. Credibility is also raised by using others' names in an article. Quotations or recognition of an individual is important as is the consultation of another's work.⁶ Guest writers in papers also bring much authority to the message (as will be seen with David Suzuki's columns in the *Toronto Sun* discussed in the next section).

Authorship also determines the terminology or the language of communication according to topic type, thus establishing a language of authority. In the writing of materials, authors assume an "implied reader". Recognising an implied reader constructs the discursive and narrative structures of the material (Sharpe, 1993). The approach used by the author, and its intertextual position, directs how text is to be read (Iser, 1989). Contained within the discursive text of the author is an implied standpoint from which the reader is to judge the material (Iser, 1978). The author's standpoint can be the stylistic element that allows the author to influence or not influence the reader. Authors engage in different textual strategies to position the reader (Butler, 1990). The first is referred to as unmediated address that engages in conversation - discourse using "I" and "you" (Butler, 1990). The second is the use of

⁶Academic writing and this work, as an example, footnotes the findings of others. Justification from others who may be in a greater position of authority than an author gives more credibility to the overall product, whether views are shared or disavowed

"tales of triumph" in which "I" refers to a story-telling technique (Butler, 1990). And finally the third strategy is the use of repetition whereby identity is constructed through the regular patterning of presentation. Authority coupled with a discursive structure is effective in both the provision and the retention of knowledge for a reader.

the audience

According to Dufman's model (1983), the media audience is perceived as an "empty vessel" (Sharpe, 1994; Hackett, 1991). The empty vessel is waiting to be filled through the provision of information (Sharpe, 1994). Sharpe argues that people already have an identity whereby expectations of knowledge have been already defined (Sharpe, 1994). Media does not have sole influencing or educating power nor does it consistently represent the same point of view (Hackett, 1991). In essence the audience is not an empty (or passive) vessel but it is active in information collection and interpretation (Hackett, 1991). Information is gathered from a number of different sources, and the audience is not without judgement. The media does not dictate what we know - but what we are mindful of (Hackett, 1991; Iyengar and Kinder, 1987; Shaw and McCombs, 1977; Cohen, 1963). Hackett (1991) suggests that through routine gathering and presentation of information the media, through inclusion and exclusion, control knowledge for any given vehicle, but the freedom of the press (media) provides for a range of opinion and knowledge (information) transmission. Cohen claims that the media "may not be successful in telling people what to think, but it is successful in telling people what to think about" (Cohen, 1963, p.13).

I would suggest that the media's most effective power is the ability to influence, or perhaps even control, our collective social consciousness. The power of the press over individuals is difficult to measure because of the multi-sourcing of individual information and possible reluctance to believe or scepticism about information in the press. However, the media places ideas in the minds of individuals, thus bringing them into social consciousness.

Regardless of an individual's point of view, social conscience draws upon information that is open to the collective. This information is commonplace and enters social interactions in common spaces (e.g., workplace, coffee shop). Media, because of its mass distribution, especially at local level, provides common information across a spatial-regional plane. In this sense, the media's power is the construction of our collective consciousness.

issue attention cycle

Collective consciousness for particular issues, specifically environmental issues, is not a constant. As will be seen in the section illustrating a history of environmental concern in media attention, we can see that certain environmental issues come into the public concern domain and then disappear; other issues rise and fall in wave-like patterns. Anthony Downs (1972) initiated the idea of the issue attention cycle of the environment with an explanation that the ideas and concern which arose from Earth day (1970) would meet a similar fate of most social problems whereby the general and mass public concern would soon fade. Downs (1972) said the typical social issues proceeded through a five stage cycle. The first stage is referred to as the pre-problem stage where an issue has been defined by experts (in that field) and some followers. The second stage is "alarmed discovery" whereby a euphoric or huge event sparks extensive and mass public concern. A comparable environmental issue would be perhaps Chernobyl or the Ethiopian famine which I found to be so predominant in my own environmental understanding (see chapter 3). This stage is followed by "cost realization" where a sudden loss of enthusiasm for the issue develops as a result of slow progress of the issue, the economic and other costs involved with generating continued interest. The "gradual decline" stage where public opinion recognises costs, as well as less media coverage, illustrates a public which is bored with the issue. Issue boredom is often linked to too much media coverage of an issue. The post problem stage is marked by a

²for instance, scientific inquiry is too slow to maintain public interest.

complete replacement of the issue by another issue, with little and/or no concern given possible environmental impact. Dunlap (1989) suggests the irony in Downs' model is that the very essence that brings social [environmental] problems into the limelight is the very essence that brings about their demise. The media is considered central to the demise of public environmental attention through overplay and need for news to be headlining. Environmental news is pushed further into the paper until no coverage exists if it does not have headline strength. This information presented by the media not only directs collective consciousness in coffee talk, but may influence how long we talk about the issues. Dunlap (1989) suggests environmental concern then is based upon general public perception. He suggests that we need to examine the concept of opinion and then distinguish between individual opinions and public opinions. Dunlap stresses that we need to recognize that public opinion is an aggregate of individual opinions. I suggest the understanding of individual environmental information gathering and processing is paramount.

self identity and media: the second hand experience

"An inauthentic attitude towards places is transmitted through a number of processes, or perhaps more accurately 'media', which directly or indirectly encourage 'placelessness', that is weakening of the identity to places to the point where they not only look alike but feel alike and offer the same bland possibilities of experience" (Relph, 1976, p. 90).

According to Relph (1976), media weakens individual perceptions of space and place and thus environment. Economics, culture and environment have a global terminology, enhanced and reiterated through media. Individuals exposed to media are supposedly given the "window to the world", being able to view the world as a whole. Standard individual spatial barriers (defined by proximity and access) are frequently broken down by media and thus information creates and relays its own perspective on place/space. During the process, information is gained but experience is generalised. Experience is 'macro' rather than 'micro'

(Relph 1976). Macro experiences are the impersonalisation of knowledge through exposure to foreign material and over-general information. 'Otherness' grows and self identity weakens as a result of impersonalisation. Information gained through the experience of otherness is considered "second hand".

Communication, as the transmission of information from one source to another, is the spreading of information which is considered to be a second hand experience to the receiver (Hackett, 1991). For the moment, ignoring the structures that occur within mass media, and focussing on only the communication process, it is evident that ideas are transformed as they move through people. Looking at the generation of small town gossip, an innocent slip of the tongue can be exaggerated as a story is told and retold. Even though most people claim they do not 'believe all of what they hear', they are mindful of the situation, such that if another similar situation arises the old ideas come to mind for free association. Mass media works at a huge scale and the generation of fact is more likely through the use of people of 'official status', use of the written word and institutionalisation, leading to a much more effective spreading mechanism than tea time in the neighbourhood.

Information, as with material items, can also be experienced in the first and second hand. Information learned first hand involves direct experience. Hughes-Evan (1977) asserts that direct experience with the environment is particularly important in environmental education. Experiences of place and space are only available through direct contact (Relph, 1976). Relph (1976) insinuates that mass media's portrayal of place leads toward placelessness and lack of self-environmental identity. This sense of placelessness occurs when media information replaces (to some extent) first hand experience.

Second-handedness can limit our views of place, and, often in presenting places we have never been, encourages us to transfer information of familiar places to other less known places. We perceive the other environments based on what we believe to be right in our own environment. Media information illustrates the world (global environment) in general, and in reflection of accepted beliefs, and therefore the other place/people are addressed as we view

our environment and ourselves. Basic rights, needs and physical environments are believed to be globally similar enough that views, policies and information are easily transferred across spatial boundaries. The implications for transference of environmental information can be significant. Even though the media does present the local environment, it is necessary to note the potential to present the environment beyond, or to link the local to a greater environment (and perhaps a greater crisis).

Media is considered beneficial because of the vastness of space it opens to the general public. The success of media such as *National Geographic* has been its ability to bring the world to the arm chair of the reader. Photographic representations and coinciding text have been our significant geographic and subsequently environmental educators. News media have also been able to bring us up-to-the-moment coverage of events, people and places around the world. We can be aware of events second-hand and elsewhere without having left our own living rooms (Lutz and Collins, 1993). Second hand experiences can also, paradoxically, create a sense of foreignness to the local environment. Our environmental information, if only gained through the media lens, would be limited in perspective. And in many cases, as in the example of the *National Geographic* the portrayal of the world outside our own is an appropriation of views or what we believe/expect others to be (Lutz and Collins, 1993). Reading has replaced experience, making the true identity of the environment foreign to us. To individuals the environment becomes perceived as how it is socially perceived in what is read. Marshall McLuhan suggests that "schizophrenia may be a necessary consequence of literacy" (McLuhan, 1962).

the newspaper industry, Canada and Canadian society

Canadian newspaper elites

Canadian media have been institutionally endorsed and recognized, as all Canadian media must meet the standards set concerning Canadian content. Canadian media as an element of 'Canadian culture' is often promoted for the role it plays in state building (Hackett,

1991). The publicly owned CBC (Canadian Broadcasting Corporation) brings institutional recognition to the role media plays in defining 'Canadian culture'. Tax deductions are offered to Canadian companies who advertise in Canadian-owned media (Hackett, 1991). Despite all this, the fact remains that much of Canadian media content (source of programs, items) is foreign (Hackett, 1991). Canadian media, and hence Canadian culture, is dominated by foreign perceptions of second hand information.

Canadian newspapers are dominated by four major media corporations, and several smaller corporations which each own several daily papers⁸. By far, Conrad Black's Hollinger Enterprises is the most powerful. It currently owns 24 Canadian dailies and this number is increasing as the company continues its strategy of acquiring the smaller dailies owned by Thompson and all of the papers owned by Southam⁹. The Thompson corporation owns 23 Canadian papers, Southam owns 17 and The Toronto Sun Publishing Company owns 10 papers. As well, there are 11 independently owned papers¹⁰. Thompson papers have a tendency to be located, without competition, in cities across Canada (and in the US). The Thompson corporation is also a large corporation for major business ventures (including the ownership of the Hudson Bay company). Southam Inc., has influence in large cities where the number of papers in circulation is vast. Southam owns fewer papers but has a wider, large-city circulation. The Toronto Sun Corporation should also be recognised for its influence in the Canadian media scene. The Toronto Sun Corporation provided tabloid form media in major cities such as Toronto, Ottawa, Calgary and Edmonton. The Toronto Star owns the *Financial Post* and is also engaged in the ownership of small town newspapers. *The Toronto*

⁸Information regarding the ownership of Canadian newspapers was provided by Mr Don Hale, Head of the Educational Services Department of *The Ottawa Citizen*.

⁹At the time of writing, Hollinger is poised to take over 100% interest in Southam, giving it approximately 60% ownership of all Canadian circulation. It is necessary to note that the ownership of Canadian newspapers is subject to change on a daily basis. -Source: D. Hale.

¹⁰The other influential corporations in the Canadian newspaper industry include Irving Papers (owns 4 in the Maritimes); Quebec Corp.; Newfoundland Capital Corp. (owns 3), and Power Corp. (owns 4 papers).-Source: D. Hale.

Star is the paper with the largest circulation in Canada, and it is independently owned.

The extent of corporate media holdings influences the impact of spreading ideology. The multiple ownership (with assumed associated guidelines) influences the type and amount of information that becomes public. The impact of this is that what we know of the environment may be consistent across space, but we may also know much less about it than we do of another issue, depending upon the guidelines of the corporation.

The Globe and Mail

The Globe and Mail is believed to be the most influential newspaper in Canada because of its circulation, influence and reflection (Merrill, 1968). *The Globe and Mail* is the only Canadian daily to have a national circulation on the day of publication (Micromedia, 1992), and is able to provide information across space without incurring temporal boundaries. Canadian newspaper reviews claim that *The Globe and Mail* presents news, people and places in 'an unemotional, unsensational manner' (Micromedia Ltd., 1992). While *The Globe and Mail* is recognised worldwide for its editorials/editorial policy, it has been often criticised at home for having a manipulative style (Wilson, 1982). Merrill claims, in *The Elite Press* that *The Globe and Mail* has a "substantial following of judges, lawyers, doctors, clergymen, bankers and teachers" (Merrill, 1968, p.124).

where and what: environment in media

environmental reporting

In grade school, we used to have many creative writing exercises in which we were required to write nature descriptions when we really wanted to devise our own twisted and haunting stories (the more surreal the better). Fascination with sensationalism begins young! Description was considered by many to be the 'boring side' of creative writing. From a publicity stand point natural description would never make a national bestseller. The success of natural descriptive media such as *National Geographic* and *Canadian Geographic* is due to the

balance between text and visual representation (art). On the same track, environment, as it stands, does not make very good news.

The environment as a concern, or as a news-maker, is not a particularly effective storyline for the purposes of selling papers. Schoenfeld's (1980) study found that editors felt that environmental news was not considered priority. Front page environmental coverage has to be sensational and is typically disaster-orientated (e.g., the Exxon Valdez oil spill). Repetitive stories about local environmental interests are common place. Internal conflicts, "human interest", drastic implications or the involvement of people of significance enhance environmental stories to newsworthiness status. Editors claim that headlining ordinary environmental stories is indicative of a bad news day. The difficulty, or the pill to swallow in all this, is that we depend on the environment to be newsworthy to learn more about the environment. Environmental education in the media is limited to several points of interest. Well-rounded environmental information should be sought elsewhere because media provides only in accordance with its purpose; and their internal mandates allow for only a certain kind of environmental information. Environmental information and environmental coverage follow several themes which are elaborated here.

scale of environmental news

Environment stories have to be exciting, because environmental information is on the boundary of what is considered newsworthy. 'Exciting' usually entails the use of large scale events that are highlighted through conflict, blame and threat. Local environmental concerns rarely make the news in terms of headlining unless large scale, multi-faceted conflicts arise. Environmental focus is usually upon international or global environmental concerns. So much of our environmental knowledge is based upon large scale environmental failures such as Chernobyl and Exxon Valdez. The internationalisation and the large scaling of environmental information is believed to create the sense of foreignness, of being an environment not "here and now" and not "us" or "me". The largeness of the scale also

creates the sense of impossibility. Even where concern exists, there is a sense that one individual is powerless against the scale of the global.

At no other point in environmental learning are threat, blame and health implications so apparent as they are in the media. The need for news stories highlights the use of conflict stories. Conflict allows the segregation of an aggressor, a causer and a victim. Environmental stories usually always involve a threat - either to other human populations (external to those relating to self), and other species, and less likely to self and related society. Threat in the environmental content (even 'us'-directed news) does not necessarily result in front page headlines because threats such as air quality and sun exposure are common place. Headlining environmental news must have disastrous impacts. Continued threat (even common-place threat) creates lack of interest - impending thoughts of doom are only effective in their initial run. Threats to others inaugurate sympathies but also associations of blame. The "serves them right" mentality comes into effect especially when addressing victims who are also perceived to be causers. Often in our over-generalisations we associate the habits of individuals with blame rather than the political power structures that in fact are instigators of environmental problems, albeit far removed from the spatial area associated with the caused event. The media's coverage, in attempts to elevate some and silence others, create systems of blame/threats that affect the kind of environmental message transmitted.

them and us: our portrayal of the south

In the coverage of environmental news - the environmental degradation of The South is well identified. Large scale environmental crises have been depicted as embracing the southern poverty-ridden countries. Environmental crises are perceived to be events of places and people separated from us. We are rarely threatened by the event. The coverage of the environment in magazines such as *National Geograph*, newspapers and Hollywood productions has created an environmental sensitivity that is isolated with minimal recognition. Deforestation, desertification, global warming, cash crop farming and disease generation

originate from the South according to our media. The countries of the North are rarely reported as hosting much malnourished children, massive clear-cutting, desertification and inner city prodromal disease. For example, the word desertification is almost synonymous with the Sahel. We are mindful of the Amazonian rainforest as a definition of deforestation and a major contributor to ozone depletion. Canadian examples of deforestation are perceived as rare even though West coast rainforests have undergone similar impacts. Generally, environmental coverage is large scale and foreign - and by that definition it is not Canadian.

politics, fame and environment

In the search for newsworthiness, alternative angles to environmental stories are found. Political positioning, the imagery of political leaders, conferences and famed individual involvement contribute to the determination of newsworthiness. According to Dalby (1994), the coverage of the Rio Summit in the *New York Times* focussed almost entirely on the 'comings and goings' of the political leaders - especially President Bush and his accompanying cabinet. In the reiteration of the political agenda of the newspapers, the justification of the positive role the USA is taking in international environmental issues was considered more important than the issues themselves. Appearing to "be environmental" seems, from a media perspective, more important than acting environmentally. Similarly, famed individuals bring environment to the "news". The use of the entertainment industry (such as the mid 1980's rendition of *Do They Know it's Christmas* to raise charitable funds for Ethiopia) brought extensive world wide coverage of the devastation of famine and desertification. But its effect soon faded: famine was occurring prior to this effort and has continued since - but we are scarcely aware of it.

environmental movements and media

Chomsky (1992) suggests that the voices emerging from various social movements, including environmental movements, have been for the most part silenced in the media. These

voices often present challenges to the status quo and/or media investors (Chomsky, 1992). In the 'silence' - the issue of challenging is rarely voiced but the challenge is. The involvement of environmental groups is portrayed only in terms of the conflict. Most environmental groups, viewing public environmental education as a key point in their existence, use media as a forum. Public persuasion is believed to be a powerful tool in the implementation of change in environmental policy. The media focus on environmental advocacy has been limited to the clash between the group members and the law, or an official on duty. The environmental issue is secondary to the conflict imagery. Hackett (1991) claims that although the social/environmental movements turn to the media, the media has the power to enlighten or dilute the group. Environmental groups are often portrayed negatively in the media as disturbers rather than helpers.

conclusion of part one

Theoretically, the media are believed to have a tremendous impact as a provider and influence on public information. Media should be recognised as making available similar information across a large space and population. The impact of the media as an effective information source is measured in its ability to influence common place information and its ability to stay within the social collective consciousness. The drawbacks or the constraints to meeting environmental learning goals are i) environmental information is second hand information; ii) environmental information is not necessarily local; and iii) as a result of non-local, impersonal experience, environment is then unrelatable, rhetoric of activists and alienated from us in scale and responsibility. Talking about the relationship between media and environmental information can be seen outside the theoretical perspective. Part two of this chapter explores environmental information as it exists in Canadian newspapers

Part Two: Canadian Environmental Newspaper Coverage in Practice

The overall objective of this section is to provide a basis for understanding media portrayal of the environment (in essence providing practical examples of the theory of the previous section). More specifically, the goal of this section is to explore how environment has been presented in Canadian newspapers as a source of environmental information and how this information is influential in individual environmental education. Here, I outline two methods and three examples of examining media and environmental coverage. The first example is an historical content analysis focusing on environmental coverage and subjects in *The Globe and Mail*, 1891-1991. The second uses a discourse analysis method by concentrating on contemporary Canadian dailies (spatially distributed) and the language, style and tone of environmental headlines. And the third example follows the same method as the second, but looks instead at the environmental coverage in specific Canadian "coffee table" magazines such as *Equinox*, *Canadian Geographic*, and *Maclean's*.

'environment' and The Globe and Mail, 1891-1991

Throughout this paper, the idea that information, and ultimately knowledge, is accumulated and multi-sourced, is apparent. We individuals cannot always clearly point to places and events that change the way we think about the environment. The media is believed to hold a great deal of influence over general public perception about the environment (refer to part one of this chapter). Not only is it important to examine what is in the media now, but it is equally important to examine past environmental coverage. Environmental news of the past illustrates how environmental ideas and perceptions have evolved. The media is not only a provider of information, but a process that produces information and develops ideas for readers and recipients. Exploring the evolution of media environmental coverage urges us to ask several questions. First, have our environmental ideas and the nature of information changed? If so, what are the characteristics of that change? Second, is there a clear evolution of

socially created environmental information or trends of "environmental perception"?

In order to answer the above questions, environmental coverage and content in *The Globe* and *The Globe and Mail*, 1891-1991 were examined. Papers reviewed were systematically selected, examining every Wednesday and Saturday of alternate months and every fifth year, thus representing approximately 15% of the papers per year. I measured the papers for number of environmental topic articles per paper relative to paper size (measured by number of pages)¹¹. I also recorded the position of the environmental articles appeared in the paper (e.g., front page, section fronts etc.), classified the topic of the article according to generic subject categories (which I established in a test run of papers of years not included with in the years surveyed) and qualified the position of the writer/reader, the tone and some indication to who/what, if any threat was directed. I classified each article according to 20 subject categories (appendix A). The categories were collapsed, regrouped in this analysis, from which five categories were selected for discussion in this section (environmental coverage, conservation, 'pollution', toxic waste, urban concerns and recreation). Lawshe's (1975) method of content validity was employed¹² to indicate whether the proportion of material covered by the analysis approximated the total proportion of material covered by *The Globe and Mail*.

A content analysis is intended to objectively and systematically review written information (Krippendorff, 1980). A content analysis is a tool to describe the message of communication (Carney, 1972). Content analysis is used frequently when examining media

¹¹A content analysis usually includes a measure of column width but because this is a historical study covering an extensive period, variation in method was engaged to account for changes in newspaper approach. Therefore I refer to number of pages that have some content as opposed to the column structure.

¹²According to Lawshe's (1975) method of content validity, any item has some degree of content validity if more than 50% of the analysis measures essential information. The more essential an item, the greater the degree of validity. In order to evaluate this study, a content validity ratio (CVR) was calculated for 1891, 1911, 1931, 1951, 1971, 1991, using the formula $CVR = [n - N/2] / (N/2)$ where n = the number of essential articles in a year, and N = the total number of articles in a year (including essential articles + other articles + absent articles [days without environmental articles] per year). When more than half of the analysis indicates "essential", the CVR will range positively from .00 to .99. The sum of the topic headings assigned were valid for analyzing content. In each of the years studied, there is a positive CVR (appendix B).

since the results can illustrate the media's process of repeating terms and increasing the overall attention given to the topic. The method of media content analysis usually engages in a count of terms, the amount of space/time allotted for media coverage of a topic as well as where and how it is presented, all of which are quantified or coded (Krippendorff, 1980). The use of a content analysis historically, has the benefit of indicating the evolution of ideas; however, when applied to historical trends, it must take into account the changes in terms and meanings (whereby a word may have a different context through time). Technically, a content analysis is a quantitative method; however I suggest it can be qualitative as well because it is indicative of the information that enters our social and collective consciousness. The approach engaged here entertained a more subjective evaluation, as quite often I was measuring attitude, tone and positionality. I considered this necessary to understanding media as an environmental information source. Content analysis is a recognised method of examining environmental attitudes (Burrus-Brammel, Brammel & Kapitsky, 1988).

environmental coverage

In general, during the period surveyed environmental coverage and content underwent substantial evolution. As information about many issues became more accessible, environment as a public concern and a news-subject became less significant (figure 6.1). As the size of the paper (measured by the number of pages) increased, the number of pages which contained any environmental content decreased. Environmental coverage stabilised in the mid-1960s and increased shortly after, it represented only about 20 percent of the 1896 peak. The 1980s and leading into 1990s is stable, however notably at a much lower level than 1891. This importance of figure 6.1 is based in the perception that we may believe that environmental information is more accessible especially in media.

figure 6.1

Although the number of environmental articles per paper did not drop substantially, the pages covering environmental issues did decrease¹³. Commonplace information, as main impacts is its ability to enter common conversation in common space, is focusing away from environment. Over time the priority and access to environmental news fell and environmental articles were moved from the headlining pages to "within" the paper. The position of the author (the perspective from which he/she writes) and presumably the reader changed over time as well (a change in relationship between author and reader would suggest that the reader's position would change). The environmental articles evolved from almost a completely "local" and "us" position toward an international, external, "them" relationship. Articles became less descriptive and more "matter of fact" following a "third person approach". Positionality of a writer in environmental articles was replaced by a straight-forward emotionless reporting. For example, even articles that dealt with climate conditions changed from the perspective of concern to 'how it is'.

environmental topic coverage, 1891-1991

From this examination, coverage trends evolved in the types of environmental issues. Several article types have been selected to illustrate that environmental news underwent coverage trends as did most news topics. Here, I highlight five examples: conservation, 'pollution', toxic waste, urban issues and recreation.

conservation: Conservation is believed to be the focus of the environmental movement. Conservation is an important term, especially in connection with the environmental discourse (chapter three). Conservation is used throughout the period studied and has retained its meaning and has been consistently relevant (Figure 6.2 illustrates that there was never a time when conservation articles did not exist). Noticeable increases can be found in both the pre-

¹³ The page-article count did not include advertisements

world war periods (peaking in the war years), reflecting the want for conservation, particularly energy, but also for resources and land for the production of resources. Again in the early 1960s coinciding with the National Parks movement and the recognised need to preserve leisure space and natural space; there has been a steady rise since the mid-1970s and these ideas were boosted in the 1990s with a new parks' inquiry, the launching of endangered spaces programs and concern about 'waste' space (spaces between specific use spaces).

pollution: Pollution is a term that does not emerge until the late 1960s (post Rachel Carson's *Silent Spring*). Since the 1960s, pollution as an idea has had "staying power" in terms of being a topic of environmental news. A variety of word associations and assumptions can be drawn from a 'pollution' language. For example, from pollution can be drawn associations of images that are more dramatically environmentally destructive rather than a focus on local and perhaps individual pollution; thus the beginnings of a global environmental discourse. This is not to suggest that pollution is an inappropriate word, as in most cases it is not. Figure 6.3 illustrates the continued relevance of "pollution". However, it is worth noting that not all articles referred to pollution directly - as it was not a widely accepted term pre-1960s. Pre-1960s often referred to garbage and its word-derivatives. The small peak around 1911 is a reflection of the 'city' as being an unacceptable and unnatural environment where 'waste' is seen as directly linked with human health. The recognition for natural space within an urban setting develops from this stage.

figure 6.2

figure 6.3

toxic waste: Related to the concept of pollution, and in essence the extreme limit of pollution, is toxic waste. Figure 6.4 shows the surges in coverage of this topic which corresponds with post-Hiroshima (atomic bomb explosion) and the beginning of the cold war. There was a realization that society has the power to dramatically alter the environment in which we live; and this change can be either healthy/unhealthy. And I noted that concern is again demonstrated in the 1980s, which is inferred as being post - Chernobyl and coinciding with the acid rain phenomenon.

urban environmental concerns. Issues of the urban environment has a well distributed history in the period surveyed (figure 6.5) In 1891 the issues of public services were addressed. New social values question the "quality of life" in the urban centre. Municipal governments scramble to put public infrastructure in place and improve existing structures. In this period questions were raised surrounding the social distribution of public services - services were unavailable for the masses, but available to the elite. In the first world war era the ideas of social distribution and reiterated as the urban environment is perceived to be an indicator of human health. At this time outbreaks of tuberculosis, cholera and typhoid in working class and immigrant districts were evident in all Canadian cities. Cities develop social geography and segregation is referenced clearly in the articles. *The Globe* articles specifically cite Hamilton (as working class region) as being 'at risk' for infectious diseases. Poor city design, lack of services and overcrowding were to blame. Again concern arose in the 1950s as people question the urban environmental form and function. Cities were forced to accommodate the changing social needs following the second world war, specifically concerns about social reproduction and the new family structure (MacKenzie, 1989). The development of the suburbs is celebrated and the emphasis is placed on controlled land use, areas for labour and residency and areas for recreation within the suburbs.

figure 6.4

figure 6.5

recreation: Recreation (Figure 6.6) is included in this section because it deals with 'claiming and protecting space (including wilderness and camping space) and the access to nature'. The rise in concern for recreational space coincides with increased leisure time as well. The trend illustrates that recreation is comparable to conservation as it is always present with a background of between 1-2 per cent of all environmental articles.

in summary of hundred years of environmental coverage

We are led to believe, through the extent of environmental discourse that this is the 'environmental era'. The discourse existed previously we did not talk of the 'environment' (a term not defined in 1891 as it is today) *per se*, but environment was in fact talked about. Environmental awareness was focused in different directions. The tone of environmental address had changed, and the articles coincidentally changes to more matter of fact reporting rather than opinions and commentary (first hand reflection by the writer). When threat and risk became involved, the level of threat reported was overall, affecting a global system rather than a local one. As times progressed, articles become more international in focus.

The issue attention cycle is evident in this long term survey as various issues peak, corresponding with various social issues of the times. Each issue life span is indicative of the length in which it holds attention and then in many cases disappears as an issue for a long time. In this section I outlined several of these issues. Although this does illustrate the issue attention cycle it also is indicative of how environmental information has progressed. Even though many of us do not remember or were born after peaks in newspaper discourse of these topics, we know of them, illustrating that social information is built upon ideas and concepts, such that what we know about the environment is historically evolved. The present environmental situation (however defined) cannot be understood without a history of perception (especially and including socially recognised values).

figure 6.6

environment in the newspapers of the 1990s: Canadian daily headlines

In general, the news items outlined in Canadian newspapers is indicative of information that enters common place conversations. With this in mind, it is necessary to examine current Canadian newspapers, not necessarily for topics, but for the manner in which the topic is presented. The media's influence is, I believe, in the method and the way information is conveyed. The focus in this part of the study is mainly upon headlines and descriptors. When reading a newspaper, we skim the paper, read headlines, and look for articles that seem important to us. Headlines are the marketing skills of the writers/editors and lure the readers into the remainder of the article (Schoenfeld, 1980; Atwater, 1985). Therefore headlines and summary keywords are examined in this study. In order to maintain a 'less spatially concentrated' view five newspapers representing different cities were examined: *Vancouver Sun*, *Calgary Herald*, *Toronto Star*, *Montreal Gazette* and *Halifax Chronicle-Herald* (for characteristic facts, see appendix C). Table 6.1 illustrates the number of environmental articles in these selected newspapers for one year. These papers were searched on-line using the Canadian Business and Current Affairs (CBCA) database. Key words (all-encompassing terms) such as "environment" (and its derivatives, e.g. environmental), ecology, nature, conservation-preservation, and pollution (a significant term based on the earlier study) were entered. This exercise adopted a discourse methodology whereby words, language, style, tone as well as the use of social-political position were examined. The way in which environmental issues are presented is of interest. In brief, this represents the search for the context within content. The environmental headlines were downloaded and placed in a hard copy form, from which I manually sifted and marked in "grammatical style"¹⁴. From this, sentiments, consistencies, notable missing environmental terms and words emerge as influential to the way in which the fact may be packaged with values and attitudes. The result is a modelled

¹⁴Grammatical style refers to the analytic approach introduced to grade schoolers when they are to deconstruct the sentence. Using symbols such as a double underline, underline, circle and slash to mark various word types in the sentence. I practised a similar method isolating my selected keywords, modifiers, verbs, prepositions and people organisations of interest. The style was flexible, so as to take into account unanticipated situations.

deconstruction of the media's headline 'discourse of the environment'. Several points are discussed for their relevance to this project (pronoun usage, verb strength, portrayal of environmentalism, authority, and finally discourse of health). These factors, relating back to the discussion in part one, impact the message of environmental information. It is necessary that we are aware of that impact as it influences individual and collective perspective of environment, and influences the success of environmental education programs in meeting their goals.

Table 6.1: Number of Environmental Articles in Selected Papers, 1993

newspapers	# of environmental articles
Vancouver Sun	488
Calgary Herald	353
Toronto Star	168
Montreal Gazette	376
Halifax Chronicle-Herald	222

enhancing the message: factors used in environmental reporting

I. the use of "us", "we", "you", "them". Pronouns are essential to the overall article as they define the position of the author and reader to the issue. Here, the degree of personal experience on part of the reader and writer is defined. Second handedness and foreignness to nature and environment have been considered as non-assets to the environmental learning process (Lutz and Collins, 1993; refer to chapter two). The media, through the use of pronouns, suggests who is to blame and who are the victims. Children, especially in relation to health are singled out as victims. In this survey, I found that for the most part, headlines are talking about an 'environment' and 'people': environments and people outside of ourselves. A clear 'NIMBY' syndrome develops - even though we are not really talking about

the shadowing of activities but are talking about environments that are not ours (e.g. definitely not our space).

The definition of the writer and subsequently the reader is indicative of types of news. When the writer is reporting on an event (for example) as opposed to writing about his/her own experience, the articles adopt a 'them' or 'their' sense. This sense divorces both writer and reader from that environment, problem or success. In this survey I found that when the issue dealt with an environmental problem about 70 percent of the articles focussed on somewhere and someone else. Positive environmental news, in contrast, was often centred on a more local level. However, most environmental articles were reported external to the reader (an issue not associated with here, now and us) which is the approach that is criticised for making environment not only foreign but also uninteresting. Lack of interest stems from information that the reader cannot relate too.

II. *"environmental add-ons"*. Prefixes such as "eco" and "green" give an article an environmental position, or illustrate an environmental position. However, the context of the article often suggests otherwise. In these situations, the prefixes are mere "add-ons" for the purposes of "style". This is representative of an environmentally aware social consciousness. Yet this proved to be contrary in that environment is clearly secondary to the focus of the article. For example, product reviews (for instance a new brand of gasoline) were often given eco-headlines when the articles specifically pointed out the product's 'other' attributes. Exposure to this style is indicative of low priority attached to environmental information and hence environmental learning. This approach conditions us to be concerned about the environment but does not provide us with information. Carney (1972) suggests that information if it is to be 'absorbable' it must be below the comprehensive level of the audience. Carney (1972) indicates methods to measure audience interaction and involvement with information. Media audiences are believed to have levels of comprehensibility. If the quest for information is much higher than the fulfilment of that need (e.g. the provision of

interesting and informative facts) then the issue attention cycle decreases. In essence, the public becomes bored with constantly reiterated topics with little information fulfilment, and eventually becomes non-receptive to the issue. The environmental discourses using "eco" then become tiresome and very commonplace. In this survey, articles which used these prefixes were found in business sections promoting individuals, or organisations as "greens" but without referring to environmental contexts associated with the label. "Eco" was also used in the context of eco-warriors where the articles focused specifically on environmental politics instead of eco-warriors.

III. *headlining verbs.* Headlining verbs are words often associated with strength and conflict. Consistently, approximately 80 percent of the articles flagged in this survey used powerful verbs where the environment as a whole was something that under conflict and/or in confrontation. Quite often verbs and associated¹⁶ words referred to a "battle" or "fight" where the environment was "wrestling" for a position. Also evident was the emergence of a "toughness gradient" which is, simply, how tough a policy was in meeting environmental interests/disinterests. There is a clear "tough, tougher and toughest" classification of articles, and "the toughest ever" would emerge occasionally to set the extreme end of the scale. The implication is the suggestion that the environment is something that we fight for, or fight on behalf of. The perspective of conflict affects our attitude and values, and as result influences interaction with, and in, the environment.

IV. *missing environmental terms.* In a discourse analysis what is missing from the evidence is considered as important as what is present. Here, several terms which I expected to see were notably missing. Terms such as "biodiversity", "ecology" and "nature" were rarely referred to. "Ecosystem" was surprisingly never addressed. Issues such as "ozone" and

¹⁶Associated words refers to words in different derivatives, tenses and synonyms

"desertification" were only alluded to as influences to air quality but were not used as headlines.

Also notably absent was a descriptive style that discussed the aesthetic value of nature as was seen in the early years of *The Globe and Mail*, 1891-1991 study. The style emerges to reflect a more matter-of-fact approach. This is in contrast to what was noted in the early period of *The Globe and Mail* study, where a descriptive, local and personalised position was apparent. In the early years of *The Globe* study, approximately 1891-1911, the perspective of the writer was frequently apparent, as environmental news discussed personal interaction with the environment and reflection upon the environment; whereas in the 1990s the writer more typically reporting. The depth of perspective dissipates. The 1990s papers also lack a clearly defined author and audience, whereby the author did not reveal a distinct identity, nor a distinct relationship with the environment. The articles are not without opinion, just without a clear identity. There was a trend for articles (as was seen as a trend in *The Globe and Mail* study) to move away from being localised, towards a much wider international perspective and style.

V. "*environmentalism*" and "*environmentalist*" as terms. Environmentalists and environmentalism, as a philosophy, are often considered to be in conflict with the business/political power structure (Lewis, 1992). Environmentalists are seen as being deviant and against 'law and order', and are therefore, addressed as 'radicals'. The 'radicals' are most often seen in conflict with local authority. Contextually, complementary verbs reflect authoritative control with words such as "jailed", "arrested", "rioted", and "detained". The articles focus more upon the event as opposed to the environmental issue behind the event. The Clayoquot Sound debate fell within the study period and it is the most obvious example of the tone given to articles pertaining to environmentalists (especially in *The Vancouver Sun* in 1992). The Clayoquot debate was focused on the logging of forest that was considered by environmentalists to be an area which should be conserved. Environmentalists felt that this

forest was primal and must be protected. The conflict reached beyond debate toward confrontation where environmentalists obstructed the loggers' progress. Observations indicated that the conflict or unrest was sufficiently presented, but the reasons behind the conflict were not. Positions "for" and "against" logging were rarely addressed. Instead, radicals viewed as 'against' law instead of 'in favour' of a certain viewpoint were presented. Strong tones in the paper suggest that we are more condemning of non-status quo actions than the activity giving rise to the issues.

VI. use of authority: The use of authority as an indication of validity and as a method of persuasion. Politicians and famous people are used as a voice of authority and give weight to an environmental article. The focus on politicians and environmental issues is a concentration on the comings and goings of people of authority as opposed to the environmental issues at hand. Referring to Dalby's (1994) work on the Rio Summit, he found that *The New York Times* was focused upon the political associations and gatherings rather than "the environment" (which was the overall purpose of the Summit in the first place). In comparison, environmentalists in attendance at Rio were not given any significant coverage (Dalby, 1994). Coincidentally, Rio in the Canadian papers was portrayed in a similar light (although celebrated Canada's progressive governmental environmental attitudes). The papers give the impression that the Earth Summit is not really about the "Earth" at all.

In all the papers surveyed two names appeared frequently: 1) David Suzuki is a regular guest columnist to the *Toronto Star*, and occasionally in the other papers studied, as well as being "an opinion worth noting". He commands much consideration as he provides the justified and uncontested scientific morality. He is given a position of unquestioned support. 2) Paul Watson commands attention either as a contributor or through his involvement in a news item, but his impact is different in that he is considered an 'undisciplined radical'. Paul Watson's authority is based on his being creating news, for instance, "what is he up to now" can be interpreted as a mockery of the environmental movement. In this sense, then, his work

gives a sort of intriguing perspective as it stands in a different arena from Suzuki even though Suzuki frequently condemns environmental policy and business action in the environment, as does Watson.

Authority¹⁶ is also used in newspapers to attach importance to the subject matter. Environmental news does not make headlining pages (front pages and sectional fronts), and only rarely does it make the editorial page. These areas are considered, by Schoenfeld (1980), to be places of priority for conveying informative messages. The environment does, however, make the prestigious business section, but as outlined earlier, does so through the use of prefixes (eco and green). The environment is linked with economy most often in this section as opposed to any other, which adds an interesting paradox to the language of environmentalism as economy and environment are generally contradictory: for example, the business articles, often represent an industry's efforts to comply with too strict environmental protection policies.

VII. health. Finally, but significantly from an information presentation point of view, is the environmental discourse of health. Health, it appears, is often referred to in the context of environment. Certain environmental conditions are expected to lead to ill health for a future environment or for humans. Headlines claim causal links by using directed and strong language. For example, an article that appeared in the *Vancouver Sun* headlined: "When the environment is the enemy: parents find cause in odd behaviour can be the very air children breathe" (August 3, 1993, p. A14). Not only is health conveyed, it is also authoritatively backed with citations of a "university finding", a "doctor's report" or epidemiological/medical journal, thus linking health to risk assessment and threat. Risk and threat is then used as an attention gathering technique. The implications for health-threat-risk as a source of environmental information is significant as it in part creates a sensation of fear and alienation

¹⁶ Authority is generally determined by an expert witness or source, and may originate from any background

from body and nature (see Chapter two). And the positive impact on environmental learning is significant if the information is learned through fear.

magazine coverage, 1988-1995

To illustrate the impact of another example of print media, I decided to briefly touch on environmental coverage in Canadian magazines. The reason for doing this is because magazine coverage combines some of the effectiveness of the written media but also illustrates a very different perspective from newspapers through the inclusion of visual images. I suggest that visual information attaches a much more significant individual focus, and adds a significant dimension to the level of experience or self perception of experience¹⁷. The method employed was similar to that of the Canadian newspaper headlines study, except this time I examined three major Canadian magazines - two with obvious nature, environmental and geographic persuasions (*Equinox*; *Canadian Geographic*) and the other a newsmagazine (*Maclean's*). Comparison between these magazines is not really viable as they are not representative of a specific group, of a cohesive or complete group, and they have different agendas and varying circulation characteristics. But together, they are indicative of the environmental information readily available on our "coffee tables".

A significant factor involved in magazines' impact as an informal educator is its pictorial value. Table 6.2 illustrates that the majority of the environmental topics appearing in these magazines contains at least one photograph as a special feature. The impact of pictorial information is foremost, as from an advertising point of view it attracts readers toward the text. *National Geographic* emphasises the photographic quality of their magazine as a selling feature. Not only is this pictorial form and environmental point of view marketable, but the visual image changes our perspective. Although, photographic representations do not actually

¹⁷"TV" is not discussed because it involves a different process. The result of media influence is the same through TV's contributing to collective consciousness. However the impact of vicarious learning increases as exposure is easier. But as Ostman and Parker (1987) argue, TV information is not perceived as being as valid as the printed word.

change this perspective of second hand experience, they do present information that makes the topic/issue seem more familiar. Photographic representations can be transferred to our own environments, as pictures remind us of things we know. Also, the visual image allows the creation process to extrapolate the situation such that other senses can be realised, thus the experience of seeing (especially in the clarity of fine resolution glossy magazine photographs) extends the borders of second-hand experience toward first hand. The more we can visualize situations the more likely we are to assume we know and/or understand, and we are more likely to remember, in accordance with the vividness effect (Anderson and Scheler, 1986)¹⁸. Also, photographic representation is 'environmentally friendly' in that it attracts us to regions in which our intervention may be considered environmentally damaging. The information in the articles about environmental impact is (relatively) redundant as opposed to the attraction of the photos. From an environmental education and information point of view, it is a debate between selling issues and good media production, and given the goals of media owners - understandably the demand lies in 'production'.

Table 6.2: Photographic Coverage of Environment in Selected Magazines, 1988-1995

magazine	total number of environmental articles	number of environmental articles with photographs
<i>Equinox</i>	53	22
<i>Canadian Geographic</i>	71	51
<i>Macleans</i>	79	48

¹⁸ The vividness effect, like the theory of perseverance, is a cognitive strategy that allows certain information (i.e. vivid information) to be more readily available

Standardising coverage of environmental issues/articles to all other topics illustrates that magazine coverage of the environment is much more substantial, especially in comparison to newspapers. As mentioned before, however, both *Equinox* and *Canadian Geographic* were selected on the basis of their perceived coverage of environmental issues. Despite the extent of the coverage, the context of address was rather limited as illustrated in Table 6.2. We see that the word "environmental" is used most frequently as a modifier, and is the term that occurs most frequently in the title of an article. "Environmental" is used especially in the context of protection (see Table 6.3). This illustrates that magazine coverage provides a good forum to present place and spaces which are in need of preservation and conservation. This in turn only encourages us to draw back upon experiences and non-traditional information bases. We are attracted to photographic images of space (specifically natural space). In many ways magazines such as *Canadian Geographic* then not only encourage us to visit places but also incite us to act in certain ways in regards to environmental policy.

Table 6.3: Words associated with 'Environmental' in Canadian Magazines, 1988-1995

environmental derivative	<i>Nuclear</i>	<i>Canadian Geographic</i>	<i>Equinox</i>
protection	28	24	19
aspects	19	10	11
advocacy/activism	12	4	1
policy	9	2	4
knowledge	0	1	0
achievement	0	0	7
health	0	0	2
environmental impact	1	0	1
issues	1	0	0

in conclusion of media

An examination of media is a self-realizing process, almost more so than other sections. I became increasingly aware how much the world as I perceived it was media influenced. I have always only considered myself a passive participant when it came to media - but I know the news items and I can have discussed these with others and thus I am nevertheless much influenced by media. Hackett (1991) claims that the recognition of the media information as common knowledge is the most significant power of the media. The media influence, albeit not absolute, is significant. When we think of how it informs us for environmental policy participation, its role is fundamental. We are collectively conscious of the information it presents to us, but more basically, it is the local newspapers especially, that notify us about public policy consultation. Quite often in the public consultation process, public reactions usually suggest that the event was not made public enough and the response is: "it was listed in the paper". McLuhan (1988) claims that our method of thinking and acting is dependent upon the exterior means by which we express ourselves and receive communications. He suggests that contained in each message (medium) is an extension of our senses and a drawing upon the dominant culture (McLuhan, 1988). What we learn about the environment then is dependent upon a communication system that reflects our experiences of space, place and our social organization. Therefore the use of gained information is skewed according to space, place and social organization.

Part two of this discussion illustrated the true impact of media as having a place in our lives on daily basis. I found many ideas discussed in part one were evident in Canadian daily newspapers. For example, the presentation of information concerning 'us' and 'them', information backed by authority, and specific tones were evident in our daily newspapers. As this thesis is a learning process, I learned to separate and point out areas where information was skewed in certain directions. However, I think I am unable to decipher from my understanding of environment which parts of my environmental information evolved from media information (not necessarily for re-evaluation sake, but for recognition only). The point

then is not to try to overcome media's impact (an impossible task I am sure) but to realize that it is occurring and that the environmental perspectives of individuals and society are under its influence. Environmental education programs should thus be designed with awareness, rather than ignoring or relying solely upon the media's influence.

Chapter Seven: Learning for the Environment: Information, Space and Public Consultation

The previous sections have illustrated several points: environmental learning in a formal setting requires some contact with nature; the newspaper medium presents a global environmental perspective and takes us places well beyond our boundaries but tells us very little about the nature we know or within proximity; our language can enhance as well as complicate learning; and finally that our own experiences have been fundamental in influencing what we learn and process about our environment. The question that arises is: how do we use/transfer and apply environmental information? This chapter is unlike previous chapters in that this chapter is concerned with end-points where environmental information and environmental learning come together and are realised (in action and understanding) and in themselves become a point of learning. This section, through a case study, intends to discuss learning through question-response and action-learning.

public consultation

learning for the environment

Learning *for* the environment (see chapter 2) is an exploration of personal response and relationship to the environment and environmental issues (Palmer and Neal, 1994). Learning *for* the environment is an essential link that contributes to the whole environmental learning experience (see figure 2.3), and is realised through individual (or collective) reactions to information. Information, however learned, is applied through some form of action. Action (e.g., public consultation leading to policy formation) is derived through the application of

knowledge, and also through attitude, whereby our response to the environment is based upon available facts coupled with individuals' meaning and understanding. The case example here (RMOC's *Community Voices*) is modelled upon information in action, in the belief that our response is based upon what we have learned.¹ And because learning is a dynamic process (see figure 2.3) action yields a beginning for changes in assumptions and attitudes.

While this chapter represents environmental information closure, it also marks where environmental political understanding begins. Even though action (what might be called a continuing experiment with information) seems to be the *crescendo* of learning in the learning *for* spectrum, learning *for* is only an arm of the whole that is environmental understanding and knowledge. As discussed earlier, environmental education consists of three elements: learning *about*, *in/through* and *for*. This exploration of 'what was said' in public consultation is evidence of learning *for* environment. An environmental learning application such as this initiates further thought and understanding in environmental terms. Therefore, this end point is actually within the spiral of environmental learning. Action is a beginning because it establishes the direction for public environmental information and therefore suggests where policy needs to be restructured. This is an attempt to include many individuals' information in the list of valid sources.

This chapter evolves out of RMOC's *Community Vision* report, a project of the official plan of the Regional Municipality of Ottawa Carleton (RMOC). This chapter discusses participants' perceptions of the local community (politically, socially and environmentally). The main environmental issue addressed is the use and preservation of green space. This section also discusses the relevance of 'open space', as an evolved environmental concern of

¹"Action" research is aimed at developing new skills or approaches and problem solving with direct application to an applied setting. It is undertaken with the premise that those who participate in the research will be able to benefit from knowing the results. For example, teachers may engage in action research within their classes, rather than rely on transferring knowledge from outside resources.

the urban regions. After the Community Voices² findings are elaborated and interpreted, I conclude with a review of green 'space' as being influential in environmental understanding and to the environmental movement as a whole.

legitimising information

Response and action as a result of learning also play an interesting role in the legitimisation of information, making it socially/politically official. The case I explore addresses policy and political public consultation and therefore, theoretically, how information enters public consciousness³. However, I suggest that information legitimisation occurs in all shared responses. In a less strict sense, the legitimisation of information occurs frequently and often even casually. Legitimisation of information gives weight to certain types of information. Legitimisation is specifically about seeking political/social justification through the use of an accepted system of beliefs and values.

Public consultation, in theory, is concerned with reaching a consensus about methods that benefit the greatest number of people at a given time⁴. In a sense, it is about the synergism of information. Synergism implies that many individuals present information and search for common meaning⁵. During this process, information becomes refined and modified according to group necessities. Even within a truly democratic state, information becomes manipulated (transferred) for new interpretations and new applications (Huberman, 1994). In new applications, the new consensus reached about the information provides legitimization for the issue at hand. Any new knowledge must then be integrated (or rejected) with this

²Community Voices is the title of the public records where *Community Vision* was the name of the project. The logic is simple whereby 'voices' is what people say and vision was reflected in the original goals and objectives.

³Collective environmental information is translated into public environmental policy. Environmental policy, now created, dictates new environmental meaning.

⁴The theoretical perspective of "good government".

⁵Collaboration refers working with others to develop or search for something. It is not just about achieving a common goal (Lieberman, 1986).

consensus. Although, in the *Community Vision* case, consultation did not reach consensus because it was not concerned directly with decision making, but rather with listing or voicing individual perception.

towards a greener city

According to RMOC (1995) documentation, community, from the participants' point of view, can be defined primarily by "open" and "familiar places". Urban space was expressed as necessary for aesthetic and health reasons (that which makes the community environment a 'nice place to live'). These 'reasons' have roots that have evolved from the post-industrial city until present day.

In chapter six, the news-coverage examination between 1891-1991 illustrated that there were changes in the public perception of urban space as an environmental issue (refer to figure 6.5). Prior to the First World War, there was a clear realization that the urban environment needed to undergo tremendous restructuring in order to meet the needs of a failing urban system where multiple and conflicting activities competed and used land (space) simultaneously or in juxtaposition. Infectious urban diseases swept through cities (Koppes & Norris, 1985). In the case of Ottawa-Carleton (the focus of this chapter) back-to-back years of typhoid outbreaks followed by tuberculous epidemics illustrated the extent to which infection was attributable to the poorly managed environment⁶. Despite changes in disease-type, the infection characteristically affected the less affluent, and the areas of the city which were degraded by multiple land uses and population congestion (Koppes & Norris, 1985). These, among other factors such as domestic and workplace accidents, illustrated that the quality of life in the city was unsatisfactory. In essence, the idea was to bring the perceived quality of living from the countryside to the city without destroying the functionality of the city. Much of the solution was seen in the provision of open space, parkland or growing space. From this

⁶The City of Ottawa council minutes and health reports of 1910-1912 stated that typhoid fever was given epidemic status in 1911 and 1912 and tuberculosis was an epidemic in 1910

came Ebenezer Howard's "Garden City".

The Garden City is characterised by the dispersion of population and industry into smaller blocks, thus creating a more amenable community environment for living (Howard, 1898/1970). Ebenezer Howard, identified as the founder of Garden Cities, suggested that all land should be owned by a single entity held in trust by the community. He suggested that a belt of green about 130 m wide, or what he referred to as a "Grand Avenue", should separate dysfunctional activities and land uses. Cities did not have to reduce population density but rather create an environment that allowed for spatial 'co-existence'. Therefore the focus becomes 'concentration' not congestion (Hodge, 1989)⁷.

The Garden City, although criticised, was only possible in the establishment of new towns. A solution was needed for these older cities. American cities, especially, had grown quickly and were faced with health and functionality issues as well as a growing social unrest (Hodge, 1989). The Chicago World's Columbian Exposition (1893) initiated discussion on urban quality of living, and as a response developed the "City Beautiful" movement, which was later assessed to be a facade because it did not tackle the real issues (Van Nus, 1979). The solution seemed to be found in the Garden Suburb, a hybrid of Garden City and City Beautiful. The Garden Suburb encouraged a break from strict geometric layout of cities to comprise a city of interlocking structure, leaving intermittent open land between residential and other land uses (Hodge, 1989). This structure allowed the inclusion of a 'green avenue' as a boundary around the suburb community.

The redesigning of neighbourhood and the creation of the neighbourhood unit was intended to link families and environment: families and other city functions did not mix. Planner Clarence Perry (1929) suggested that residential areas should be organised in 64 hectare 'host residence' spaces which included elementary schools. The elementary school and its relationship to open space plays a significant role since the schools provide the educational

⁷Howard's ideas for these "balanced communities" saw realization in two cities north of London: Letchworth and Welwyn Garden City (1903, 1917).

function and can also host neighbourhood, multi-purpose recreational space. The recognition of play space and the need for recreational space illustrated and changed the notion that not all city space should be based upon functional use: in fact, quality of life was based upon perceived need for space.

The 'radiant city' (Le Corbusier) attempted to combine green space with the congested city space in order to revitalise the old city. The radiant city recognised that residential space or neighbourhoods were centred around relatively low density housing whereas much of the growing city population was settling in the core regions in high rises and stacked densities (Hodge, 1989). The radiant city developed from the work of French architect, Le Corbusier, who suggested that storied buildings should be located in a zigzag across a landscaped park. The zigzag effect still allowed for high density living but created blocks of green space between buildings and an illusion of space and perceived spatial freedom. The space between buildings provided green corridors that not only improved appearance but also gave children a play environment as well as perceived quality of life associated with greenness⁸.

The Greenbelt towns were founded upon the work of Henry Wright and Clarence Stein (1957). The philosophy behind greenbelt towns was to create a new town ideology within existing cities through five essential characteristics: i) residential superblocks thus creating a single use space; ii) specialised roads whereby transportation corridors exist external to the main residential areas; iii) separation of pedestrians and automobiles, keeping children out of the traffic; iv) houses turned to face onto greenways; and finally v) parks to be the 'backbone' of the community.

The Ottawa-Carleton greenbelt was assembled (although the idea began much earlier) by 1959. The original intent was multipurpose, directed at controlling activity within and outside the belt itself (Coleman, 1969). The National Capital Commission (NCC), claims that one of the goals of the belt was to prevent "haphazard and uneconomical sprawl" (NCC,

⁸Le Corbusier also suggested that many buildings should be on stilts such that the landscape park is virtually uninterrupted but this seemed to meet with normally limited success.

1961). Coleman (1969) suggests that goal indicates that the Ottawa-Carleton greenbelt was aimed at control and visual image. The greenbelt was seen as a protector of farmland, open space, and offered a more attractive urban area, recreational space and lands for institutions. However, satellite communities 'jumped' the greenbelt and this illustrated that perhaps as a control mechanism the greenbelt was not appropriately designed. Currently, the NCC faced with financial cut-backs, is reassessing the purpose of the greenbelt.

information in action

background to the case study

The above discussion of the evolution of green space provides a practical side to the division of space in the urban area. I suggest that there are some more personal reasons for needing and perhaps desiring green space within the community. *Community Vision Forces* is a record of public consultation for the Regional Municipality of Ottawa Carleton (RMOC), Ontario. *Community Vision* is intended to document residents' perceptions on the region as a whole and its policy (present and upcoming). The RMOC's purpose behind *Community Vision* was to provide insight into where and why change should be made in the next amendments to the official plan. With *Community Vision*, the RMOC adopted a more participant-oriented approach to planning. The level of participation is an attempt to bring government and community into partnership. *Community Vision* attempted to be inclusive such that participants were to be representative of people from many different socio-economic backgrounds and residential areas and occupations. The RMOC used *Community Vision* in an attempt to overcome low resident participation by bringing consultation to the people rather than having a few participants attend the local government meeting rooms. With this goal in mind, several types of information sessions were designed to encourage participation. This meant that some provisions had to be made to include representatives of people who would not normally be involved (a result of many factors particularly socio-economic status) in the planning structure or process. In the early months of 1995 (January until June) the RMOC

used six main approaches to gain what they called "direct input" from the public". In this chapter, I refer to information gathered from five of the six approaches excluding telephone surveys. However, my use is directed mostly upon a conglomeration of information from these approaches: focus groups; ward workshops; and outreach. I outline the characteristics of each method of consultation:

Focus group sessions were held in February 1995 in which RMOC staff met with public participants who represented demographic and geographical characteristics of the region. The focus groups were directed to represent people from various groups particularly seniors, youths, the "environmentally aware", anglophones/francophones inside and outside the greenbelt area, as well as those in rural regions. Seventeen focus groups involving 180 people were held. The focus groups were in the form of open public discussions where the staff aided discussion with a series of basic questions (page 174). The questions probed of what residents liked/disliked about the region and what they would like to see in the next few years.

Telephone interviews consisted of a questionnaire that began in March 1995. The number of completed surveys was 1940. Telephone survey response data were not used in my examination as RMOC records had 'coded' responses. I felt that coded responses did not reflect public environmental discourse

Twenty-six *ward workshops* were run in March and April 1995. The workshops were held in the typical planning consultation fashion - advertised in local papers and encouraging open consultation. The consultations were open forum but specific questions were used to aid discussion. The RMOC estimated that the ward and community workshops included 800 people across the region.

'Outreach' sessions were intended to include individuals who were usually not involved, or were often under-represented in consultation (such as homeless and low income citizens, First Nation groups, youth and other groups). Consultation and circulated information were also offered in a variety of languages (other than French and English) to encourage more input. The approach of discussion varied according to the group. Certain individuals expressed a concern to have a more anonymous discussion requiring a one-to-one basis between citizen and the RMOC staff member(s), which did occur in several cases (such meetings were video-taped). Other sessions remained open discussions. In total, 300 people participated in the outreach programs (April 1995).

"Hot-line" recordings of telephone messages in response to *Community Vision*. A total of 175 calls addressed the issues.

Finally, the input from the public through written communication such as letters and electronic address was included in the RMOC report.

"Quite often, I believe, participation was solicited

As stated earlier, *Community Vision* was concerned with isolating the thoughts of residents of the RMOC which "should be derived from the aspirations of people who live in the community, values needs, level of service they require ..." (RMOC, 1995a, p. 1). In order to get a sense of participants' feelings, a series of questions was organised for the discussions. These questions were not place-specific nor were they topic-specific:

questions from focus groups:

1. What comes to mind when I say the word "community"?
2. How do you define your community?
3. What comes to mind when you think of an ideal place, in terms of community or neighbourhood, for you or your family to live?
4. What negative aspects of the community or neighbourhood would affect you the most?
5. Hierarchy of lifestyles values among participants (5 - most important to 1 least important).
6. What are some of the best things about living in Ottawa-Carleton?
7. What are some of the worst things about living in Ottawa-Carleton?
8. What is needed or would improve life in Ottawa-Carleton? Who do you think is responsible for this?
9. How would you describe the people of Ottawa-Carleton?
10. What piece of advice would you give decision makers about our community?

questions from ward workshops

1. What do you like most about living in Ottawa-Carleton?
2. What do you dislike about living in Ottawa-Carleton?
3. What would you like Ottawa-Carleton to be like in 10-20 years?
4. How can we make it happen and how to pay for it?
5. Prioritize.

questions from community workshops and outreach

1. What do you like most about living in Ottawa-Carleton?
 2. What would you like Ottawa-Carleton to be like in 10-20 years?
 3. How do we make it happen and how to pay for it?
- (RMOC, 1995).

The questions were used in the sessions to aid discussion and were often not strictly adhered to, but did provide a framework. Often, in the following discussion, I collapse the questions and address similar responses as an issue¹⁰

¹⁰Much of the open style used in consultation also 'blended' or 'skipped' questions according to the nature of the forum

*use of Community Vision/Voices*¹¹

I use *Community Voices* as an example of information in action, environmental perception and community environment. I am not interested in *Community Vision*, itself, or as a political process but rather as a reflection of what information people volunteer about the environment. This differs from the responses expected at an environmental consultation where discussion is specific and directed. Here, participants' environmental discussion was not directed but volunteered. The distinction between direction and volunteerism allows for an exploration of information and values.

My purpose was to understand and perhaps qualify of environmental concerns of groups of local people. I systematically reviewed all documents of *Community Voices* and recorded (the text and context of the speaker/writer of all records examined) public comments and concerns that were 'environmental' in content, and therefore appropriate to this project. I adopted a method of non-direct observer where I was involved after the fact and at no point interfered with the process. The identification of 'environmental content' was subjective, but was categorised and formulated mainly according to the distinction between socio-economic and 'nature' space related topics. Even though I use terms/words used by the participants in the discussion, I am aware that this process is dependent upon my subjective interpretation.

During the compilation of participant environmental responses, an interesting trend was revealed specifically concerning open (or green) space¹². The concern for space (particularly green space) evolved to be what I would consider the main environmental topic (if not one of the major concerns) of *Community Voices* as a whole. Participants' overwhelming focus on 'space' led the RMOC to summarize: "most participants want access to open green space and parks and identified very strongly with these elements in the community" (RMOC, 1995; p. 4)

¹¹Community is a complex concept (with many definitions), however at the same time it is socially accepted term. In this context community was defined by the RMOC and the participants

¹²I refer to green space in the two word derivative to avoid confusion in meaning as often times RMOC and participants refer to open space, open green space and greenspace. The use of terms is elaborated later

The focus on 'space' is apparent in *Community Voices* framework but also, conveniently, fits within the structure of this discussion whereby necessity is decided by participants' environmental knowledge/experience. This concern can be translated into action and is representative of the last arm of environmental education. It is obviously and fundamentally linked to the earlier discussion, particularly on individual experience and identity.

The findings of *Community Voices* is significant to my project because this illustrates that we are collectively and/or individually, consciously and/or unconsciously aware of the environment. Green space, or a derivative of that (such as "open space"), has tremendous importance to individuals. The volunteering of information suggests that individuals are mindful of their valuing of nature experiences, which translates into an overall concern for the preservation of green space. This illustrates the significance of what we have learned and the role it can play in public consultation or in our environmental actions (learning *for* the environment).

Community Voices: what was said

The concept of public open space/green space parkland was a common response in all questions initiated in the *Community Voices* project. The actual term "green space" (and its derivatives) was used by the majority of the participants. The concept of 'green space' has evolved since the turn of the century but the perception and association between open space and quality of life are still evident. The perception of recreational spaces in and outside the city suggests that individuals still associate green space with personal health. Mental health and freedom from stress-related problems often find their solutions in natural space.

One question required the focus groups' participants to rank the components (including open space, health care, social services) of the RMOC in terms of their importance.

to the lives of individuals and the community as a whole (see Table 7.1)¹³. The RMOC, in a summary of the entire *Community Voices* report, expressed surprise at the number of responses in favour of green space and related issues. Overall, green space was ranked high comparable to health care, and other factors clearly associated with, and directly linked to quality of life. This suggests that the participants' definition of quality of life may be dependent upon our accessibility to natural or green space.

Participant environmental concern is generally local and site-specific environment. Participants record general interests such as the green space issue but focus 'environmental' issues, on very site-specific issues, thus illustrating the situational relevance of information. Participants' environmental concerns in the RMOC eastern regions, centre, and west regions were different because they related to a specific local environment (for example, participants at Cumberland Town Hall raised concern with Petrie Island and for its wetlands). Even though concern is identified with the local environment; the context of the concern appears to be related to a much broader spatial area and concept, or could be associated with a larger environmental issue. Participants have an understanding that what happens on Petrie Island may not influence a global system, but rather that Petrie Island is indicative of what is happening on a global scale. From an environmental education point of view this is an important indication of information use. Another example is the participants' concerns with the loss of part of the greenbelt for the construction of highway 416, and the sale of other green space elsewhere. Participants expressed disappointment in the loss of the "log farm"¹⁴ (as an ecological centre, a learning centre) and as ever, part of the global urban take-over of land for the sake of development. Participants understand that the issue is local but seem to perceive the issue to be a part of the global environmental context

¹³ names of focus groups assigned by RMOC, 1995

¹⁴ Even though the log farm is still in operation many argue it is only a small portion of what it used to be and that it has lost much of its charm (as it literally abuts the highway)

**Table 7.1: Average Rank of 'Green space' by Focus Group
(0-5, 5 highest priority)**

average rank for green space /5	focus group	term used by RMOC
5	seniors	open green space
5	youth	green space
3.3	environmentally aware	open green space
4	social and health workers	open green space
3.1	inner greenbelt residents* (anglophone)	green space
2	culture and community	open space
3.9	outer greenbelt residents* (anglophone)	green space
5	rural* (anglophone)	open space
4.2	physically challenged	open space
5	employable unemployed	open space
4.4	gay and lesbian	green space
3.8	inner greenbelt residents* (francophone)	open green space
3.3	outer greenbelt residents* (francophone)	open green space
4.8	rural residents* (francophone)	open green space
4	business operators	open space
3.2	ethnocultural	open space

*According to RMOC (1995), inner greenbelt refers to residents who may live to the north of the greenbelt in the generally more urbanised areas such as the City of Ottawa and much of the City of Nepean. Outer greenbelt refers to areas to the south, southwest and southeast of the greenbelt, particularly developed regions that 'jumped' the belt (Barrhaven as an example). Rural (even though it occupies a portion of the outer greenbelt area) is defined by more rural characteristics particularly less city-type services and dominated by rural activities such as farming.

The concept of green space is presented by participants in a number of varied forms that I believe have differing meanings. These meanings are fundamental to the process of understanding the environment and how we should manage it. If policy is to incorporate the views of the public we cannot be solely concerned with their terms but we must also be aware of the meanings attached to their terms. Therefore, I look at variations of the term 'green space' and its associated meanings.

Other references besides green space have been made by participants, thus illustrating further the extent to which space conservation is the discourse of the participants. Table 7.2 represents the compilation for other responses to the importance of natural open space in the community. The participants focused on the idea of 'landscape'. The perception of landscape is often associated with definitions of home and homespace. Familiar landscape is the basis for the way individuals understand environmental information (see chapter 4). 'Landscape' in participants' responses seems to be perceived as a holistic view of space and multiple land uses. Perhaps here, then, landscape means the relation between space and resident, and people in functional space. Nature and natural space are terms used to identify beneficial elements to have in the community.

table 7.2 :Terms and phrases in reference to green space examples of participant responses
<p>"parks" "openness" "open community space" "open parks" "access to outdoors" "landscape" "natural landscapes as well as parks" "open, spacious"</p>

The interesting question in terms of language and meaning is the significance of, or perhaps the difference between, responses concerning landscape and the participants' perceived meaning of green space. Green space, in many cases is mentioned by a participant at the onset of a discussion where other participants use similar terms such as parkland, green belt, natural space and open space. Although the answer is unknown, a relevant question would then be: is parkland and natural space (for example) considered to be 'beyond' green space (as in provincial parks) or is it merely reinforcing the significance of the open space in the community?

There is some difficulty in interpreting the terms green space/open space. Green space is a prompt word used by the RMOC, not necessarily to guide responses, but RMOC offered this term in publications summarising initial statements, proposals and public relation materials (RMOC, 1995). In the focus groups, RMOC delegates asked participants to rank certain factors in importance where one term was "green space". There is a lack of clarity on the part of the RMOC officials in the use of the word green space (see table 7.1). The officials leading the sessions used the terms 'green space', 'open green space' and 'open space' interchangeably, but I suggest that the meanings are different in context. Issues of structural variance in the questioning procedure are evident in the responses of participants. The influence of terms was seen in the participants' responses as they echoed the term previously discussed.¹ For example, if the term open space was used, then open space would again turn up in the responses to the next question (question 6: "what are some of the best things about living in Ottawa-Carleton?"). The frequent occurrence of a term when examining the responses can cause some confusion, therefore. The term "green space" is a generic planning concept, and so we should consider whether the community voices were led to the point of referring to 'green space' in that language, thus employing a meaning which was not their own. Although I do not

¹ This would suggest the participants were making use of an available heuristic (Baron and Byrne, 1987). In other words, their responses might have been shaped by the availability of the term in their thoughts due to the use of the term in the question discussion.

OF / DE

3

PRECISIONSM RESOLUTION TARGETS

Media as a whole presents us with an abundance of information which we must selectively process. In terms of the environment, media messages do not dictate what we think about, but rather influence the environmental information that stays in our collective consciousness (or our collective active memories). The sweeping power of multi-communication corporations and the multiple access to news services has created a homogeneity of information, affecting many people across large spaces; and thus fostering sameness in environmental understanding, despite the real differences in local environments¹. Environment is often low priority as a news item and environmental topics rarely make headlining pages.

Environmental topics that gain public attention are short-lived as public attention follows the trends of the issue attention cycles. Popular topics appear and reappear in the median until the topic loses audience interest. From a learning point of view, when individuals tire or become disinterested in information they often begin to disassociate themselves from the topic. Therefore, environmental topics, after having long running coverage, seem foreign to readers. Media, with its armchair audiences, attaches a sense of second-hand experience (synonymous with vicarious learning) which again detracts from, or alters, first hand experiences (or enactive learning).

Learning for the environment is the process of integrating information and using the information to formulate perceptions and eventually make decisions. In the final chapter, I use public consultation as an example of environmental information in action. Although consultation is not the only source of public perception, the process is still indicative of the complexities of *learning for the environment*. Action learning is not only concerned with the realization/utilization of what has been learned, but is concerned with gaining new information as well. In the public consultation example, recommendations are made which legitimises a certain environmental discourse and also generalises information. The discourse and context of

¹As internet access becomes more widespread the hegemonic power of the print (and broadcast) media may be eroded. But this certainly opens the discussion on environmental learning especially into non-spatially bound, non-local meaning and increases the extent of second-hand information.

the basis for the discussion of green space. Whatever the reason for wanting and maintaining green space, the meaning in the RMOC participants' minds is generally associated with the large spaces attached to the existing greenbelt. Therefore, I believe, the assumption is made by many participants that all greenspace is part of the NCC Greenbelt.

The opportunity for RMOC residents to access nature (as they perceive it) through the greenbelt is greater than could be experienced in other cities of a similar size, so much so that participants believe that Ottawa-Carleton is 'green' and therefore is an environmentally-friendly city (e.g., one participant suggested that "the greenbelt saved our city" while another participant claimed that the green space was healthy because the green functions as "the lungs of the city"). At the Rio Summit (1992), the openness of space in the Canadian environment influenced commentaries that Canada is an 'environmentally-friendly' country. The irony of this claim lies in the fact that because we have programs which save space, we may believe that we are truly environmental even though there may be new environmental information which would suggest otherwise - the perseverance factor in action (see chapter 2). Furthermore, the NCC greenbelt is complimented as being 'green' (in an environmental context) despite the fact that the NCC uses herbicides on their property to maintain the intense "greenness" of the region¹⁵. A debate of what is environmental versus what is natural is raised, where the NCC presents an image of a managed environment that is popular, but not natural. Green space suggests being 'environmental', while accessible or visible space has a positive environmental meaning. An idea that made itself evident in certain participant responses is that existing green space is viewed as "environmentally friendly greenspace" or "greenspace to keep environment healthy" and necessary because we "need more untouched natural areas".

¹⁵based on observation

green space and access to nature

Some participants made references about access to the countryside¹⁹ (table 7.3). People expressed great comfort in the idea that if they needed relief from their urban lifestyles, the country was nearby. Ensuring that urban growth did not 'take away' the countryside was considered by many participants to be a major concern of the RMOC (especially in how participants see the community in the future). In the same tone, the greenbelt was celebrated, not for its alleged success failure, but rather because it provided so many opportunities for access to nature. Attempts by the NCC to sell the greenbelt were greatly criticised and the RMOC was urged to protect the existing greenbelt. Developing greenbelt land for housing and highways was considered inappropriate. For instance, in balancing their needs, the residents simply preferred easier access to a green environment than a better access route to highway 401 in contrast to the business corporate view of the same issue.

table 7.3 : Reference to Countryside Access
examples of participant responses

"close to country"
 "access to countryside"
 "winding paths and housing all mixed in country setting"
 "on the edge of the greenbelt we feel like we live in the countryside"
 "can be in the countryside in 20 minutes"
 "rural living is still possible"
 "park and countryside"
 "access to farms"
 "easy access to countryside"

Ebenezer Howard and others developed the greener city concepts and the notion of bringing the city to the countryside (or rather for the city to adopt the qualities of country living with the convenience and functionality of the city) because of the belief that the

¹⁹Countryside as a term of reference is becoming a popular reference for rural areas but also for parkland such as Gatineau Park. Countryside is often addressed in rural studies' literature and therefore connected with agriculture and agricultural activities

countryside is a healthier environment than the city. The city should be more like the countryside especially in the residential areas. The population of the RMOC living in the communities outside the main urban area (within the greenbelt) has grown astronomically. The Ottawa metropolitan area has grown 47 per cent from 1961-1991²⁴. This is a trend visible across southern Ontario and Quebec where countryside and fringe areas have become occupied by people, dependent on the city's functions, but who look toward the country as being a good living area. This is evident in the responses of the participants of *Community Voices*. Many participants said that what they 'liked' in the 'city' (Ottawa, Nepean, Gloucester, Kanata, Orleans), was their proximity to countryside or what they perceived as countryside. Table 7.3 illustrates the response of participants who liked RMOC's countryside. Some of the responses (e.g., "on the edge of the greenbelt we feel that we live in the countryside") suggest that countryside, and thus space, deal directly in perception (i.e., "country" is a state of mind). We have learned that 'country' has certain characteristics and a feeling of quality living is the important factor

paradoxes: family fortune and public good

Paradoxically, rural participants (people residing on the outside of the existing greenbelt or beyond greenbelt urban communities) expressed concern about the number of people who invade the countryside for pleasure. Although they expressed a dislike for the existing greenbelt (because of satellite communities), many stressed that no new land should be added or annexed for that purpose. However, in table 7.1 rural residents ranked green space (or an associated term) quite high, despite the fact that they were recorded as being vocally opposed to the greenbelt. "We already have enough" expressed a rural participant on reflection of open green space as an essential element of the RMOC community. Rural

²⁴The metropolitan area is not RMOC exclusively (and inclusively) as it combines Hull, Quebec. RMOC is not a census district. Regardless of what regions are included or excluded the trend illustrates that the areas in proximity to the urban centre have been under increasing pressure to preserve or sell the land.

residents are especially concerned about government control over the land. Rural residents' focus of concern is centred around economic potential where land is seen as a viable resource, a financial asset, and potentially an object of their children's inheritance. Owners' financial considerations are foremost, but the need to maintain the "ruralness" or rural character of the environment and community is also stressed. Rural participants expressed anxiety about the uncertain future of rural areas (e.g., if urban ideas were to dominate the land and community). In essence, the fear is the threat of losing ruralness, as defined by peoples who reside in large open spaces. Contradictorily then, their fears focus on protecting what they say they have enough of: open space²¹. But in essence, the loss of that environment raises a similar question to the access debate and yet they want it preserved so that they can benefit from the potential of a green belt freeze. How can the preservation of ruralness happen without preserving space? Politically, we need to realize that this is a debate about access to green space in association with perceptions of the economic and social value of the land.

access to green space

Conceptually, access to green space is seen in the responses as having a language specific to socio-demographic groups. For instance, seniors and youth unanimously ranked green space (Table 7.1) as a high priority in the region. For both groups, green space represents a potential for activities and thus for learning. Participants envisioned, for example, the attractiveness of green space for tourists, the benefits of having places to walk, bike and places to 'hang out'. Both groups also reiterated the proximity to country space for driving and camping. The green space 'benefits' lists proved extensive for these groups. The employable unemployed were also very strongly in support of green space, especially as a resource for children. The less people required urban services, the more they expressed interest in the role green space plays in our communities. Similarly, the more time we spend in

²¹Also, the recognition of land as a financial asset external to agricultural purposes assumes a willing urban population as potential purchasers, attaching a non-agricultural value to the space

communities (particularly the unemployed, seniors and youth) the more we realize green space is important to our quality of life

'Accessibility' is controlled by spatial boundaries. In classical geography, the von Thünen model of economic spatial organization suggests that in a time of high transportation costs and production costs, the further away from the core, the lower the rent, as overall costs make it too high to function in the city. Access to space reflects a similar pattern. We may be willing to travel a given distance in order to gain access for a certain activity/experience. For instance, to experience the more pristine environments, we are willing to travel to the national/provincial parks. For Sunday afternoon we are willing to travel to the countryside²². For an afternoon stroll we travel to the local park, the Arboretum, or the river parkway. Each activity has a spatial boundary. Our daily lives are influenced by a pattern more susceptible to externalities. Pred (1984) devised a model of the time-space relationship in the context of structuration theory, which explains the spatial interactions of daily lives. Each individual has a different time-space relationship which is considered to be our spatial signature. Environmentally, we would call it our ecological footprint²³. Socially, we would call it a social signature. This sets up the boundaries of our interaction with the environment and with nature.

The participants classified by the RMOC as 'homeless' or 'low income' provided their own distinctive examination of the region and of the things some of us take for granted (table 7.4). The contribution to understanding green space and access is primary. 'Greening of the city' was considered a foremost concern. Referring to the concept of spatial access, it becomes evident that the boundaries of these individuals is different from that of other participants: it is much smaller. Unlike other respondents, there was less concern in this group

²²Although this definition can be problematic, since 'country side' may be defined as the Central Experimental Farm within the built up urban space (which is nonetheless green space)

²³Leopold (1949-1987) suggested that if we were to develop an appropriate understanding of land and ultimately nature we would need to become aware of the signatures which we place upon the Earth.

about the 'greenbelt' and the 'access to countryside'. The main concern was the provision of greenness within the city, especially the downtown core. Much concern was raised for the lack of urban parks and green strips between urban spaces. Issues of 'where do the children go' were raised (Callandar & Powell, 1992 discuss many benefits of greening the city for children and their environmental education). Urban school yards are paved and portions that are not paved are so small that grass has been uprooted by continuous play (most urban, non-suburb schools are mostly comprised of 'black space' - examples are numerous). Children's interests are very influenced by certain aspects of the playground, particularly ground cover types (Ward, 1977). Children are attracted to vacant lots and access and available space (Lynch, 1977). Humenuik's work (1983) suggests that children's play and playground needs are centred around the concepts of accessibility, as well as adequate and variable environmental types. Designing for play includes the greening of school yards, where park planners and child play experts claim that green or natural features in a playground are essential to child development. Children, especially young children (preschoolers and early school aged), require accessible environmental interaction to develop positive environmental attitudes (Wilson, 1993; and see chapter 4). Thus there is a clear need for green space for a healthy, safer environment for children, and also for the child's environmental learning experience.

In chapter four I discussed the importance of childhood experiences in relation to environmental learning. I also suggested that childhood could be seen as the motivator to the environmental movement because, generally, we want to preserve and enhance childhood experience. To do so often requires the definition of what childhood needs. Our recalled perception of childhood suggests that spaces should be idyllic. Adults often perceive that children need space to enact the 'ideal' play. Many participants in *Community Voices* cited the links between children and open space. (Table 7.5). The responses listed in table 7.5 are a compilation from many questions across the many different groups, but illustrate that what participants want to see, and what they may 'like' about their present community, is that the

RMOC will provide a good place for children with plenty of space. The participants believe that green space is the defining factor as a 'good place for children'. Play space, whether in the form of a playground or just the perceived healthiness of open space, is in the best interests of responsible adults. The motivation to protect for the kids is indicative of an environmental trend, found in both the media and based upon our own personal experience. The appreciation of space and nature *per se* is also behind many environmental education programs aimed at children, particularly in the school systems and in other children's organisations such as Scouting and Girl Guides.

table 7.4: Expressions of Green
examples of responses by low income/homeless *

"plant trees"
 "more parks"
 "enforce environmental by-laws"
 "protect trees"
 "lots of parks and trees"
 "priority on greenspace"
 "free trees for community people to plant"
 "plant a tree program"
 "keep forest as is"
 "littering law"
 "continue to protect greenspaces"
 "trees"

*"greenspaces" for low income or homeless participants refer to space that is green and urban parks as opposed to the greenbelt

table 7.5:
'For the Kids' : links between children, space and nature
examples of participant responses

"great place to raise children"
 "wonderful for children"
 "open space for children"
 "parks for my grandchildren"
 "nice parks, nice kids play ground"
 "a good place to bring up children"

Children also realize their own needs and appreciation for space. As discussed earlier, nature often becomes the backdrop for varying activities and this is evident from the responses of youth and children:²⁴ Table 7.6 sees green space or open space as being beneficial for many activities. Access to space becomes an obvious issue as children cite the need to be able to walk or to get short drives to the desired space. The children's space is not landscape as adults perceive space, but the minute detail of what we can do within that space, such as biking. There are few references to 'nice places'. Rather, nice places are defined in "nature trails" and "parks with water". The definition of child's space is based upon aspects of play and nature-defining activities.

table 7.6: Green space: Places for .. examples of youth participant responses
<p>"bicycle routes"</p> <p>"trails"</p> <p>"paved trails"</p> <p>"campgrounds"</p> <p>"swimming"</p> <p>"camping without having to drive too far"</p> <p>"able to walk"</p> <p>"rollerblade"</p> <p>"skateboard"</p> <p>"parks with water"</p> <p>"biking"</p> <p>"need lots of space to walk dog"</p> <p>"a place to take kids camping"</p> <p>"going to the Expenmental farm"</p> <p>"nature trails"</p> <p>"more playgrounds"</p> <p>"outdoor activities"</p>

Many participants suggested that the city needed more trees. Not only were trees aesthetically pleasing, they also provided a healthier environment and a more energy efficient environment. People seem to understand the significance of trees for protection from sun and

²⁴A focus group session centred on youth (over 12 years old) but the outreach sessions also included children (8-12) as well

wind and for maximising energy. The thought of energy efficiency and a healthy environment due to air quality and pleasantness seems complex - we make assumptions that such language is of an academic or specialised nature and not a language of the streets. In a way it is not a language of the streets - it is my language - energy efficiency is my interpretation - the concept and context is theirs. Many participants (of the low income group) realised that trees and greenness alter the micro-climate of the city in all seasons. The discourse is representative of core environmental ideas, but has been placed within the context of experiential knowledge. In this example, accessibility becomes a more profound concept. The spatial boundaries of the low income homeless participants are drawn before reaching the greenbelt. Access to nature then takes form in the context of what little green makes its way onto sidewalks (etc..) and small urban parks. This represents a perspective different from my own and reflects, fundamentally, the difference of spatial accessibility.

voices and change

The *Community Vision* project does not have a direct outcome nor is it topic specific: in this sense the consultation is non-direct (in the minds of the participants). The purpose of *Community Vision* was to understand residents' perceptions of the region as a whole. The aim was to create a document that "expressed the values residents have about their environment and daily life" (RMOC, 1995b, p. 4). The result of these voices was combined as an interest in green space. The RMOC (1995), in a review of *Community Voices* and in preparation for recommendations, stated that they believed that the residents' communities were in part defined by green space. They also stated that the preservation and the provision of green space was a fundamental part of residents' needs (RMOC, 1995). The recommendation was made to consult the National Capital Commission on the preservation of the existing greenbelt, to consult on a method to ensure the maintenance of the current belt, and to prevent further selling of the belt (RMOC, 1995). The planning process has reduced the many voices to several lines of recommendations. Public information is not concerned with individual

needs but rather repeated and perhaps 'legitimised' values. This raises questions of information representation. It also raises the question of environmental education and the valuing of information. The goal of environmental education (outlined in chapter two and five) is to develop an attitude that has concern, the interest, and the motivation to bring about change (Bennett, 1988). An obstacle to meeting these goals (in the sense of environmental solutions) is that general information is sometimes foreign and inaccessible. Another barrier to learning *for* the environment has been concerned with the sense of 'language inappropriateness'. Individuals should not feel intimidated to the extent that the information is perceived as being worthless in context. At all stages of environmental education, it is necessary that we provide fora that not only allow participation but also give some sort of sense that all of 'it' : information is viewed equally, even though it may be grounded, for example, in experience and identity as opposed to proven fact. The need for holistic environmental learning, is to give representation in order to explore and recognize information.

Chapter eight: Conclusion

Concluding a discussion about environmental information and learning is a difficult task because environmental learning does not end. Environmental learning is an ongoing process that evolves and develops through time and space. There is not a single end point or a single use for environmental information, but rather many uses that regenerate and create both new opportunities for, and new actual understanding. Evolution should encourage us to further question environmental information and meaning; and to question how environmental education is designed and used in environmental decision making, and made according to certain meanings.

The purpose of this thesis was to explore linkages between various forms of learning and outcomes as public expressions of environmental understanding. This paper is based on the premise that to implement a successful educational program, and a successful environmental management program as an outcome of learning, we need to become fully aware of how environmental information influences work. The thesis was a critical review of environmental information sources such as environmentalism (as a discourse and approach to meaning), identity and experience, formal education, media and finally, public consultation. An environmental education framework, in the form of education *about*, *in/through* and *for* the environment allowed for a systematic understanding of the necessity and process of environmental learning.

summary

International recognition of environmental education programs, especially in schools, has legitimised the significance of environmental education in bringing about global environmental change, concern and solutions (UNESCO, 1980). Environmental education is deemed necessary in finding a solution for current environmental problems through the creation of environmentally aware societies (WFCD, 1987). As a result, school boards have been urged to re-examine the way "environment" is currently being taught and develop new methods and new approaches. Environmental learning needs to be recognised for being influenced by information from many sources and many perspectives. New approaches need to recognize that environmental learning is directed by education *about*, *in through* and *for the* environment whereby environmental knowledge (comprising facts, attitude and values) evolves from many perspectives. Learning *about* the environment is concerned with the acquisition of 'fact' and is usually associated with what we learn 'in school'; learning *in through* the environment involves hands-on learning, or what we learn through experience; and finally learning *for* environment is concerned with the application of learning to improve or preserve our natural environment. Environmental information, however gained, is processed and may be retained (in part or in whole). The processing of information leads us to attach meaning to information.

"Environmentalism" (chapter 3) provides a sense of the meaning or the values attached to the message. Environmentalism represents the discourse of environment as well as the perspective from which education and research is gauged. Therefore, "environmentalism" as the "value packaging" of environmental information needs to be addressed in environmental education and learning. Environmentalism has evolved to give meaning to the environment through the call for an environmental consciousness and through the association of environment and environmental crises (that become public because threat and risk are involved). A sense of environmental alienation can occur as a result of experiencing risk and threat. Alienation separates the individual from the natural environment and from sources of

environmental information which are perceived as being antagonistic. Chapter three also addresses concepts such as sustainability and stewardship, which function as methods and even motivators for environmental education, environmental research and for involvement in environmental decision-making. Involvement in decision-making must be recognised for the complex relationship that it defines between people and environment. Similarly, environmental philosophies depend and rely upon the teaching of method which is engrained in a contextual meaning and wrapped within contextual discourse.

Contextual meaning often originates from individual interaction (hands-on learning; learning *in/through* the environment), and from individual identity (chapter 4) which influences perception and ultimately our learning abilities. Childhood experiences and what we remember about childhood have greatly influenced the way in which we formulate environmental understanding and the way in which we continue to interact with the environment. What we have learned in childhood (in this case, our environmental knowledge, skills and attitudes) is often maintained (albeit re-evaluated and reinterpreted) and incorporated into our environmental philosophy, or is used to act as a barrier to new environmental information (perseverance). Childhood ideas are often the motivating forces behind adult actions of defining the need for environments, environmental education and pro-environmental decision-making. Childhood is also linked to environment through the use of children as icons in the environmental crisis. Gender and culture also influence our environmental understanding but in a different way from childhood. Where childhood is representative of experience, or a perceived (selectively recalled) idea of childhood, gender and culture are influential in defining position, experience, space, interaction, roles and social rules. We often genderize our understanding of environment, often using metaphors of nature and isolating the dichotomies of society/nature and man/woman. Examining gender is important in order to understanding the language of decision-making and education. Similarly, culture influences how we perceive ourselves, but it also establishes a discourse and a knowledge set that has evolved into taken-for-granted environmental facts. Culture definitely influences the

perspective from which we view nature.

Schools are regarded by many as the prime resources for learning and instruction. However, after exploring the environmental content of local schools, it became obvious that formal education (chapter 5) restricts environmental information to *about* the environment sector of learning. Furthermore, environmental information is not placed high on the curriculum agenda and environment enters the classroom only when time and other factors permit. I suggest that the placement of 'environment' in the mandate of the Ontario Ministry of Education has occurred only recently. Earlier environmental education had been 'lost' somewhere within the curricular structure, emerging only to be taught as a small part of science or social studies. Changes to the curriculum have been slow. Ham and Sewing's (1987) barriers to environmental education are relevant as they explain obstacles to successful environmental education programs, such as infrastructure problems, teachers' abilities and funding, all of which have hampered the ability for 'environment' to have a place in curricula. The new *Common Curriculum* (OME, 1995) has recognised that learning is not an isolated process but rather is an integrated process. Problems in environmental education provision and evaluation exist. Environmental education is still searching for definition as a valid and worthwhile discipline within an integrated program. Educational funding is an on-going problem in several aspects. There is less money available for the purchasing of new and up-to-date resources. Staff cuts mean less time for teachers to attend environmental workshops, and then to consequently apply their new knowledge by altering/developing new lesson plans. Finally, tight budgets force outdoor environmental education programs to the margins of the curricula, and are being abandoned as environment is considered "extra" to the curriculum.

If individuals do not gain adequate environmental information from schools, then the next logical step is to assume that information is gained through the media (chapter 6). The media is also encouraged to be used as a resource and as a teaching tool in the schools. Environmental learning can occur vicariously whereby individuals are exposed to environmental information, often in a non-structured and sometimes incidental manner.

Media as a whole presents us with an abundance of information which we must selectively process. In terms of the environment, media messages do not dictate what we think about, but rather influence the environmental information that stays in our collective consciousness (or our collective active memories). The sweeping power of multi-communication corporations and the multiple access to news services has created a homogeneity of information, affecting many people across large spaces; and thus fostering sameness in environmental understanding, despite the real differences in local environments¹. Environment is often low priority as a news item and environmental topics rarely make headlining pages.

Environmental topics that gain public attention are short-lived as public attention follows the trends of the issue attention cycles. Popular topics appear and reappear in the median until the topic loses audience interest. From a learning point of view, when individuals tire or become disinterested in information they often begin to disassociate themselves from the topic. Therefore, environmental topics, after having long running coverage, seem foreign to readers. Media, with its armchair audiences, attaches a sense of second-hand experience (synonymous with vicarious learning) which again detracts from, or alters, first hand experiences (or enactive learning).

Learning *for* the environment is the process of integrating information and using the information to formulate perceptions and eventually make decisions. In the final chapter, I use public consultation as an example of environmental information in action. Although consultation is not the only source of public perception, the process is still indicative of the complexities of learning *for* the environment. Action learning is not only concerned with the realization/utilization of what has been learned, but is concerned with gaining new information as well. In the public consultation example, recommendations are made which legitimises a certain environmental discourse and also generalises information. The discourse and context of

¹As internet access becomes more widespread the hegemonic power of the print (and broadcast) media may be eroded. But this certainly opens the discussion on environmental learning especially into non-spatially bound, non-local meaning and increases the extent of second-hand information.

meaning is fundamental in examining the necessity for consultation as well as the nature of the proceedings. The outcomes of the *Community Voices* project illustrates that many of the participants were relying on environmental experience for their perception of space and region. Individuals who were in situations that allowed for more free time had realised that space was a very necessary element of the community. Childhood (as a concept) also had a strong association with this issue as participants felt that green space provision was necessary for a child's quality of life. Evidence suggests that many influential environmental arguments stem from personal interests coupled with global environmental issues.

beyond environmental education

The perception or meaning of environment reaches beyond environmental education, as I illustrated by outlining influences on environmental meaning. The greater aim of this project was to be able to move from this point toward reflective and evaluative environmental education programs, and to environmental decision making, through an awareness of the many ways (*about, in/through, for*) we learn environmentally and the many sources from which information is presented to us.

I outlined some influential sources of environmental information. However I maintain that this is only a slice of the multiple layering of information gathering, storing and reproduction of meaning. Environmental information is a complex quilting of information (in whole and in part) that is sewn together, creating a tapestry of understanding. If environmental education is to be effective in bringing about responsible environmental management and a population that is aware and concerned (relating to the UNESCO's [1975] goals of environmental education), then we need to explore further the multi-facetedness of environmental information. Education as a formal entity cannot happen until we understand what information, values and attitudes that individuals (students and teachers) are bringing into the classroom.

One area where research needs to be focused is to develop further the ideas of

learning *about*, *in/through* and *for* the environment. Palmer and Neal's (1994) work provides insight into the multiplicity of environmental information. Although Palmer's and Neal's work is centred around formal education, and is certainly adoptable to informal education, their application of the theory to education is limited. I believe the limitation is due to the fact that their model is centred around educational outcomes rather than being evaluative. I think it is necessary that the learning *in/through* progresses toward individual environmental perspectives and then toward group perspectives, making the classroom more representative of views and more interactive. Therefore, more research is needed in the background of holistic environmental education.

Second, environmental education itself needs to undergo significant change to include 'environment' within the curriculum. The new approach to holistic learning, where subject boundaries are less apparent, offers more opportunities to place environment into the science, arts, and social science areas of study. But the formal education task should not be limited to there: it should also include learning *in/through* and *for* into the classroom. Environmental learning is dependent upon information gained through hands-on experience. Learning involves not only the ability to know, but also the sense that individuals can make a difference is important, and therefore, being able to put learning into action should be considered essential.

The most complex area of environmental meaning develops from individual experience and identity. Individual perspectives (experience and identity) cannot be evaluated but definitely need to be recognised if environmental education programs are to be successful (according to needs defined by UNESCO, 1975; etc.). One area not elaborated here but needing to be explored is the emotional/behavioral response of individuals toward aesthetics (a topic which has developed a recent following in the environment literature such as Nasar, 1992) as well as the complex inter-relationship of memory and environmental experience. The perception of space, particularly green space discussed by Community Vision participants illustrates the significance of space in daily environmental interaction. I think, we especially

need to address the relationship between children, natural space and learning as it has such a long standing impact on future environmental learning.

Much of my motivation for this work has stemmed from personal-environmental interaction; and environmental education needs to recognize what motivates people to think and act environmentally. We cannot separate who we are, and what we think from our work, decision-making and personal learning processes. L.M. Montgomery, in definition of herself as an author, stresses that she would have not have been motivated to write if it had not been for her attachment to place. Considering the relationship between childhood and nature, I am aware of the profound effect L.M. Montgomery's work, especially natural description, has had on my perception of nature. It is appropriate that she has the last word.

For lands have personalities just as well as human beings; and to know that personality you must live in the land and companion it, and draw sustenance of body and spirit from it; so only can you really know a land and be known of it. (Montgomery, 1917, p. 11).

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**Coding Sheet,
The Globe and Mail, 1891-1991 Content Analysis**

purpose	code	descriptor
location in the paper	11	front page
	12	editorial
	13	sectional front
	14	general news
	15	magazine or insert
source of articles	21	community/neighbourhood
	22	local
	23	provincial
	24	national
	25	international
subject of articles	311	conservation
	312	preservation
	313	garbage
	314	waste disposal
	315	"pollution"
	316	toxins
	317	quality of air
	318	quality of ground water
	319	quality of drinking water
	321	quality of precipitation
	322	quality of lake/river water
	323	urban environmental conditions
	324	herbicides
	325	pesticides
	326	population/overpopulation
	327	systematic weather conditions
	328	extreme weather conditions (e.g. floods)
	329	natural description

Coding Sheet, cont'd

subject of articles cont'd.	331	nature stories
	332	other
	333	days without environmental articles
risk/threat implied	41	no threat mentioned
	42	no risk involved
	43	risk to reader
	44	risk to other local people
	45	risk to non-local people
	46	risk to global population
	47	risk to other species
style of author	51	involved writer (1st person)
	52	reporting writer (3rd person)
reader	61	intended for children
	62	women's magazine
	62	seniors' page
comments		

Content Validity Ratios
Globe and Mail Study, 1891-1991

YEAR	CVR	SIGNIFICANCE
1891	.19	significant at $p=.05$ (one tailed test)
1911	.29	significant at $p=.05$ (one tailed test)
1931	.06	not significant but still valid*
1951	.17	significant at $p=.05$ (one tailed test)
1971	.62	significant at $p=.05$ (one tailed test)
1991	.60	significant at $p=.05$ (one tailed test)

* Note: In 1931, the data confirms that the other news outweighed environmental news. Therefore, the low CVR shown above may be considered relatively significant since the difference is not due to error in measurement, instead it is due to a shift in the source.

Canadian Newspapers: Background Information

Paper	owner	politics	circulation	news services
Vancouver Sun	Southam	independent	187 484 m 251 819 s	SOU CP AP RN NYT TSS
Calgary Herald	Southam	independent	115 784 m 137 153 s	CP AP PN LAT- WP DJ SOU
Toronto Star	Independent Group	independent	494 719 m 732 309 s	AP CP DJ RN UPI LAT-WP
Globe and Mail	Thompson	independent	360 260 m 358 590 s	CP RN NYT DJ SHNS
Montreal Gazette	Southam	independent	154 171 m 223 816 s	AP RN NYT LAT-WP KRT TSS CP NNS DJ
Halifax Chronicle Herald	Independent	independent	97 343 m 97 343 s	CP NYT London Telegraph

circulation m - morning weekday
 s - saturday

news services AP - Associated Press
 CP - Canadian Press
 DJ - Dow Jones
 KRT - Knight Ridder Tribune
 LAT-WP - LA Times and Washington Post
 NNS - National News Service
 NYT - New York Times
 PN - Pacific News
 RN - Reuters News
 SHNS - Scripps-Howard
 SOU - Southam
 UPI - United Press International

END

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FIN