A Change Agent on Shaky Ground:
Experiencing the Fault Lines of Learning and Change

by

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ABSTRACT

In this autobiographical inquiry, I focus on the process, experiences and relationship of learning and change. I describe the double context of my role in implementing change through an emergency planning program at the University of Victoria, while experiencing change as a new graduate student in Curriculum Studies. Two voices emerge in my writing process: the professional (in plain typeface), and *the personal (in italics)*.

Through writing, re-writing and reflection, knowledge is constructed about individual and organizational learning and change, and the shifting roles of a change agent. My inquiry considers a paradigm shift from the mechanistic, modern world to the evolving, dynamic post-modern, and the impact of this shift on personal and professional learning. Ruptured fault lines, created by the pressure and tension of introducing change into a complex organization, expose new possibilities within a seismic gap where we can begin to see and understand things differently.

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ACKNOWLEDGMENTS

DEDICATION

For the wise and wonderful women of the Tuesday Group,

Marnie Bradfield,
Dianne de Champlain,
Peggy Faulds,
Joan Feyrer,
Heather Hermanson, and
Catherine Miller

who have enabled me to experience the joy, excitement and challenge
of a collaborative learning community.
Their constant support and encouragement has given me the space to learn
and the courage to change.

BEGINNINGS

This is a study of change - personal change, professional change, and organizational change. In this autobiographical inquiry, I focus on the relationship between learning and change, the role of a change agent in implementing change, and connections between individual and organizational learning. An example of implementing change through an emergency planning program is coupled with literature from organizational theory and adult education, and is woven together with my own professional and personal experiences of learning and change. Writing, re-writing and reflection are used to describe and to seek understanding of the nature of change, and the possibilities which emerge from the change process.

I have chosen various fonts and formats to invite the reader's participation in different views of this story about change. The plain typeface describes the Emergency Planning Program with which I have been involved, and offers comments and insights from the literature.

The italicized typeface shares personal thoughts and reflections. It represents my attempts to search more deeply to find personal meaning.

> *Indented sections are extracts from my journals. These writings have enabled me to re-visit and re-flect on my experiences of learning and change.*

At times, I have introduced staggered lines of prose to share important aspects of my own perceptions of change and learning. These words appear as jagged fault lines which rupture the page, splitting the linearity of the text.

The Earth moves constantly,
quivers and shakes
as tectonic plates shift and grate
creating great tension
along its fault lines.

These subtle tremors may go unnoticed
until suddenly,
the pressure is released,
fault lines crack open
and the Earth changes.

Life, like the Earth, constantly shifts and changes, encouraging us, challenging us, and at times requiring us, to learn and to change. The intent of this study is to provide a deeper understanding of the tensions and challenges associated with aspects of learning and change. This thesis describes my journey, but it is my hope that it will also invite the reader to engage in personal exploration, and will in some way share new meanings and contribute to a greater understanding of aspects of learning and change.

SHIFTING TECTONICS:

INTRODUCING CHANGE

The very first place to begin the change process is within ourselves.

Michael Fullan (1993, 138)

CREATING ORGANIZATIONAL CHANGE

Introducing Change:

At the beginning of 1995, I was asked to take on a new project as part of my work in Occupational Health & Safety at the University of Victoria (UVic). The potential for a major earthquake, and the concern raised after the tragic shootings on campuses in Eastern Canada, focussed attention on UVic's ability to respond to emergency situations. The goal of this new project was to coordinate emergency planning for the entire campus community; implementing the program would require considerable organizational change.

As Simon Fraser University (SFU) is of similar size to UVic, it was decided that the two universities could benefit from a collaborative emergency planning initiative. For this reason an individual from each institution was appointed as University Emergency Planner on a half-time basis for two years. The project required two years of half-time rather than one year full-time work, as considerable time would be needed to implement various aspects of the program.

A deliberate decision was also made to select "in-house" individuals rather than to use an outside consultant. Despite the steeper learning curve required for the two university employees with respect to emergency planning, two advantages to the use of in-house planners were clear: firstly, an insider would understand the unique culture, people and politics of the organization, and secondly, the knowledge and experience gained would continue to reside within the organization.

However, as emergency planning can be complex and extremely detailed, it was clear that outside expertise would at times be required, particularly for the provision of specific training and educational opportunities. The two Universities therefore determined that the project would be coordinated by in-house staff, and that outside individuals with specific expertise would be called upon as needed.

Context:

The University of Victoria is situated on 160 hectares of land located in the Municipalities of Saanich and Oak Bay. Approximately 17,000 students and 3000 employees create a large population of nearly 20,000 people on a busy day (greater than the population of Oak Bay). In fact, the University is not unlike a small municipality with teaching and research facilities, libraries, art galleries, retail outlets, bars, restaurants and cafeterias, a health clinic, bank machines, theatres, gymnasiums and fitness studios, swimming pools, an ice rink and child care facilities. In addition, approximately 2000 students live on campus, including a family housing area with just over 180 children.

A number of potential hazards or risks to the University's normal operation include fire, earthquake, severe weather, flooding from internal systems or external causes, hazardous materials incidents, and computer systems failure. Additional risks, imposed by humans, are bomb threats, hostage-taking incidents and other acts of violence. "Local emergencies" (involving one or two individuals within a department or unit) occur frequently on campus and are handled through normal line management, but all the hazards described above have the ability to create a major or even catastrophic disruption to normal University operation.

The university environment presents a number of challenges to an emergency planner. These challenges are created by: a large transient student population; hazardous materials (including chemicals, biological agents and radioactive materials); specialized research equipment, valuable collections of artwork, documents and musical instruments, large library holdings of books and special collections; and a highly developed computer infrastructure. In addition, a large number of visitors to the libraries and to public events, cause dramatic changes in occupancy levels depending on the time of day, week or year.

However, the University also provides numerous and unique resources invaluable at the time of a crisis: food supplies and industrial kitchens, a variety of possibilities for shelter, a large number of skilled trades people, vehicles and heavy equipment, many individuals with foreign language

skills, access to health care practitioners, 24-hour security services provided by individuals with First Aid training, and a number of emergency communications options.

These features, which are fairly typical of any university environment, form the context from which the UVic Emergency Planning Program was developed. However, in addition to identifying risks, challenges and resources, there is also a need to understand and be sensitive to the campus culture. Michael Fullan and Suzanne Stiegelbauer write extensively about educational change and emphasize the importance of considering the specific environment: "... the uniqueness of the individual setting is a critical factor" (1991, 47).

Initial Approaches:

Two initial approaches emerged in the early stages of the project. Firstly, the Emergency Planner must not be "doing" emergency planning for the University, but rather coordinating a campus-wide effort. Success in emergency planning will only be possible when a large number of individuals are involved and there is a wide emergency planning knowledge base. The second and related approach emerged from the need to focus on process not product. Large emergency plans look impressive, but are not particularly helpful at the time of a major crisis. It is the involvement of individuals in the process of implementing planned change, which will make the difference when unexpected change occurs. In the planning context, I would agree with Fullan and Stiegelbauer that "change is a process, not an event" (1991, 49).

For the UVic Program to be truly effective, emergency planning activities must become part of the normal operation of the University. This requires that emergency planning be perceived not as an extra program to be considered if there are resources and time, but something that is valued and woven into the complex operational fabric of this large organization.

An important first step was to plan how the Emergency Planning Program could potentially evolve over the two year period. The University Emergency Planners (from SFU and UVic) recommended that the project be developed

in four phases:

1) **information collection** (to determine what other similar institutions had implemented),
2) **identification of an emergency planning structure** (to provide an emergency planning and response framework for the campus),
3) **planning at building and department levels** (to involve a large number of individuals and units in the planning process), and lastly,
4) **training and education** (to test the plans, to increase awareness and involvement, and to provide learning opportunities).

Phase 1 - Information Collection:

Initially, considerable time was spent identifying what other similar institutions were doing with respect to emergency planning. Although emergency plans were obtained from a large number of universities and colleges across North America, California was a particularly rich source of emergency planning information. Many universities in this state have had considerable experience with emergencies ranging from earthquakes, floods, and bush fires to riots. For this reason the UVic Emergency Planner visited five California universities in April 1995. The opportunity to obtain emergency plans, and more importantly, to interact with emergency planners on these campuses, was an invaluable learning experience.

At the same time, the Emergency Planner formed connections with various levels of government through the federal Emergency Preparedness Canada (EPC) Office, the British Columbia Provincial Emergency Program (PEP), and the local Greater Victoria Emergency Coordinators Committee (GVECC). This committee comprises the Emergency Coordinators from all the municipalities within the Capital Regional District (CRD). The GVECC group also invites representatives of local agencies and organizations such as the hospitals and CRD Health (now known collectively as the Capital Health Region), BC Ambulance, Ministry of Social Services, the school boards, Camosun College and UVic to attend their meetings. As managing major emergencies generally becomes a community effort, it is essential to understand the planning efforts of other members of our community. Networking with outside groups became an important aspect of emergency planning for the UVic campus.

Phase 2 - Identification of an Emergency Planning Structure:

After obtaining information from other institutions and government agencies, the next phase focussed on the identification of an emergency planning structure for UVic. This structure, which must be flexible in order to manage any type or magnitude of emergency, has four major components:

- •an emergency planning policy,
- •an emergency management plan,
- •key response and recovery operational plans, and
- •building emergency plans.

The **Emergency Planning Policy,** still in draft form, outlines UVic's commitment to emergency planning. It describes the overall approach taken, and the responsibilities of all members of the campus community.

The **UVic Emergency Management Plan,** is intended to provide a management framework which will be effective for all levels of emergency (i.e. small, major and catastrophic). The ability of a plan to expand and contract according to the magnitude of the emergency suggests complexity. However, many California universities are keeping their plans as simple as possible. It is no longer considered necessary to attempt to describe every conceivable type of emergency and appropriate responses (which in reality is impossible). A new approach is favoured which requires a short concise plan describing who is responsible for what functions, and identifying a central location from which the emergency will be managed. For example, the Emergency Operations Plan from Stanford University, a large and complex institution, is only 6 pages long (Stanford University Department of Public Safety, 1996). In the UVic Emergency Management Plan, the following units are identified as Key Response or Recovery Groups: Accounting, Computing & Systems Services, Facilities Management, Human Resources, Student & Ancillary Services, the Libraries, the University Registrar and UVic Communications Services.

The **Key Response and Recovery Operational Plans,** developed by these units, outline how critical functions such as emergency communications, search and rescue, food and shelter, medical services, and counselling will be

coordinated. In addition to key emergency response functions, a number of activities have been identified as being critical to the recovery process including the restoration of computing systems, generation of payroll, student records and the registration process, and maintaining the UVic Libraries. During Phase 2, meetings were held with the members of the Key Response and Recovery Groups, and a pilot project was initiated with Facilities Management to work through some ideas on the development of a Key Response Operational Plan.

As well as planning for a campus-wide response, emergency planning should also occur at the building level. **Building Emergency Plans** are needed in part to fulfill a legal requirement under the British Columbia Fire Code to establish fire safety plans for every building on campus. However, it is also important to recognize that building occupants know their working environment better than most, and are best equipped to make decisions on how to reduce hazards within their building and how to effectively evacuate their area when necessary. For this reason the involvement of building occupants was encouraged through the formation of building safety committees.

With respect to a catastrophic level of emergency, the federal and provincial governments have indicated that we must be prepared to survive on our own for at least three days. It was hoped that building occupants would benefit from planning collaboratively to identify what resources and expertise is available to them locally (e.g. the location of first aid kits and individuals with first aid training within the building). A pilot project in the Faculty of Education began during Phase 2, with the formation of a MacLaurin Building Safety Committee to work on the development of Emergency Plans for the MacLaurin Building, and to also encourage preparedness, response and recovery planning at the department/unit and personal levels.

To maintain jobs, enable the continuation of programs, and to ensure their own and the University's survival, departments must consider how they will effect a rapid recovery after a major disruption. They are asked to consider operational priorities and needs to enable them to become functional (possibly in an alternate location) as quickly as possible. Most importantly

personal preparedness must be encouraged. It is critical that all individuals take the time to become better prepared for an emergency, and to consider a family emergency plan. In the midst of a catastrophe, employees and students who are separated from their families may be somewhat comforted if emergency planning has occurred at home.

Phase 3 - Planning at Building and Department Levels

The pilot project with the Faculty of Education resulted in the development of a Building Emergency Plan template which met the Fire Code requirements, and covered preparedness, response (i.e. evacuation) and recovery issues at the building, department and personal levels. Following on this successful pilot project, and fourteen months after the UVic emergency planning project began, a major program shift occurred as localized planning in all buildings on campus was initiated.

Specific individuals, primarily Deans and Directors, were selected by the Vice-Presidents, to organize the formation of Building Safety Committees in their area(s) of responsibility. The requirement to develop building plans, and to involve units and individuals in emergency preparedness, became the responsibility of the Building Safety Committee struck within each building. These Committees are intended to be as representative as possible of the different units and different employee/student groups occupying the building. They are also charged with the responsibility of addressing other local health and safety issues mainly involving the Workers' Compensation Board, such as accident investigations, building inspections and personal safety issues. This approach was taken in part to shift the focus and control of health and safety issues from the Office of Occupational Health and Safety to the building occupants, who are naturally the major stakeholders within each building.

Many of these committees are in the process of developing emergency plans for their building, based on the template developed in collaboration with the MacLaurin Building Safety Committee, and some are now approaching the greater challenge of sharing the information with the occupants of their building.

Phase 4 - Training and Education

This last phase was considered to be a particularly crucial stage of the Emergency Planning Project. This stage required a further emphasis on process and on sharing information. Throughout the two-year project opportunities were taken whenever possible to communicate information about emergency planning through meetings and the use of the campus newspaper. A number of educational sessions were also provided to encourage greater preparedness on campus, but the total number of participants remains small.

An important activity during the two-year project was the development of an emergency exercise held on November 27, 1996, involving the Key Response and Recovery Group members. The focus of this table-top exercise was to manage the aftermath of an imagined major earthquake which had struck the campus early that morning. This exercise was intended to inject some realism into the planning process. Having formed an emergency management structure, it was time to experience using it.

Informing the campus community about emergency planning has been and continues to be a great challenge. It is difficult to increase awareness on a subject which seems unlikely to happen. Actual emergencies such as bomb scares, fires and severe weather conditions, which have occurred on campus and in the community over the past two years, have tended to generate greater awareness and interest in emergency planning.

Program Highlights

The following were particularly significant activities during the evolution of the program:

Phase 1 - Information Collection:

- •Information obtained from other universities
- •Trip to California universities
- •Networking with federal, provincial, municipal Emergency Planners and local agencies with emergency response roles.

Phase 2 - Identification of an Emergency Planning Structure:

- •Development of a draft Emergency Planning Policy
- •Design of a draft Emergency Management Plan
- •Identification of key response and recovery functions, and the departments responsible
- •Pilot project with Facilities Management to develop concepts for Key Response Operational Plans
- •Pilot project with the Faculty of Education to design a Building Emergency Plan

Phase 3 - Planning at Building and Department Levels:

- •Launching of Building Safety Committees
- •Development of Building Emergency Plans

Phase 4 - Education and Training:

- •Information sessions
- •Emergency exercise (Thunderbird 2)

This description of the Emergency Planning Project, and the above summary of its highlights, describe the context from which this study has emerged. At the same time that the project was initiated, I began a personal journey as a graduate student. As I became involved in implementing change as part of my work, I began to recognize my own personal struggles with new ideas, new educational challenges and with change.

EXPERIENCING PERSONAL CHANGE

When I was asked to take on this project and become the University Emergency Planner, I recall feeling somewhat overwhelmed at the thought of its scope, but excited at the prospect of beginning something new; something which would enable me to learn more about the University and its unique characteristics and culture. Our office had previously been involved with fire safety programs, and a few earthquake preparedness seminars, but we had not focussed our resources in the broader area of emergency planning. I accepted the challenge knowing that the project would be both professionally and personally rewarding. I wondered if I could do it; I wondered if it could be done. This new position required me to implement change and by doing so to assume a new role as a "change agent."

At the same time, I enrolled as a graduate student in the Faculty of Education at UVic. Over the years, my work in Occupational Health and Safety has required me to teach; a role I thoroughly enjoyed, but felt ill-prepared for since my background was in the sciences rather than education. I therefore planned to focus my studies on adult education through the Curriculum Studies Program. As I started the required courses, and began to learn new ideas and concepts, my personal world began to shift and change, creating a sense of uncertainty in my life. My scientific background did not prepare me for these changes. It was in fact my empirical analytic perspective which was being challenged.

The Foundations of Curriculum Studies course did not provide the sense of concrete structure the course title implies. I was shaken by new questions which probed my personal world view. I was an unsettled learner as I struggled with understanding the influence of positivism and Western dominance in our lives. Bill Pinar refers to Maxine Greene's concept of the learner as a "newcomer just arrived in town," a tourist on a journey, and I too felt "a stranger in a land not one's own" (1975, 399).

> ***Journal Entry - October 6, 1995:*** *I am that tourist and that newcomer "being alive in an unstable world." I have segments of a map of this unfamiliar territory,*

but many pieces are missing, and those in my possession are written in an unfamiliar language. There is no comfort in the word "Foundations."

I felt confused and anxious. I wondered if everyone else in this class understood what was being read; what was being said. I prepared lists of unfamiliar terms, searched for definitions in dictionaries, and made notes, but these safety nets, my traditional methods of learning, failed me for the first time. I had to search for new understanding; I had to search for new meaning.

What I was hearing was unfamiliar, and it was challenging my personal reality. The new ideas and concepts did not fit within my world view. The discomfort caused me to question and to reflect, and fortunately the invitation to write of these experiences through journaling helped me in this learning process. As stated by Merriam; "In order for change to occur, at some point we become consciously aware of the discomfort associated with the inadequate fit between our present meaning system and the experience" (1996, 251). Although journal writing was not easy for me, I was grateful for the opportunity to explore my thoughts and struggles in this way, and I value the richness of the experience.

Our class discussed the dominance of Western modernism, and the central position given to the empirical analytic approach. We talked of multiple realities, and the possibilities located away from that centre toward the margins.

Journal Entry - October 6, 1995: I am not on the margin - or even near the margin. My educational experiences have been strongly set in the centre, in the empirical analytical approach. I feel a stranger in a strange land in this class - excited at new prospects, frustrated at not knowing, not understanding. Perhaps this frustration, this sense of discomfort is a conduit to the margin? I feel I am a spectator, not a participant, which is perhaps

the mantle of the empirical analytic approach - to see, to observe - but always from a distance.

My professional life as Emergency Planner was also being challenged as I tried to understand my involvement in implementing change, and my role as a change agent. Fullan and Stiegelbauer describe change as a process not an event (1991, 49) - these words intrigued me. It is ironic to consider that emergency planning is about implementing planned change which is intended to prepare us for unexpected change. An emergency is an event, but emergency planning requires a change process.

As I began to consider how to implement specific changes on campus, my academic studies were creating a sense of shakiness in my personal life. The thought of the sudden unexpected change created by an earthquake caused me to question and to reflect on the types and meaning of change.

Journal Entry - October 18, 1995: What is it like to experience the change imposed by a major earthquake? This would be such a sudden and dramatic change. I can't even begin to imagine the feelings of loss, confusion and grief. But looking beyond these emotions, and the physical pain and suffering, what is the essence of change?

Change may be imposed unavoidably for many reasons, or we may choose to change. Why do we change and why is it often so uncomfortable to change? Why do we seek the comfort of what we view as stability or normalcy?

These are paths I would like to explore further from a personal perspective. By focussing on lived experiences, I would like to peel back the layers surrounding the word "change" to better understand its meaning and the relationship of learning to change.

Reflecting on these words and feelings two years later, helps me to understand the tension that was building in my life as I struggled with the concept of change. I was a change agent on shaky ground. As I began to write this thesis, and to re-flect, re-search and re-mind myself of my experiences, the quakiness and disequilibrium I was experiencing suggested a seismic metaphor which has helped me to understand my change process. My experience of change over the past two years has been a struggle with continuous shifting and shaking based on feelings of uncertainty. It did not build to a cataclysmic earth-shattering event, but has been characterized by constant seismic shifting which has been difficult, unsettling and at times painful.

I visualize the double context of this work (my new roles as Emergency Planner and a graduate student), as two large tectonic plates which slowly shifted and grated against each other, building tension between my personal and professional worlds. One without the other might not have resulted in this journey of change. It was the seismic shifting and increasing tension between these two worlds which provided the conditions for my change process, and when the pressure was released, jagged fault lines emerged in my mind. Struggles with a number of rigid dichotomies, including the professional and the personal sides of self, have created further tensions resulting in cracks, crevices and ruptured fault lines.

This story is centred upon my personal and professional experiences of change. I was a change agent attempting to implement change, while experiencing tremendous personal change. My world became disrupted, and in the midst of this uncertainty I felt I needed to find new meaning.

MINOR TREMORS:

SEARCHING FOR MEANING
IN THE MIDST OF UNCERTAINTY

Learning occurs between a fear and a need. On the one hand, we feel the need to change if we are to accomplish our goals. On the other hand, we feel the anxiety of facing the unknown and unfamiliar. To learn significant things, we must suspend some basic notions about our worlds and our selves. That is one of the most frightening propositions for the ego.

Fred Kofman and Peter Senge (1993, 19)

LEARNING ABOUT CHANGE
- ENCOUNTERING CRACKS AND CREVICES

My search for meaning is about seeking a deeper understanding of change and learning. It encourages me to look outward to consider the views of others, and also to look inward at personal experiences. This chapter is an inquiry into the tensions which exist between learning and change, the role of a change agent, and the concept of organizational learning, but my search for meaning begins with thoughts about the language and levels of change.

In 1995 I attended an Emergency Preparedness conference in Vancouver, B.C. One of the plenary speakers, a town planner from Santa Cruz, California, (a city severely damaged by the Loma Prieta earthquake in 1989), gave a powerful presentation about the long process of recovery required after a major quake. His poignant words, and the moving images he shared, haunt me still. He tried to explain the experience of the sudden change brought on by an earthquake. In describing the instant of disruption, he used the following word combinations:

- order/chaos
- stable/unstable
- normal/abnormal
- known/unknown

I was struck by these binary word couplings which all centred around change. In his stories of Kobe and the Loma Prieta earthquakes, he described how in seconds lives had changed from one state to another. As I wrote in my journal about the impact of his presentation, I felt the need to explore the language of change and the differences between unexpected and planned change. My search began with some dictionary definitions.

Webster's Collegiate Dictionary (1967) offers the following meanings:

- to make radically different (transform)
- to give a different position, course or direction to
- to replace with another
- to become different, to undergo transformation, transition or substitution

These definitions of change imply movement from *one* to *another*. To substitute something for something else, to transform from one thing to another. It encourages us to look only to the outcome, moving quickly to a new place (re-place), without stopping to dwell in the midst of change. It suggests that we look at our lives in terms of a duality where we are either stable or unstable, living with order or chaos, or experiencing the known or the unknown. This implies a positive or negative situation where there is only one *or* the other; it encourages us to live in a world of rigid dichotomies.

More recent definitions of change appear to be slightly different. The following meanings are provided by the Oxford English Reference Dictionary (1995):

- the act or an instance of making or becoming different
- an alteration or modification
- a new experience; variety

Although there is still a notion of change from something to something else, there now appears a sense of process, of "in-between" in these descriptions; a sense of becoming rather than either/or; a sense of experience.

Stripping away the layers of complexity surrounding the word "change," such as who changes, what changes and why does change occur, the concept of change at its most basic implies difference. It is perhaps because our culture values "sameness," that we are often resistant to change, that we are threatened by change. How does change affect us, and at what levels?

Everyone talks about change, particularly how rapidly our world is changing, and for the most part our discussions are couched in negative terms. Change is "unsettling," change is "difficult," or change is "bad." We crave stability, we set routines and we search for what we perceive is normal. Change is occurring at individual, organizational and global levels creating complexity where the only constant is change.

For many individuals, change is occurring too rapidly, and life is becoming too complex. Our professional roles are changing. We used to value being

specialists, but as employers require us to do more with less, we must strive to become generalists. We anticipate that we will now have more than one, possibly several careers in the midst of an employment environment where the corporate mantras are "down-sizing," "right-sizing" and "re-engineering." We must struggle to keep up with computer technology to avoid becoming a casualty on the information highway, and just when we think we understand the rules of the road, they are changed.

Family structures are changing. Single parents and blended families are much more common. Women now form a much larger segment of the workforce, but often still carry the major load of domestic responsibilities. Everyone is talking about slowing down, but life seems to be speeding up. These pressures are applied to a background of traditional life transitions or changes typically experienced by adults; further education and training, new employment, job changes, marriage, parenting, divorce, illness, and experiencing grief. The tension builds, creating cracks and crevices as individuals attempt to survive in an increasingly complex and rapidly changing world.

Organizations, like individuals, are also feeling the stress and strain of rapid change. They are generally becoming more complex, as they try to operate in the midst of a global economy, greater competition, and rapidly changing technologies. Both internal and external pressures such as workforce changes, and increasing regulatory and environmental requirements, threaten the survival of many organizations. Even corporate giants are not immune from devastating failure. A Royal Dutch/Shell survey found that one third of the firms in the Fortune "500" listed in 1970 had completely disappeared by 1983 (Senge 1990, 17). Many corporations and businesses appear to be floundering in a sea of uncertainty.

As public funds are becoming more scarce, public institutions are feeling more pressure to be accountable, and in the case of universities and colleges, there is greater competition for clientele and desperately needed private funding. UVic shares in the struggle as it tries to survive in an environment which is distinctly different from the 1960s world from which it emerged. The student population is different, student needs have changed, and the economic situation has altered dramatically.

Cushman and King outline the need for organizational change. "Rapidly changing technologies, the globilization of economic forces, unexpected competition, and quick market saturation are creating an increasingly complex and volatile business climate. As environmental turbulence increases, the rate of organizational change necessary for survival also increases" (1995, 1). Change is causing cracks and crevices to appear in the once solid foundations of organizational fortresses.

The world appears to be getting smaller as technology takes over our lives and leads us to believe that we are all part of a "global village." We are certainly able to connect and communicate with individuals around the world at unimaginable speeds, but there are still many millions, even billions, who have no access to computer technology. As we become fully entrenched in the Information Age there are those still suffering from an information drought, while others are becoming overwhelmed from an information glut. Both locally and globally there is an increasing risk that rapidly changing technology is creating a world consisting of technological "haves" and "have-nots."

At the same time that technology is apparently attempting to improve our lives, we are beginning to understand that our planet is in grave danger. Change is natural in the open evolving systems of nature, but the changes humans are imposing on the Earth put all forms of life in jeopardy. The destruction of old growth and tropical rainforests, global warming, and the depletion of our planet's ozone layer are only a few examples of human-imposed global changes which will ultimately have devastating effects on us all. The cracks and crevices of change are appearing all around us.

These apparently different levels of change (individual, organizational and global), are interrelated. There are endless connections among these levels and with the past, present and future. This complexity is captured by James Burke:

> We all live on the great, dynamic web of change. It links us to one another and, in some ways, to everything in the past. And in the way that each of us influences the course of events, it also links us to the future we are all busy making, every second. No

matter how remote all these links may seem, over space and time, they are real. No person acts without causing change on the web. Each one of us has an effect, somewhere, somewhen. (Burke 1996, 3)

Jerry Apps suggests that the winds of change are blowing strongly around us. These winds of change at individual, organizational and global levels are impossible to ignore as they dominate our lives and demand our attention:

> We are experiencing winds of change that are sweeping across this land and around the world. These winds tear at organizations, challenge adult education programs, and force us to rethink who we are, what we do, and how we do it. The winds of change howl around the structures of our lives, whistle down the corridors of our organizations, shake our past and our present, and challenge our futures. We hear these winds, we feel them, and we try to avoid being blown away by them. (Apps 1994, 7)

But in the midst of these raging wind storms, are the softer, more subtle, sounds of (in Apps' words) the "whispers" of change. So soft are these sounds that they may go unnoticed. Apps suggests that we are so overwhelmed by the winds of change that we have forgotten how to listen to the whispers. He tells us that whispers are:

- The quiet sounds that point the way to the future.
- The gentle sounds that show the way to deeper meaning.
- The delicate sounds that remind us of where we have been, where we are, and where we are headed, and the meaning of it all.

(Apps 1994, 7)

Apps is referring to the view that we are experiencing a paradigm shift leading us from the Industrial Age into the Information Age. A shift which is creating great uncertainty and causing us to question how our world works. This major shift is changing our perspective of a rigid world which is broken into fragments to be dominated and controlled, to an evolving world which is a flexible, dynamic whole made up of complex interconnected parts. The signs of this change may be subtle whispers, but the effects are monumental.

This change in perspective is seen by many to be a shift from the modern to

the post-modern world. The modern world, which has been exemplified by a need for order and the quest for control, began to emerge in the sixteenth century. Previously, during the Middle Ages, there was a rise of interest in natural objects and in natural occurrences (Whitehead 1925, 15). The rate of change quickened in the sixteenth and seventeenth centuries as invention stimulated thought. A major shift occurred away from Church control and geocentricism, to a belief in a sun-centred world and the birth of modern science. As the "scientific method" began to dominate, the Industrial Age emerged with its utopian vision of a better world through order and control. This mechanistic Western world view has dominated intellectual, social, and educational thought over the past few centuries and created the winds of change we are currently experiencing. But the whispers of change, which are softly ushering in the post-modern perspective, have enormous implications.

Education is shifting from a mechanistic conception of teaching and learning consisting of measurable outcomes, to new assumptions based on the holistic view that humans and nature are together part of a complex system where objectivity is neither necessary or achievable. This new educational perspective recognizes "that study can reveal patterns but not certainties, and that the control of nature by humans for their own individual purposes must be replaced by a reverence of all things and their interconnectedness if life on this planet is to survive" (Apps 1994, 7).

Caine and Caine (1997) explore this paradigm shift, and the deeply held beliefs and assumptions that educators have about learning in "Education on the Edge of Possibility." They suggest that we live in shaky times when the ground itself is moving and shifting. Due to factors such as changes in technology and rapid information flow, "every system is in, or moving toward, a state of disequilibrium, where change is constant and outcomes are often unpredictable" (1997, 13). They describe the problem that systems moving toward disequilibrium, or what they refer to as "the edge of chaos," can change radically and uncontrollably, and create a sense of uncertainty and loss of balance for teachers.

Caine and Caine explain how new scientific approaches are informing education. The "new science" has emerged from the fields of physics, biology

and chemistry, and from theories of evolution and chaos that span several disciplines (Wheatley 1992, 8). The new science suggests that systems actually thrive when they are in a state of appropriate disequilibrium. This state of being at "the edge of chaos" is what Caine and Caine prefer to describe as being at "the edge of possibility" (1997, 15). They sense that education as a whole is now moving in this direction, and that although education systems are slow to change, these changes are essential for the continued well-being of education. They note that although change cannot be controlled, it can be influenced since "a social system on the edge of possibility tends to *self-organize* around a set of compelling beliefs" (1997, 15).

It is not only education which is experiencing dramatic change and struggling with uncertainty; organizations of all kinds are trying to grapple with the shift from a modern to a post-modern world. Modernist top-down hierarchies which attempt to control fragmented organizational pieces are becoming less effective, while post-modern organizations seek to understand the complexity of the whole. The post-modern shift is creating a new organizational concept where collaboration, not power and control, is valued.

I wonder about the effect that this apparent paradigm shift is having on individuals. I feel both fascinated and frightened by the idea that our culture has been so dominated by the modern era. The very concept of domination is of course the epitome of the modern world. I begin to consider my own life, my day-to-day world, and it is alarming to recognize how firmly embedded modernist thinking is in my thoughts, language and actions. This is not surprising since I've lived my life in a modernist world, framed by the values of the modern perspective, but things are starting to look differently to me now.

My uncertainty and questions are creating unsettling seismic shaking which is disorienting, and somehow being in this state of unbalance, is enabling me to be more conscious of the whispers of change. Over the roar of the winds of change, I am sensing subtle change which is far greater than I had ever imagined. Not isolated pockets of change, but far-reaching change which is affecting individuals and the communities in which they live and work. What I am sensing is the change to the post-modern, and this shift is affecting

our thoughts and actions. It cannot dominate, it must not re-place, it can only encourage us to be comfortable with difference, and to imagine possibilities. The essence of the post-modern is change not stability.

Changes occurring at individual, organizational and global levels forms part of a pattern which connects. Viewing our world from a post-modern perspective allows us to step back from the modern frame, which has taught us to examine the world by breaking it into controllable fragments. The post-modern view enables us to understand the whole by connecting the fragmentary pieces through a process of abstraction, and to see the patterns which connect.

Whitehead (1932, 243) described a process "which builds a common world of conceptions out of the fragmentary worlds of experience." He felt that our world is a world of ideas, and that the fundamental question of scientific philosophy is to understand the connection between our world and the feelings of actual experience. Biologist Gregory Bateson suggested that as children we are taught that "the way to define something is by what it supposedly *is* in itself, not by its relation to other things" (1978, 17). He suggested that relationship could be used as a basis for definition.

More recently his daughter, anthropologist Mary Catherine Bateson, echoed his concerns that we often seem unaware of life's interconnections, relationships and the larger view. "Focusing on the pursuit of particular, narrow goals, we pay attention to a fraction of the whole, block out peripheral vision, and act without looking at the larger picture" (Bateson 1994, 138).

Gregory Bateson focussed on the patterns of living things - the pattern which connects all living creatures - from starfish to redwood forests. He wrote, "In truth, the right way to begin to think about the pattern which connects is to think of it as primarily .... a dance of interacting parts and only secondarily pegged down by various sorts of physical limits and by those limits organisms characteristically impose" (1978, 13). As human beings we are not static and unchanging, we are dynamic and evolving human "becomings" who are all engaged in a magical interconnected dance of life with each other and our planet.

His work, and that of new science in general, is informing many aspects of our lives. There are implications not only for the sciences, but also for many diverse fields such as psychology, education and organizational management. The particle interactions of quantum physics, the "regular predictable irregularity" described by chaos theory (Johnson 1989, 184), and the dynamics of living systems, are showing us new (non-linear) ways of looking at things. The new science is encouraging us to listen to the whispers of change. It is helping us to understand that we lead complex, interconnected lives as individuals, within organizations and communities, and as part of a global system; all joined by the patterns that connect, all influenced by change.

My search for meaning has enabled me to explore different levels of change occurring in a world experiencing a change from the modern to the post-modern. The language of change, in a post-modern sense, encourages us to consider the process of transformation. It is not being either in one place or another, it means dwelling in the midst of change rather than in a world of rigid dichotomies. But what is the role of learning in this process of change and transformation?

DISCOVERING THE FAULT LINES OF LEARNING AND CHANGE

It has become clearer to me that doubts, questions and uncertainty are the precursors to the search for personal meaning. As my world became more unsettled, I began to recognize that the learning experiences in which I was engaged were based on a need to make meaning, to try to understand, followed by the often turbulent experience of change.

Learning was in fact promoting change in my life - and yet, after considering the rapid change which is occurring at individual, organizational and global levels, I could see how change is actually creating new learning environments. Does learning create change, or change create learning? Fault lines began to emerge between the concepts of learning and change, created by the tension of this apparent paradox.

I began to look inward. I was to beginning to understand new aspects of myself: to understand my assumptions and perspectives on life; to see them as assumptions and perspectives, and not Truths; and to understand how those assumptions were being challenged, and how they were changing. This was a difficult and at times painful process.

I also began to think a great deal about learning, and its significance in my life. Often my search for meaning involved questioning friends and colleagues, and exploring the literature on adult education. This was part of my learning experience. Learning is so often associated with formal educational sessions, but it is simply part of being human to experience, to attempt to make meaning, and to learn. The "everydayness" of learning and our need to understand life experiences is described by Jarvis:

> Learning ... is of the essence of everyday living and of conscious experience; it is the process of transforming that experience into knowledge, skill, attitudes, values, and beliefs. It is about the continuing process of making sense of everyday experience - and experience happens at the intersection of a conscious human life with time, space, society, and relationship. Learning is, therefore, a process of giving meaning to, or seeking to understand, life experiences. (Jarvis 1992, 11)

Merriam and Heuer provide an overview of the contributions philosophy, religion and psychology have made to the process of understanding the meaning of life, and they suggest that two points important to adult learning are that meaning-making is a cyclical developmental process, and that reflection is essential to the synthesis of experience and cognition in order for humans to develop and grow (1996, 246).

This cyclical process begins with the experience of a new life event. If the meaning system can make sense of the event, learning may have occurred, but not development. If the experience does not fit our mental models, engagement of self with the experience occurs, either cognitively through reflection, affectively, or possibly physically. "It is when we are unable to make sense of the experience, or we are dissatisfied, unsettled, with the meaning we do make, that development can occur" (Jarvis in Merriam and Heuer 1996, 250). Depending upon factors such as time and support, a shift to a larger personal and social context occurs, which ultimately may result in a change of meaning system. The cycle begins again when a new experience is encountered (Merriam & Heuer 1996, 251).

My story of learning and change is an example of a situation where new experiences did not fit with mental models. My mental models were challenged by new information which created tension in my life. I struggled to make meaning, became disoriented, and felt the effects of this disequilibrium cognitively, emotionally and physically. I had to look deeply within, to understand my mental models and to reflect on the mismatch. I noticed the draining effects of this process on my emotions and on my physical health. As we encounter new experiences on a daily basis, I imagine that moving through Merriam and Heuer's developmental cycle can become routine, even seamless, but when mental models are significantly challenged, the meaning-making process may be difficult and painful. These are moments of living on shaky ground.

Reflection is an important concept in adult education. Cranton suggests that a major transition in educational theory and practice can be traced to Dewey who defined reflection as "active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support

it and the further conclusion to which it tends" (Cranton 1994, 49). She also provides Mezirow's definition of reflection as "the process of critically assessing the content, process, or premise(s) of our efforts to interpret and give meaning to an experience" (1994, 49). Mezirow distinguishes among three types of reflection; content reflection which is seen as an examination of a problem, process reflection which refers to assessing the problem-solving strategies that are employed, and lastly premise reflection, which involves questioning the problem itself.

Mezirow has been criticized for not including aspects of social change in his description of the process of reflection (Cranton 1994, 52; Clark 1993, 52). A broader more holistic view is provided by Doll:

> Reflection is taking experience and looking at it critically, variously, publicly: that is, connecting our experiences with others' experiences, building a network of experiences wherein past, present, and future are interrelated. Reflection steps back and examines past experiences in the light of other connections and alternatives. (1993, 141)

Engaging in the process of reflection now, I think back to the early days of my work in Occupational Health and Safety when I had to face a new challenge; the challenge of teaching. I wrote about this experience in my journal at a time when issues of learning and change were causing personal discomfort:

Journal Entry - October 18, 1995:
Reading and Reflecting

Thinking beyond the discomfort I feel in this class, I consider why I am here. What has brought me to this place? I think of the courses I've taken over the past few years which have inspired me to explore new ground, but further still, unravelling the past, I remember my early days in Occupational Health and Safety. I started without a concrete idea of my exact responsibilities and a challenge immediately presented itself. I would be teaching.

The thought crossed my mind that I had no idea what teaching really involved, but as a student I had seen it in action for many years - some good experiences, some bad. I plunged into the deep end.

I was asked to "teach" information on the safe handling of hazardous materials, required by law in this country. I question using the word "teach" in this context because I feel depth to that word and perhaps all I was required to do was to convey information. There were the expected logistics of arranging the sessions, developing handouts etc., but it wasn't long before several dilemmas revealed themselves:

- *how can I "teach" without a degree in education?*

  - *how can I make this fairly dry information interesting and practical for my audience?*

    - *how can I overcome the problems associated with compulsory education?*

The need to address these dilemmas became the catalyst which hastened my journey on a new road toward the field of Adult Education. Recent readings and reflections remind me of these experiences and some of the educational discourses I found myself in.

To teach but not be "a teacher." I felt a little out of my league. Would I be credible? - would I be helpful? Laura Richter discusses "pedagogical reaching" and although her focus is on teaching children, I was drawn to her notion of "reaching" - the sense that something had "clicked" with her class (Richter 1993, 4).

I too have experienced that positive tension - a sense of connectedness and sharing, of momentarily being drawn into a new space that existed just for that moment between participants and facilitator, between class and teacher. Richter imagines that this reach acts as a bridge, which in Ted Aoki's words could be "a momentary dwelling place" (Richter 1993, 7); a place made visible by the trembling fault lines.

These special moments have confirmed (for me) my role as an educator and created the desire to learn more about this special relationship embodied by the word "teacher," and more about learning itself.

Critical reflection is considered to encourage the kind of learning experience which promotes change. When change is involved in learning, the learning experience is considered to be liberating or emancipatory. Jurgen Habermas, a critical theorist, defined three types of learning: technical, practical, and emancipatory (Cranton 1994, 9).

The first, technical or instrumental learning, refers to seeking task-related knowledge through a positivist "scientific" approach. The second, practical learning, refers to acquiring knowledge regarding social interaction such as how we understand human experience, social norms and traditions. Knowledge of education is considered to be practical knowledge (Cranton 1996, 19). Lastly, emancipatory learning is "characterized by interest in self-knowledge and insights gained through self-reflection" (Merriam and Caffarella 1991, 259). It is this type of learning which forms the philosophical basis of critical theory where the practice of critical self-reflection reveals distorted self-knowledge and institutional domination (Cranton 1996, 20). It is these distortions that can shake our lives and make the fault lines visible.

Habermas' three types of learning have been expanded in the work of both Mezirow and Cranton. Mezirow's theory of perspective transformation

describes how a disorienting dilemma can foster the process of critical self-reflection which results in emancipatory learning (1990, 13). I imagine that these disorienting dilemmas create sufficient tension and conceptual confusion to cause fault lines to become exposed. Cranton suggests that the process of emancipatory learning allows us to become "free from forces that have limited our options, forces that have been taken for granted or seen as beyond our control" (1996, 2). She emphasizes that all three forms of learning are valid and necessary for human progress, but emancipatory knowledge is crucial to educator development (1996, 24).

Cranton describes adult education as inextricably linked with social change and reform (1992, 11). She writes of Paulo Freire's impact on adult education, particularly with respect to power relations in education. According to Cranton, Freire suggests that educators must see themselves as learners. He states that with respect to the people with whom he/she works, an educator "is a co-learner, mutually responsible (with the people) for growth and change" (Cranton 1992, 12). From this perspective, *all* participants involved in a learning environment should be considered learners, and because change is often a result, *everyone* could be considered a "change agent."

I feel uncertain and uneasy about the expression "change agent," particularly because of my role in implementing change on campus through the Emergency Planning project. The process of reflection enables me to look more deeply at this role, and the meaning of the term "change agent."

CHANGE AGENTRY - A CHANGE OF HEART

In many respects, the Emergency Planning project required me to be a change agent as I was asked to coordinate a program which required introducing considerable change. I am concerned that the term "agent" can imply an individual who exerts power (Oxford English Reference Dictionary 1995, 24). For this reason I feel it is important to reflect on the term "change agent" and my role in implementing change.

Fullan suggests that "Systems do not change themselves, people change them" (1993, 7). People who initiate the change process are commonly referred to as "change agents." The term "change agent" is found frequently in the literature describing organizational change and development, but it is often not clearly defined. An alternate descriptor is "change facilitator" (Fullan and Stiegelbauer 1991, 224), and associated roles include "change generator," "change implementor" and "change adopter" (London 1988, 12).

London considers organizational change agents to be "leaders and managers who see a need for change, conceptualize and design the change, implement it, and/or adopt the change" (1988, 11). This description gives the impression of someone working alone to effect change, but as Fullan suggests, sweeping change cannot be effected by formal leaders working by themselves (1993, 39). Fullan's view of a change agent is revealed in the following passage:

> I define change agentry as being self-conscious about the nature of change and the change process. Those skilled in change are appreciative of its semi-unpredictable and volatile character, and they are explicitly concerned with the pursuit of ideas and competencies for coping with and influencing more and more aspects of the process toward some desired set of ends. They are open, moreover, to discovering new ends as the journey unfolds. (1993, 12)

London suggests that change agents "manage change" while Fullan imagines them evolving with change.

I sense tension here between a modern and post-modern approach to the change process. This tension is caused by the difference between the concepts

of "managing" change and working collaboratively to effect change. How do I see myself as an individual involved in a change process? I am not a visionary leader, only someone who believed that change was important and I was committed to working with others to effect a change.

But perhaps I had a built-in bias - I was given a specific challenge to implement this program; others did not have the same level of interest or commitment. I was asked to coordinate a new program, and to implement change - I had the opportunity to plan for change, not to be a victim of imposed change. I often felt I needed to persuade, even coerce others to begin the change process. Was I appealing to their belief in the issue of emergency planning, or was there an issue of power and control? If indeed I had any power, was it mine, or that of those I reported to? If it was mine, did I want it or even notice it? Had the Vice-Presidents' been less supportive and less involved, would my role have been more difficult, or even impossible? How much was my role as change agent based on modernist principles of a top-down hierarchy versus a more post-modern approach of collaboration?

The suggestion to initiate this program came largely from our office, but the authority to actually implement it came from the top. But is it possible, even in the midst of an imbalance of power, to attempt to equalize the relationship? Educators are often faced with this problem as they attempt to facilitate a two-way learning process, but are perceived to be, and in fact are, in a position of power, particularly when student evaluation is required.

Right from the beginning I felt my role was to coordinate a campus-wide effort; to try to bring people together toward a common goal, and to recognize how we can all benefit from sharing expertise and resources, particularly in the midst of a crisis. Early on in the project, I met with one of the Directors on campus and found him to be unusually guarded about his views on the program and his departments' role. I was surprised when he suddenly asked if I saw myself being "in charge" during a campus crisis. I quickly reassured him that this was not my role (or personal ambition) - but afterwards I felt his uneasiness may have been due to a concern that I was attempting to assume too much power (possibly in an area where he felt he needed control). I was amused at the time as it seemed so far removed from my perception of

my role, but in reflecting back on this situation, I see how the subject of power and control may have been very much an issue from his perspective.

It was easy for me to look past his concerns at the time, but now I ask how power and control influenced the development of the project. I need to question myself deeply as to whether my approach to the project involved some level of power, manipulation or the need for control? These are difficult questions to answer, but looking back, I know I believed in the process of involving others through various committees; through many meetings with Directors, Chairs and Managers, and through departmental representatives. I wanted to share my enthusiasm and interest of what could be done on our campus, and I believed that this type of program should be as collaborative as possible. I knew it would be unwise to write a plan for the University on my own and expect anyone else to adopt it, follow it or value it.

Most emergency planners would agree that typically at the time of crisis a militaristic approach to emergency management is required, but many also use this kind of approach to implement emergency planning. My experiences lead me to believe that, particularly in a university setting, a consultative, collaborative approach is required during the process of emergency planning. The change occurring during an actual crisis will need to be managed, but the process of emergency planning may require someone who can not only guide the process, but can also evolve with it.

In discussing educational change consultants, Fullan and Stiegelbauer stress that effective implementation requires the development of both individual and organizational meaning with respect to the particular change, and that the role of the consultant is to facilitate the development of that meaning (1991, 224). I believe that change agents in a general sense should be involved in the development of meaning, and should be willing to change as the change process evolves.

Peter Jarvis writes about change agents and the problems with organizational structure (1992, 215). A paradox exists when good management practices promote the opportunity for reflective learning for staff which in turn encourages them to become change agents, but the organization itself is

unwilling to change. As Jarvis points out, organizations have a tendency toward inertia (1992, 218). "Stability or even apparent stasis is comfortable, and change can be frightening. Training is often regarded not as an opportunity to learn reflectively and grow, but to learn unreflectively and conform" (1992, 219).

Jarvis suggests, however, that organizations are not impersonal structures, but consist of people in complex relationships which are restructured as a result of learning. He refers to Argyris and Schön's view that organizational learning and change will occur if individuals act as "learning agents" by responding to internal and external environments which do not fit with existing organizational procedures, and by sharing their "private images and shared maps of the organization" with others (1992, 219).

I particularly like the expression "learning agent" as an alternative term to "change agent." This expression reflects Fullan's perspective of a change agent as someone involved in developing shared meaning. I believe that the concept of a learning agent captures the essence of working collaboratively to develop shared meaning within an organization. It also focuses on the major educational role of a change agent within an organizational setting. I sense a change of heart as I move from an association with the term change agent, to a more comfortable connection with the concept of a learning agent. I also sense the influence of the post-modern.

As complex beings we all live in a socialized world based on patterned and organized relationships. We are individuals living within complex organizations and communities. There are obvious connections between individual learning and change, but what is the meaning of "organizational learning?" How can an organization learn? Can an impersonal structure such as an organization learn as part of the change process, or can organizational change only take place if learning has occurred?

EXPLORING ORGANIZATIONAL LEARNING - A SEISMIC SURVEY

A seismic survey involves the use of artificially generated seismic waves to explore the structure of underground rocks (Oxford English Reference Dictionary, 1995). I imagine that the seismic waves that were shaking my life provided an opportunity for me to explore the underpinnings of new concepts relating to organizational learning and change. As I was intrigued by this concept of organizational learning, I began a seismic survey; a survey conducted in the midst of personal tremors and uncertainty.

As our world is becoming more complex, and organizations are faced with a number of challenges including rapid technological change, down-sizing and a global economy, there is pressure to find ways of effectively managing change. As a response to the growing need to change, learning has been recognized in the business world as one of the few ways of maintaining a competitive edge. However, successfully adjusting to change means more than just introducing survival tactics or learning to adapt to external pressures, it requires an organization to engage in a generative or creative form of learning. This type of learning "emphasizes continuous experimentation, systemic rather than fragmented thinking, and a willingness to think outside the accepted limitations of a problem" (Barrett 1995, 36).

Interest in the concept of organizational learning in public administration and human resource development fields has existed for several decades. More recently, it has been popularized by Peter Senge of the Massachusetts Institute of Technology (MIT), through the concept of a "learning organization" which he describes as "an organization that is continually expanding its capacity to create its future" (Senge 1990, 14).

The idea of the learning organization was supported by the movement toward Total Quality Management (TQM) during the 1980s, which prompted organizations to redefine their processes in light of customers' demands and other external factors such as unstable markets. This created a shift in organizational attention from the internal to the external. Senge's model of the learning organization captured the transformations of business

organizations. "His [Senge's] systemic view actually reflects the change that has taken place in management theory during the 1980s towards holistic thinking inspired by developments in computer science, physics and biology" (Finger and Woolis 1994, 154).

This shift to holistic thinking may be an effect of the paradigm shift from the reductionist, mechanistic modern world, to the flexible holistic perspective of the post-modern, a shift that has in part been informed by evolutionary biology. Biology has provided a double structure model to explain evolutionary change, which maintains a level of conservancy but allows for responsive change. Gregory Bateson (1978, 168) writes about the great stochastic processes of superficial somatic (most concrete) change and deeper genetic (more abstract) change, and relates these types of changes to learning. He notes that there is "proto-learning" dealing with narrow fact or action, and "deutero-learning" which deals with larger contexts and classes of context.

Argyris and Schön extend these learning concepts to describe two levels of organizational learning. "Single-loop learning" refers to the response required to maintain constancy where organizational strategies and assumptions are modified to keep performance within the range set by organizational norms. The norms themselves remain unchanged. "Double-loop learning" occurs when changing internal or external environments prompt a two-stage organizational learning cycle which requires a process of inquiry with respect to the conflict, and a restructuring of the organizational norms (Argyris and Schön 1977, 18-23). This process of inquiry demands a type of reflection which questions the values, assumptions and beliefs of the organization. In other words, an organization which attempts to correct a problem (e.g. a product flaw) by adjusting a norm (such as immediately improving quality), would be involved in a single-loop learning cycle. However, if it identifies a problem which is in direct conflict with organizational norms, (e.g. the desire for growth and development is threatening normal operations and the need for stability), and if it questions its underlying values and acts to restructure those norms, then double-loop learning has occurred.

Interesting though these organizational learning concepts seem, many

theorists feel uncomfortable about treating organizations as living systems. They see organizations as constructs which have no characteristics other than those which channel through people. They conclude that organizations, as such, do not learn; it is the members of organizations that learn. Individual learning is undeniably important in organizational learning, but as Hedberg (1981, 6) suggests, "although organizational learning occurs through individuals, it would be a mistake to conclude that organizational learning is nothing but the cumulative result of their members' learning." He emphasizes that although organizations do not have brains, they certainly have cognitive systems and memories, and as individuals develop their personalities, values and beliefs over time, organizations develop world views and ideologies. Although workers may come and go, and leadership may change, organizations possess preserved knowledge, behaviours, mental maps, norms and values that have been established over time (Roth and Niemi 1996, 206).

My experiences within organizations allow me to accept the sense of organizational knowledge and collective memory, but as I continue to send out seismic waves to explore the concept of organizational learning, I am shaken by the following question: How is it possible for an organization to learn?

Senge suggests the following five learning disciplines which each contribute a vital dimension to an organization as it begins the process of organizational learning: personal mastery, mental models, building shared vision, team learning, and systems thinking (Senge 1990, 6). Each discipline has to do with how we think, what we truly want, and how we interact and learn with one another, but it is the fifth discipline of systems thinking that integrates all five, "fusing them into a coherent body of theory and practice" (Senge 1990, 12).

Personal mastery is the discipline of personal growth and learning, which encourages us to be continually clarifying our personal vision of what is important to us, and continually learning how to see current reality more clearly (Senge 1990, 141). The discipline of mental models encourages us to be aware of the assumptions, values and beliefs we each have, which influence

how we understand the world and our behaviours (Senge 1990, 8). Creating a shared vision involves the skills of seeking shared "pictures of the future" that foster genuine commitment and involvement (Senge 1990, 9). When people share a vision they are connected by an aspiration. Senge suggests that teams, not individuals, are the fundamental learning unit in modern organizations, and the discipline of team learning begins with dialogue. The use of the word "dialogue" is intended to mean more than conversation, it is the ability of the team members to suspend their assumptions and enter into a sincere form of "thinking together" (Senge 1990, 10). Lastly, systems thinking requires an holistic view of looking at situations and an appreciation of the patterns which connect. "It is a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static "snapshots" (Senge 1990, 68).

All five disciplines contribute an essential component to the development of a learning organization, but it is systems thinking which provides a new way for individuals to perceive themselves and their world. As Senge emphasizes:

> At the heart of a learning organization is a shift of mind - from seeing ourselves as separated from the world to connected to the world, from seeing problems as caused by someone or something "out there" to seeing how our own actions create the problems we experience. A learning organization is a place where people are continually discovering how they create their reality. And how they can change it. (Senge 1990, 12)

I imagine that a learning organization provides a safe place for its members to send out their own seismic waves to explore submerged organizational structures. This place promotes inquiry and continually encourages double-loop learning. My own seismic waves prompt me to question: What factors enable an organization to begin the process of organizational learning?

Fiol and Lyles suggest that there are four contextual factors that will affect the probability that organizational learning will occur: a corporate culture conducive to learning, strategy that allows flexibility, an organizational structure that allows both innovativeness and new insights, and pressure

from both internal and external environments (1985, 804). The authors believe that an organization must be willing to restructure its broad norms and belief systems, and that it must be flexible in structure, and encourage learning and reflective action-taking. "A centralized, mechanistic structure tends to reinforce past behaviours, whereas an organic, more decentralized structure tends to allow shifts of beliefs and actions" (Fiol and Lyles 1985, 805).

The environment's impact on learning results in a tension between constancy and change. If the environmental pressures are too complex an overload may occur, but too much stability within an organization can be dysfunctional. Hedberg (1981, 5) suggests that "learning requires both change and stability ... between learners and their environments." The recognition that the process of learning involves the creation and manipulation of this tension between constancy and change was also reflected by Bateson who described two great contraries of mental processes; rigour and imagination. He warned of either too much rigour or too much imagination. "Rigor alone is paralytic death, but imagination alone is insanity" (Bateson 1978, 237). From an organizational learning perspective, the tension between stability (rigour) and change (imagination) creates organizational fault lines which may stimulate learning.

Another factor which influences an organization's ability to become a learning organization, is the need for personal commitment and community building. Senge stresses the importance of building "communities of commitment" within an organization (Kofman and Senge 1993, 5). He believes that without communities of people genuinely committed to the process, there is no real chance of moving forward. He indicates that "building learning organizations is not an individual task. It demands a shift that goes all the way to the core of our culture. We have drifted into a culture that fragments our thoughts, that detaches the world from the self and the self from its community" (Kofman and Senge 1993, 22). He suggests that we need to regain our balance through creating alternative ways of working and living together. Learning, both individual and collective, is key.

I find the concept of organizational learning fascinating. I have always considered learning to be an intensely personal activity, and initially I found

it difficult to imagine how an organization itself could learn. Since it is after all just a collection of people, wouldn't learning attributed to an organization simply be the sum of individual learning? But the more I think about the organization of which I am a member, the more I begin to recognize that in many ways it does have a life of its own. It certainly has its own culture, traditions and collective memory.

I sense that the quest to become a "learning organization" is an effect of the whispers of change rustling the branches of our organizational tree-tops. These whispers reflect the shift from the modern world to a post-modern perspective. Even the language of the new concepts of organizational change and learning reflect a post-modern approach. Words such as "connectedness," "continuous," "dynamic" and "holistic" are a distinct departure from the more controlling words of the modern world. Organizational management theorists appear to be listening to those whispers as management theory is moving away from viewing an organization as a top-down controlled, fragmented structure, to a more dynamic, generative and evolving model. But where post-modernism is rustling the uppermost branches of our organizations, I suspect that the trunk remains unaffected, and the roots are still firmly embedded in modernist soil.

These are powerful organizational concepts regarding learning and change, and as I re-read and reflect on them, I question whether my thinking about organizational learning (which was becoming a focus of my academic work) might have influenced the approach I was using for coordinating the Emergency Planning Program. My seismic survey has enabled me to understand the underlying structure of organizational learning, but the ground begins to shift once more as I experience tension between theory and practice. How is it possible to incorporate the concept of organizational learning into professional practice?

Glancing Back, Moving Forward

My educational journey has allowed me to wander through new landscapes in my attempt to search for meaning. This has been a journey on shaky ground, an exploration in the midst of uncertainty, and I have experienced the unsettled feelings of a stranger in a strange land.

Before moving on, I take a quick glance back at the places I've been. I have explored the language of change, and how change is affecting us at individual, organizational and global levels. I have been straining to hear the whispers of change, and to understand the patterns which connect as change occurs from the modern to the post-modern world. I have explored the fault lines of learning and change, and reflected on my role as educator and change agent. I have questioned the kind of organizational environment that would be needed in order for us all to work collaboratively as learning agents, and what it means to be part of a learning organization. I am left with a fundamental question of how all these thoughts and concepts have influenced my professional practice as an emergency planner trying to implement change.

My journey now takes a different direction. I turn to narrative as a means to seek greater understanding; to deepen the experience of the tension which exists along the fault lines of learning and change.

QUAKY EXPERIENCES:

EXPERIENCING LEARNING AND CHANGE

I like this idea of story-tellers. It works well to describe all of us. We are great weavers of tales, outdoing one another around the campfire to see which stories best capture our imaginations and the experiences of our lives. If we can look at ourselves truthfully in the light of this fire and stop being so serious about getting things "right" - as if there were still an objective reality out there - we can engage in life with a different quality, a different level of playfulness.

Margaret Wheatley (1992, 142)

STORIES OF LEARNING AND CHANGE

Our lives are made up of storied threads intricately woven together to form the fabric of our world, and it is often through stories that we search for meaning. There is meaning in the stories we share, in the legends we create, in the myths we pass down through each generation. Dwelling within stories gives us the opportunity to immerse ourselves completely, or to watch from a safe distance. Stories allow us to enter the lives of others and to connect. Stories invite us to learn and even to change.

Leah Fowler speaks of the strength of narrative to guide us toward inner self-reflective learning:

> In narrative, we see .... patterns of possibilities and limitations and can confront the mirrored projections of our Being. As affect and cognition are narratively revealed and explored, openings for connections, shifts in patterns, and rewritings of relationships occur. Moving easily between storied reason and emotion heightens our awareness, calls to consciousness that which has been hidden, and illuminates more inner territory, drawing us ever to the edge of self-knowing. (Fowler 1997, 125)

Stories come in many forms; they may be spoken or written, they may be real, imaginary or dreamed. Mary Aswell Doll tells us that "Dreams can heal, prophesize, compensate, illuminate. Their power is immense .... Dreams can re-mind us of what we need to put back into our minds" (in Pinar et al 1995, 543). Narratives may include metaphor(s) as a powerful means to capture our imagination and to share meaning. Maxine Greene suggests that metaphor enables us to see and to reach beyond ourselves; "A metaphor not only involves a reorientation of consciousness, it also enables us to cross divides, to make connections between ourselves and others, and to look through other eyes" (1997, 391).

Narrative and metaphor are an important aspect of this thesis. Sharing experiences of learning and change through narratives, and through metaphor, enables me to seek and to share meaning. The following short stories were found, or emerged, during the process of writing this thesis. Each story is followed by shifting words in the ruptured form of fault lines. They

are my way of offering a space to consider some of the quaky experiences of learning and change.

The first story, "Unexpected Change - a Kobe Experience" is not my experience or my words, but is I believe a compelling example of sudden, dramatic change. The second, "An Uncertain Woman," emerged from a need I had to explore my educational journey of learning and change through the safety of a story in the third person. "Raven's Calling" is a myth within a story. It is about seeking knowledge through change, transformation and learning. It is about symbolism and making connections. The fourth and final story, "Changing Places," explores the gap between theory and practice.

The order and style of these stories are important to me and to my work. The way they are woven together reveals movement - a transition - from the external to the internal. It is about looking outward to enable looking inward.

UNEXPECTED CHANGE - A KOBE EXPERIENCE

On January 17, 1995, the people of Kobe were jolted awake by a force so strong that it "toppled bridges, twisted highways, snapped ten-ton trucks like toothpicks, and severed the trunk line of Japan's famous bullet train, the technological pride of a high-tech superpower" (Reid 1995, 118). Homes were reduced to smoking rubble, their contents spewed onto the streets and the lives of their inhabitants were shattered. "The tremor lasted less than a minute. The resulting fires raged off and on for two days. The funerals went on for weeks. The multibillion-dollar job of rebuilding will continue for months, even years" (Reid 1995, 118). How can we even begin to imagine the impact of this forceful unexpected change on the lives of the people of Kobe? Dave Pite, a Canadian living in Kobe, shares his experiences of the first few moments of this unexpected change:

> I wake from a sound sleep at 5:47 a.m.; the air feels animate, growling and grinding; in the pre-dawn light gigantic jolts walk the upright piano out from the wall to meet the electric one which has pitched forward on its face with the television crashing down on top and bookcases emptying all over. A long instant of timeless waiting hanging suspended. Having forgone the hassle of putting a futon down from the cupboard to the floor I am on my favourite lumpy old couch and I am glad to be there, riding and watching, instead of on the floor. Then it is over and so quiet, so strange.

> I follow my first impulse to scramble over it all and head through the kitchen to check on my family. That part of my mind serves me well, it is the other parts that are not functioning yet. I know it's an earthquake and it's big but can not conceptualize its extent beyond this room. I figure I'll walk quickly through the kitchen to the tatami room where Masako and Julie are sleeping and then we will decide what to do next.

> I have to shove really hard to open the kitchen door, pushing away the debris behind. I climb over broken plates, glasses, chairs, table, books, stereo, microwave, fish tank, contents of the fridge, sink, cupboards. By this time our neighbours have the door open behind me and in the flickering beam of their flashlight I can see Masako crawling out of the sort of teepee that was formed when the metal "tansu" set of drawers shot out of a cupboard and intercepted the two-metre high heavy wooden

wardrobe as it toppled the other way. She struggles out with Julie in her arms and passes her to me. We follow the flashlight beam toward concerned voices calling our names and screaming into other doorways, "Ikiteru?!! Kikoeru?!!" (Are you alive?!! Can you hear me?!!) We push out into the hallway, grabbing shoes and coats from the communal mess spilled out there, and then continue down four flights of stairs and onto the street.

It is not a familiar sight, this backstreet behind what had been our home for several years. It is full of people in various stages of confusion and disarray, people we had seen every day, fashionably dressed and quietly polite, going about their business. Now they are milling about with black looks of disbelief, clutching their children's hands and trying to understand what to do, just like us. There is talk of going back inside, some of the literature says that is the wisest course of action, avoid lethal falling objects. But the buildings look unreal as well, our always tidy brick entrance-way where the mail-boxes are and metal lattice gate adorned with flowering shrubs is ruptured through the middle and the steps are crooked, in fact the whole building is tilting a little. The city housing next door looks different too, [it] takes a moment to realize that the second floor is now where the first floor used to be, and there's no third floor anymore. The stately old traditional wooden houses across the little backstreet from us are missing most of the tiles from their rooves [sic], walls have caved in, wisps of smoke are drifting out of some of the windows. We walk quickly out to the front of our place, to the traffic island in the middle of the four-lane street. It's still within range if buildings should topple, but it's the farthest away we can get from buildings on either side.

This traffic island has the only grass in the neighbourhood. From our balcony, we used to watch a guy practise his golf swings here in the evenings. Now I sit down with my family, in our pajamas, wrapped in a blanket, happy to be alive. There's not much to talk about, just that we're happy to be alive. There are little aftershocks. "Did you feel that?" "Yes." Waiting and wondering, looking around. (Pite 1995, 1)

In seconds, the unquiet Earth
can generate massive change.
Order becomes chaos, normal becomes abnormal,
and the known has vanished leaving
the victims struggling with the unknown.

Lives have become disrupted,
shattered and transformed.
The earthquake has given birth to a new,
uncertain and unstable world,

and the survivors are left to begin
a long process of recovery
while dwelling in a transition space
between what once was
and what is now becoming.

(D. Donaldson, December 1995)

AN UNCERTAIN WOMAN

One day, an uncertain woman decided to explore a new curricular landscape. She was looking for new knowledge; she was searching for meaning. She looked across the expansive landscape and saw some interesting hills in the distance. She found herself drawn to them and decided to find a way to get there. The path ahead looked difficult in places, but appeared well-travelled. She hesitated at first, but decided to accept the challenge. She started off on her educational journey without really knowing where it would take her.

At first she often thought of the alluring hills in the distance, and wondered how long it would take to get there. But then she remembered the advice she'd been given to enjoy the journey along the way. She felt energized and excited by the newness of the curricular landscape before her, but at times the unfamiliarity of the path made her feel uneasy.

Before long she unexpectedly met some others - on their own journeys along connecting paths. They agreed to travel together - at least for awhile. She felt strengthened by the group, and she knew their companionship would make the adventure more meaningful.

Then minor tremors began. Only occasionally at first - subtle ground movement which was almost imperceptible and easy to ignore. But when her world started to really tremble she began to question the wisdom of embarking on this journey in such unfamiliar surroundings. She regained her balance, and reminded herself of her goal - but strangely, the elusive hills looked farther away than she'd remembered. She realized her world was changing as she began to question the place where she had come from, an unambiguous place of centredness and privilege. As questions and doubts filled her mind, she wondered if she had the strength to continue along this new and shaky path. It would have been easier to return to the centre of her life, to the familiar foundations of her world.

She found it helpful to confide in her companions, and to share her difficult experiences of the shifting and shaking of this new world. She frequently felt off balance, but sensed that despite the turbulence, she was learning a great

deal from this journey. At times she left the group to explore alone, and one day as she was struggling along a particularly steep section of the path the Earth began to shake beneath her. She felt frightened as the foundations of her world shifted, creating clouds of dust and rubble across the curricular landscape. It was difficult to see, and difficult to know with certainty anymore.

When the shaking subsided and the dust settled, she noticed the ground had erupted creating a new, transformed landscape. Before her lay a number of jagged fault lines created by the release of considerable pressure and tension. Some fault lines had split open exposing large seismic gaps. She tentatively looked into the depths of these spaces, but instead of dark emptiness, she began to see new possibilities created by this change. Glancing up, she could still catch a glimpse of the hills in the distance, but when she looked behind her, the path she had been on had changed so drastically that she realized there was no going back to the familiarity of her old world. She felt uncertain and unsettled, but there were many new choices, many new paths ahead.

She searched for the others and they continued to share their experiences. Their individual stories of the changing curricular scenery provided a rich learning environment. There were both connections and differences, and she began to recognize this new dynamic educational landscape provided a space for many voices and a place for many meanings.

As time went on she began to feel stronger and more confident about the direction the journey was taking her. In fact, the next time she looked for the hills they seemed remarkably closer. She began to feel confident that she had the strength to continue on and to even welcome the changes and challenges that lay ahead. She finally realized she had made it when it no longer mattered if she got there. She had found meaning which was full of possibilities. Not Truths, but multiple understandings. As she marvelled in new perspectives, she noticed many other hills in the distance. She dreamed of new landscapes; she anticipated continual learning and change.

D. Donaldson (July 1997)

Perhaps we,
as curriculum designers,
all need to journey
along the trembling fault lines
leading away from the dominant centre
to a place on the margin
where all voices are heard
and many meanings are possible.

D. Donaldson (December 1995)

RAVENS' CALLING

As I sit at my desk reflecting on change, I pause to touch my raven stone. He is a small raven, painted on stone, but full of life and meaning. He peers at me through a beady eye. The stone is cracked, and the thin fracture line runs under his craggy feet. I am told he is a bringer of light, intelligence and curiosity, and he sits before me as a totem, grasping the fragile fault line of the stone.

I have become obsessed by ravens. They call to me from the tallest treetops in their deep throaty raven voices. I see them only occasionally, but hear them constantly. Their image appears to me everywhere; on artwork, in the newspaper, at the top of a totem pole peering down at me as I make my way across the campus. I am drawn to them and to the meaning they are bringing to my work and my life. I have become fascinated by these large black birds - powerful and mischievous - considered to be harbingers of change and transformation. They are part of my environment, but not part of my culture. They draw me into their world, help me to consider change and transformation, and encourage me to question.

I recently read a newspaper story about a native artist, Errol Hillis, serving a life sentence in prison (Dakers 1997, D5). He carves masks and totem poles to set himself emotionally free. According to the article, his artwork is enabling him to find his voice, and to begin a healing journey. He sees his "Raven" mask as a reflection of his inner self, and he relates to the raven as trickster - always changing shapes. He suggests that when a person carves a raven he is looking for change and a new horizon.

I too have been looking for change and new horizons, and the call of the raven has encouraged me to reach out and learn about their stories.

> *The light of the universe was kept hidden by an old man and his daughter. It was safely stored in a box, within another box, within many boxes. It was so well hidden that the world was in darkness. The Raven, who had existed since the beginning of time, was becoming annoyed at trying to fly in the midst of darkness. It affected his ability to constantly interfere and to change things. He decided he had to find a way into the old man's house in order to steal the light for himself.*

The Raven transformed himself into a hemlock needle, and was swallowed by the young woman as she drank thirstily from a nearby stream. Once again he transformed himself, this time into a tiny human being which grew and eventually emerged from the young woman as a squawking boychild with a long beak-like nose. The old man's new grandchild was noisy and demanding, but gradually gained his grandfather's affections. The ravenchild relentlessly sought the boxes in which the light of the universe was stored. His grandfather's initial refusals were eventually overcome as his bird-like grandson slowly gained access to the outer box, then the inner boxes - coming closer and closer to the light.

Then the moment came when the ravenchild convinced his loving grandfather to open the final box. In the beam of the bright light which was released, the old man just caught sight of the child transforming into a large black shining shadow with outstretched wings and a gaping beak. The raven grasped the light in his jaws and quickly flew through the smokehole of the house into the darkness of the world beyond, leaving behind a weeping grandfather and a bewildered young woman.

The world was transformed by the light, and the Raven marvelled at his wonderful new possession. In fact he was so distracted by the effect the light was having on the world below that he almost didn't notice the Eagle swooping toward him. As he swerved to avoid the outstretched claws of the Eagle, he dropped at least half of the light he was carrying. Some of it bounced off the earth back into the sky forming the moon and the stars which brighten the night. As the Eagle pursued him to the rim of the world, the exhausted Raven released the final portion of light, where it began to gently rise in the east. [1]

Ravens have flown into my world and illuminated it. Despite their trickster role and ability to deceive, possibly because of it, they have become a powerful symbol in my life. I feel a special connection with them which is difficult to describe. It began with just noticing their call, and was strengthened when I understood their association with change and transformation. They

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[1] *There are many raven tales woven into the native culture of the Northwest Coast, but the raven figure appears in the myths of other cultures as well. This tale is a Haida version based on the "The Raven Steals the Light" by Bill Reid and Robert Bringhurst (1996). It is included here with deep respect for the people from whom this story first emerged.*

symbolize the changes I am experiencing, the transformation I am undergoing, but most importantly, their call encourages me to hear and to question. When I am challenged by new experiences I feel a need to question both external knowledge and the trickster voice within me that often tries to deceive by obscuring my personal ways of knowing.

Symbols, tokens and touchstones are appealing because like stories, myths and legends, they help us to find connections and to make meaning. They enable us to learn and understand through the experiences of others; they allow us to look outward in order to reflect inward. Looking for a moment beyond the symbol of the raven to the larger view of the mythology of the Northwest Coast aboriginal peoples, their legends and culture speak to me now in a new way - or rather - I am now listening. Their voice has been difficult to hear over the dominant roar of the Western world. I value this glimpse of people and animals who led interconnected lives - this has been missing in the modern world - perhaps it will be reconsidered in the post-modern?

My room is softly lit casting long shadows on the walls. I search for my raven stone. His image is hiding in the dark recesses of both my desk and my mind. He appears to be waiting, watching, wondering - like me - thinking about change, looking for new horizons. As I write late into the night, I imagine that like the artist, I have been carving a raven in my thoughts and through my words. It flies from my paper and soars over a shifting fault line.

D. Donaldson (October 1997)

Ravens' calling   from the tree tops
   raucous sounds which   penetrate my mind
     and question my beliefs.   Black and beady eyes
       laughing while   probing my thoughts.
        Is it the winds of change or the breeze
        rustling the fir branches ?
        Is it the whispers of change
         or the ruffling
          of raven
          feathers?

Bringer of light,
    harbinger of change
       trickster voice and
         master transformer,
           causing me to question,
            causing me to reflect.
              Are you really out there,
                or somewhere in me?

D. Donaldson (October 1997)

CHANGING PLACES

I glanced quickly at my watch, and panicked when I saw how little time was left before the session. I just had time to consume half a dry sandwich, chase it with some water and make a quick phone call. Why had I set myself up for all these teaching sessions and endless meetings this week? When did I think I was going to do any work?

I grabbed a great stack of educational paraphernalia, left my office, and raced down the hallway. My colleague Steve, who was assisting me with this session, called out "Are you heading out now?" "Yup - but I'm running late" I replied. "I'm coming," he said, "But I'm not feeiing well - I really don't want to do this." "Me neither," I called behind me.

As I rounded the final corner and headed for the classroom, I thought to myself how I usually really enjoy these sessions. Not today, though, I feel so rushed and disorganized. I swept into the room, and found most of the participants were already there. I began to spread out my notes and information, and pass out the handouts. While we waited a few minutes for the stragglers, I tried to make some witty comments so I, and they, would feel more comfortable.

I had forgotten how awkward this room is since they did the renovations. It is actually a meeting room so the tables are placed together in a large rectangle with the chairs around. This usually works well, especially with smaller groups like this one - with only ten people. But a recent construction project has made the room much smaller, and now there is no room for the cart with the overhead projector. Why hadn't I got here earlier to set the room up properly? I had to ask a couple of people to stand as we separated two tables to make room for the projector cart, but when I put it in place it obscured my view of some of the students. I moved it back again - "I'll just put it in place when the time comes" I thought.

I sat at one end of the tables and Steve at the opposite end. It seemed as if we were the parents of a large brood about to consume an enormous educational meal and that one of us should be saying grace. We look at each other, both

wishing we could be somewhere else. At last all are present, and we begin.

*I'm first, but I don't feel very inspired today. I wonder how many times I have taught this session on hazardous materials in the workplace. I just say the usual things - but try of course to make it sound fascinating. Judging by the look on the ten faces around the room, no one is fooled. Steve starts his bit - we have a well-practiced routine - but I can tell he's struggling today. My mind wanders a little - I hope he's not **really** sick - what if he collapses? I'm not sure I can remember my first aid training. I wonder how many of these science students have first aid? I must remember to ask them when we get to the section on first aid on the material safety data sheets. My mind is drifting ... but I come to and glance at the clock on the wall - we're already running behind time.*

Suddenly he stops - it's my turn again - and I quickly try to collect my thoughts. Right - I'll just do a short bit on standardized warning labels. I should start with that great Larson cartoon of the scientist with a funny look on his face, swallowing an unlabelled container of what he thinks was lemonade - while another scientist is searching for his culture of amoebic dysentery. Maybe that will get a laugh - especially from the microbiologists? I quickly throw on the overhead, only to discover that I forgot to move the projector cart into the right place. It's far too close to the front wall, so there is an embarrassing postage stamp-sized image on the screen. I nearly fall over in my attempt to realign the wretched machine. I'm now flustered and I could just imagine the headline in the campus newspaper "Safety Officer Breaks Leg During Safety Seminar." Steve comes to my rescue before I become injured (other than my professional pride), and the session continues.

Actually, it's going a bit better now. I think we just had to find our stride. The students are beginning to warm up too and are becoming more involved as we share information and pose questions. But there are some awkward silences - I try to think of them as learning spaces - but unfortunately I give in to the urge to fill them with more questions and comments.

As Steve is deep into a discussion on the physical characteristics section of the data sheet, I look at the faces of the people who have joined us this afternoon.

I've met a couple of them in the past, and I strain to remember their names. The group includes mostly graduate students, and one or two post-docs, from three different science departments. Oh no, - I suddenly realized that I forgot to ask them to introduce themselves at the beginning - what an idiot! I suddenly feel a sense of guilt - they are not just participants, but real people who are giving us their valuable time. Can we meet their expectations? - especially today when we are both so tired and worn out? What if we don't, and word gets around that this session is a real waste of time? Of course since it's mandatory some might say it doesn't matter - but it matters to me. I still feel so uneasy about the issue of compulsory education - it seems to oppose all basic principles of adult education. I speculate on the dilemma of ensuring professional standards and protecting individual and community health and safety, while meeting regulatory requirements, and recognizing the needs of the individual adult learner. Hmmm...

I emerge from my thoughts and I glance once again at the clock - we're now twenty minutes behind schedule, but I'm determined that we set aside the time to break into pairs to discuss the data sheet they were asked to bring to class. I want to value the pre-session work they've been asked to do - and besides, this usually prompts some great questions - but they don't look too excited. We are far too rushed to do this justice, but miraculously it is coming together some how. I slip out of my office to pick up some extra data sheets. I feel as if I've just come to the surface for air after being deeply submerged in this teaching/learning process. I only have time to take a big breath, before I plunge back into the classroom again.

Then comes the quiz - and I make sure that we use the word "quiz" and not "test" or "exam" which sounds so unnecessarily ominous. This isn't meant to be difficult, it is simply structured to revisit the salient points of the session. I pass it out and sense some discomfort both on their part and mine. "Oh, I forgot to mention it's "open book," I cheerfully inform them. "Wonderful, just great," I imagine them thinking, and I sit there wondering about the necessity of this form of evaluation.

There is silence now, just the occasional clearing of throats and the rustling of papers. Steve has retreated back to the safety of his office, and this becomes a

shaky half hour for me, left in good company, but alone with my thoughts. I think over what happened today. Deep in thought, I'm suddenly aware of a raven's call in the distance.

How easy it was to fall back on routines, on the tried and true. But is it true? My heart begins to sink as I think about the years I have invested in trying to understand adult education, and the ways in which I've attempted to improve my teaching methods; and yet when the pressure is on it is so easy to revert back to old patterns. Why have all my great plans and aspirations left me? - where are my new-found principles and values?

Perhaps they haven't left me - perhaps at times it just comes down to survival. It's not always possible to put ideals into practice - I have to be realistic and do what I can within my daily professional context. The important thing is that today I noticed the difference - I've changed places - I too, am a learner in this class.

D. Donaldson (November, 1997)

Fault lines expose
        the seismic gap
                between theory and practice.

                It is an uneasy, uncertain place,
                        but within this gap
                                is a place of change,
                                        a place of learning
                                                a place of possibilities
                                                a place of becoming.

D. Donaldson (December, 1997)

In the Light of the Campfire

It is important to share experience and meaning through story-telling. Whether in the oral or written tradition, whether around real or imaginary campfires, stories enable us to connect with others, to imagine experiences from a safe place, to learn and even to change.

These stories are an important aspect of this thesis; they have been included to emphasize the power of narrative in our lives. They are very different from each other, but share a common thread of describing experiences of learning and change. Whether as an earthquake survivor, a graduate student exploring new educational landscapes, an individual experiencing the change process and learning to question, or an educator struggling with shifting aspects of theory and practice, stories allow us to share our experiences, to learn about ourselves, and to learn from each other. These stories not only describe aspects of change, but their order and style are intended to show change; they begin from looking outward to others, and move to a place of looking inward, at self.

Looking truthfully in the light of the campfire requires me to continue to reflect on learning and change, and to make meaning of these fundamental experiences from both personal and organizational perspectives. This part of my journey will help me to understand how learning and change became integral parts of coordinating the Emergency Planning Program and my life as a new graduate student; the double context upon which this thesis is based.

EXPLORING FAULT LINES:

FINDING MEANING THROUGH REFLECTION

In the postmodern world, we must look to an inner sense of self and to an outer structure of support and community for shelter, stability, and insight in an edgy and turbulent world.

William Bergquist (1993, 14)

PERSONAL LEARNING AND CHANGE
- EXPLORING THE FAULT LINES WITHIN

Emergency planning requires implementing change. It encourages individuals not only to think about preparing for unexpected change, but also to change their normal patterns of operation. Changing these patterns requires individuals, and the organization, to value emergency planning in order to weave it into the complex fabric which forms the University culture. To examine our values is no trivial task as it requires critical self-reflection, and may result in deep changes at both individual and organizational levels.

"Change is ubiquitous and relentless, forcing itself on us at every turn. At the same time, the secret of growing and development is learning how to contend with the forces of change ... The future of the world is a learning future" (Fullan and Stiegelbauer 1991, vii). Change and learning seem so closely connected, and whether it is individuals or organizations (or both) who need or want to change, learning appears to be key to the process.

Finding meaning requires exploring the fault lines within. It requires me to look inward to understand my own views and assumptions about learning and change. Reflecting on my own experiences, I recognize that certain professional dilemmas fostered my interest in adult education (such as teaching as a non-teacher, and the issue of compulsory education). These dilemmas were the catalysts which encouraged me to enroll as a graduate student in Curriculum Studies. It was at this time that I accepted the position as Emergency Planner on campus, a career move which created considerable professional change, and required me to implement large-scale change. It is no wonder that I began to write about change in my journal, as my world became consumed by it!

> *Journal Entry - October 27, 1995: I find myself thinking a great deal about change and its impact on my life. It can at times seem exciting but at times disturbing. There is a common assumption in the workplace that we're living in "a world that is rapidly changing." In this professional context,*

there is an implication that change is difficult or negative - that it is challenging or even impossible to "keep up" with change, that it is a constant struggle to cope with change. "Today change is the only constant in our lives, and we need to take the responsibility for coping with that change" (Lloyds Bank of California in Knowles and Associates 1984, 69).

Appreciating the constancy of change is not a new phenomenon as I discovered in this passage from Dombey & Son by Charles Dickens:

"It's nothing," returned Mrs. Chick. "It's merely change of weather. We must expect change." "Of weather?" asked Miss Tox, in her simplicity. "Of everything," returned Mrs. Chick. "Of course we must. It's a world of change. Any one would surprise me very much, Lucretia, and would greatly alter my opinion of their understanding, if they attempted to contradict or evade what is so perfectly evident. Change!" exclaimed Mrs. Chick, with severe philosophy. "Why, my gracious me, what is there that does not change!" (Dickens 1848, 232).

Why does the issue of change absorb my thoughts? Perhaps it is the sense that change is so closely connected to learning. Learning encourages change, almost requires it. Coping with change requires learning. It might be accepting change as a result of learning in a curriculum studies course, or it might be coping with change imposed by an earthquake and learning to survive.

As I re-read and reflect on this passage from my journal two important issues emerge. One is the constancy of change in our lives, the other is the complex

connection between change and learning. Jarvis describes a number of paradoxes inherent in the dynamic relationship between learning and change:

- •learning is a response to change, but also creates it;
- •learning is a mechanism of adaptation, but also has the capacity to evoke it;
- •people learn to be safe, but learning is also a risk-taking activity.

(Jarvis 1992, 210)

As I reflect more deeply on this relationship between learning and change, I recognize that its paradoxical nature is in itself promoting learning. It is the ambiguity of double meaning (or many meanings) which creates the kind of uncertainty which encourages further questioning and reflection. Fullan captures these thoughts by saying "Paradoxes provide the seeds for learning under conditions of dynamic complexity" (1993, 33).

As my educational journey continued, and I began to learn about new perspectives, alternate meanings and the possibility of many truths, I felt uncertainty. My world began to tremble and shake as I experienced the turbulence of change. As my positivist world view was being challenged by new ways of understanding, I was drawn to the words of David Jardine:

> We live in skittering times,
>> when the old reliables
>>> of our own invention
>>>> are beginning to crack.
>>>> (Jardine 1993, 18)

Jardine refers to a loss of stability when the foundations of the world we ourselves have created begin to crumble. It is a skittery and shaky experience, and I believe it is the appearance of these "cracks," (or as I like to imagine, "fault lines") that provide learning opportunities. Mezirow would refer to them as "disorienting dilemmas" which invite us to reflect, to learn and possibly to change (1990, 13). Havighurst would call them "teachable moments," particularly if they occurred in relation to developmental stages (Merriam and Caffarella 1991, 105). Farquharson acknowledges these are

moments when people are receptive to change, and suggests that when individuals experience periods of disequilibrium, they are more open to "developing new meanings and behaviors as they work to restore balance in their lives" (1995, 14).

These cracks or fault lines are caused by what Fullan refers to as "change forces" which he believes should be seen as "inevitable and essential to learning and growth" (1993, 84). But what is the nature, or quality of these change forces? Are we only sensing the obvious? While the winds of change are howling around us, are we struggling to hear the whispers of change? Perhaps some types of change may evade our abilities to sense it, just as the Earth trembles constantly but these minor quakes are too subtle for us to detect.

> *Journal Entry - November 25, 1995: Some definitions of change imply a stable world that changes on occasion, that movement only occurs during change. Others suggest a world in flux, always changing, continuously moving. It does seem possible that like the unquiet Earth which is constantly shifting, change is always occurring, and as with minor tremors, often goes unnoticed. Our focus therefore might be less on the magnitude of change, but more on the quality of change, and the possibilities inherent in the midst of change.*

When we notice change, it is common to look quickly to the other side of change - to consider how something has changed - what it is now, compared to what it was then. Is the "then/now" binary part of the familiar duality theme which has dominated modernist thinking, favouring one view at the expense of the other? In our haste to understand the "changed," do we ignore the space between either side of change - the seismic gap which is exposed when a ruptured fault line splits apart? What lies within this seismic gap? Perhaps it is a space full of possibilities created by the process of transition or transformation - a place for becoming rather than being?

"In the midst of change" may be a place for learning, and I imagine that being a change agent means encouraging those affected by the change to dwell in this space, and to consider possibilities. With respect to the Emergency Planning Program, this reinforces the need to focus on process, on learning together, rather than simply producing a product or plan. I believe it is the process that provides the learning space which enables the change to occur, but it must be recognized that dwelling in this space can at times be uncomfortable and painful, particularly for those whose lives have been disrupted by unexpected change.

This seismic gap could be considered a crucible of creation. Disruption, change and crisis, which are generally considered to create obstacles from a modern point of view, are seen differently from a post-modern perspective. From this frame it is considered a necessary and dynamic part of growth and evolution. Julia Kristeva speaks to the *quality* of change, to the "creative possibilities of crisis" (Clark and Hulley 1990, 165). She attempts to see the most optimistic aspects of crisis: "A moment of crisis is a moment when something has crumbled, something is rejected, but it is also the moment when new sources appear, and in postmodernity I myself see this aspect of renewal...." (Clark and Hulley 1990, 165).

Fullan suggests that personal change is the most powerful route to system change (1993, 140). I take this to mean that change must begin at the individual level before effective organizational change is possible. For organizational learning to grow and flourish, seeds must be sown by individuals who are prepared to engage in critical self-reflection, learning and change.

Fullan encourages us to develop our inner and outer learning capacities (1993, 138). Developing these specific learning skills requires us to engage in inner learning (intrapersonal sense-making), and outer learning (which is about connectedness), and to recognize the dynamic interaction between the two. Inner learning is needed to understand and manage change in our personal lives, while outer learning "is about connecting the inner self to people as people - those around you at work, and family and social relationships outside work" (Fullan 1993, 141). The concept of outer learning

reminds us that we do not learn in isolation; learning is a highly social activity. Social interaction provides a rich learning environment where "through the interaction between one's own reflective understanding and that of another, ... an individual is able to transform and heighten personal consciousness" (Doll 1993, 122).

Awareness of this interaction between self and other describes a magical dynamic of learning; of finding meaning by looking inward at self through critical self-reflection, and reaching outward to learn from others. It is about nurturing that inner learning ability, and understanding the importance of external connections and interactions. It is about seeing ourselves, and everyone involved in change, as change agents (or perhaps as learning agents).

Reflecting on my experiences of learning and change has enabled me to better understand my change process. As the tectonic plates of my professional and personal world grated together, I felt uncertainty and tension as I tried to make sense of change and its role in our lives. This tension emerged because as a change agent I was in the position of asking others to change, while as a new graduate student I was experiencing the challenge and difficulty of change.

When I entered graduate school I planned to learn, but I did not imagine that I would change. Perhaps this is because in earlier academic experiences I focussed on accumulating information which I saw as scientific Truths. Now I was encouraged to look inward for meaning. What may seem natural to others was difficult for me, when even writing in the first person was unfamiliar and uncomfortable. I had lived in a world of objectivity and now, in the process of involving myself with people rather than things, subjectivity took on new meaning and importance. I was a change agent on shaky ground.

Looking back, I now understand how the double context of my professional and personal world provided the opportunity for a transformational learning experience. This was my "teachable moment," my "disorienting dilemma," where disequilibrium and uncertainty created by the challenge to my

positivist world view were the change forces which required me to learn and to change.

Tension formed as I faced ambiguities and tried to find new meaning and understanding in the midst of uncertainty. This pressure created fault lines which cracked through my mind as I struggled with my personal assumptions and beliefs and began to understand how my world view influenced my professional practice. I became sensitive to the whispers of change occurring in our world as we shift from the modern to the post-modern, and it was these whispers that provided me with new ways of thinking. I began to understand the quality of change, and rather than seeing the "before and after" aspects of change, I began to focus on being in the midst of change. The tension I experienced created fault lines of learning and change which ruptured exposing a seismic gap, a space between either side of change, a learning space full of possibilities.

My learning journey has enabled me to reach a place where I can begin to look into the seismic gap. It is not a place of emptiness and darkness, but instead it is alive with possibilities. What I am beginning to see in the gap is how aspects of post-modernism have changed my personal and professional worlds; worlds which have experienced dramatic shifting and shaking as I come to terms with new meanings. I have taken a few, faltering steps toward incorporating these new perspectives into my personal life and toward understanding how this may impact my professional practice. These steps are revealed through the personal experiences and lessons learned described in the following chapter.

From my inner exploration of personal fault lines, I am now drawn to look outward, to that outer structure of community, to try to understand and make meaning of learning within organizations, within a connected community.

ORGANIZATIONAL LEARNING AND CHANGE
- CHANGING THE STATUS QUO

Human beings generally exhibit a strong urge to form communities. Communities provide a sense of place and belonging, fellowship and support, purpose and meaning (Suzuki and McConnell 1997, 213). We often feel a need to be part of, or connected to, something which is greater than ourselves. I recognize this feeling in myself as someone who is part of a professional community; a member of a large organization. Although my work in Occupational Health and Safety has always given me the advantage of interacting with many people on the campus, the Emergency Planning Project was my first experience with something which potentially affected our entire population of faculty, staff and students. Perhaps this is why I have become so fascinated with understanding a larger view, and the meaning of connectedness and community.

To attempt to make meaning of the concept of organizational learning, I look to my experience as a member of the University community. At times the organization can seem impersonal, like a large machine which turns slowly in its response to change. As with most institutions, UVic has been shaped by a modernist world. Steeped in tradition, it has a distinct hierarchy with well-defined line management (albeit split along academic and administrative lines).

But as I reflect more deeply on my relationship with this organization, my strongest impressions are not of the fragmented parts, but of the people of the organization who interact to create a much greater whole. I see signs of connectedness, despite the on-going power struggles and turf wars. Underneath it all is a community of individuals who together form a greater dynamic whole; an organization which is in transition as it adjusts to life in a post-modern world.

The shift to the post-modern is revealed by changes in language. In his book "The Web of Life," Fritjof Capra discusses the change from the mechanistic to the ecological paradigm. He describes the basic tension which exists between viewing the parts or the whole. "The emphasis on the parts has been called

mechanistic, reductionist, or atomistic; the emphasis on the whole holistic, organismic, or ecological" (Capra 1996, 17).

I was drawn to Capra's discussion of the late eighteenth century philosopher Immanuel Kant, who recognized that organisms, in contrast with machines, are self-reproducing, self-organizing wholes. His work may have been the first attempt to describe systems thinking (i.e. thinking from the perspective of the whole). Capra writes "In a machine, according to Kant, the parts only exist *for* each other, in the sense of supporting each other within a functional whole. In an organism the parts also exist *by means of* each other, in the sense of producing one another" (Capra 1996, 22). This subtle difference in language reveals a magnitude of difference in meaning between simply supporting the whole, and being essential to each other and the whole. A living system relies on dynamic interconnections amongst its parts, which I believe is the basis of community. Organizational survival in the twenty-first century will depend on a shift toward a self-organizing holistic model. This shift will require a greater emphasis on community, dynamic connections and continuous learning. Becoming a post-modern organization not only will be the way to adapt to change, but will also enable organizations to thrive on change.

Shifting to a post-modern form will require considerable shaking of the status quo. Just as I experienced shaking and quaking due to critical self-reflection, so must organizations work through the discomfort of change. This shift will require the more complex second order change, or double-loop learning, discussed earlier. This type of learning is not reactive, but is based on a deeper form of inquiry and readjustment of organizational norms. "A second-order change occurs when we decide to (or are forced to) do something different from what we have done before, rather than just doing more or less of what we have already been doing" (Bergquist 1993, 7). To engage in this type of inquiry enables an organization to make a monumental shift toward becoming a learning organization.

Watkins and Marsick suggest a number of forces which compel an organization to make changes of this magnitude: these forces include changes in organizations, the changing nature of work, changes in the workforce, and changes in how people learn. They stress that "To survive in the turbulent

environment created by these forces, organizations and their workforces must be flexible, far sighted, and able to learn continuously" (Watkins and Marsick 1993, 5). Senge offers his five disciplines as the means to become a learning organization: the disciplines include personal mastery (involving inner learning), and team learning which supports learning together (outer learning). But it is the fifth discipline of systems thinking which speaks to the issue of community. This discipline focusses on our perceptions of ourselves and/in world; it focusses on interrelationships and encourages a sense of connectedness.

Wheatley emphasizes the need for participation, for attention to relationships, for freely generated and freely exchanged information, for autonomy at local levels, and for self-reference (1992, 143-147). The importance of relationships and our sense of place within a larger whole is stressed through the concept of self-reference. Wheatley considers the individual unit in a biological system as a model for the individual in the organization:

> Instead of whirling off in different directions, each part of the system must remain consistent with itself and with all other parts of the system as it changes. There is, even among simple cells, an unerring recognition of the intent of the system, a deep relationship between individual activity and the whole. (1992, 146)

The insights offered by Senge, Watkins and Marsick, and Wheatley reveal the influence of the new science, more specifically, the concept of the networks and patterns of living systems. To survive change we can learn from systems such as biological systems which have a long history of success. The foundations of the modern organization will eventually crumble and fall in the midst of the accelerating change of a post-modern world. To survive this turbulence, the organization's future will depend on its ability to be flexible, open and evolving, and to recognize the importance of community and connectedness.

But how can these complex concepts be shifted from theory to practice? I suspect the sense of community and connectedness are not common

experiences for most members of a large (modernist) organization. Where does the change which is required begin? Change of this type is not pushed from the top (although it needs to be supported by it). It is change that begins, as Bergquist reminds us, through small steps communicated throughout the organization (1993, 14).

I find it helpful to consider the diffusion of innovations theory which has been expanded by Everett Rogers. Although in "Communication Technology: The New Media in Society" he focusses on the acceptance of new communication technologies, the kind of pattern he describes can assist us in imagining how an organization begins to accept new ideas. Rogers explains that the diffusion of innovations theory has a long history and has been well-researched. Its common elements have been applied to such diverse fields such as agriculture, anthropology, education, geography, and sociology (Rogers 1986, 117). The main elements in the diffusion of new ideas are considered to be:

- an innovation (an idea, practice or object)
- that is communicated through certain channels (to get messages from one individual to another
- over time (the time required for acceptance and adoption)
- among members of a social system (a set of interrelated units that are engaged in joint problem-solving to accomplish a goal).

(Rogers 1986, 117)

These elements of the diffusion of innovations theory could be applied in a general sense to the acceptance of change. An innovation can be seen as a new idea which requires change. This idea or change force must be communicated throughout the organization over a period of time, and during that time there may be re-invention or transformation of the original idea (Rogers 1986, 121).

Farquharson discusses the diffusion of innovations with respect to the human services. He stresses the importance of considering the time delays in the adoption-diffusion process, which can be lengthy (1996, 224). It appears that critical factors in the implementation of change is not only *who* transmits the innovation, but *how* new information is communicated.

Rogers shares an important concept about the communication channel that is required to move information from one individual to another. "Mass media channels are more effective in creating knowledge of innovations, whereas interpersonal channels are more effective in forming, and in changing, attitudes toward a new idea, and thus indirectly influencing the decision to adopt or reject a new idea" (Rogers 1986, 117). This distinction is critical, as it implies that for deeper change to occur, (that is, change which will alter attitudes and behaviours), interpersonal communication is required. I imagine this form of communication to be, as Senge suggests, more than discussion or conversation (1990, 10). It is perhaps better expressed as "dialogue".

> *Journal Entry - December 6, 1996: What is really meant by "dialogue?" - a written or spoken conversation - communicating "through words." Some imply that with dialogue there is "meaning flowing through"; that dialogue allows a free flowing of meaning and exploration of our assumptions both individually and collectively. A modernist perspective would value debate over dialogue, would declare a winner over a loser. We have become accustomed to focus on argument and dispute so that the upholder of "the Truth" can emerge. I like to imagine that through dialogue many truths can emerge and a deeper under-standing can be found.*
>
> *What does this mean for education, particularly the type of education I am involved with - workplace learning? I sense a greater need to allow space for many voices, to share narratives in order to enrich the learning experience, and to encourage dialogue not only during an educational session, but also in the development of the programs we provide. Our office has been caught in a dilemma of meeting the demands of regulatory requirements, administrative*

expectations, and employee needs. Attempting to meet the first two types of demands has resulted in minimal employee involvement with course development. We have worked hard to provide good programs, but now I question the focus and direction of our energy.

As I contemplate the role of dialogue in my professional practice, I consider what conditions are conducive to engaging in this specific form of communication. More recently I wrote of my personal, academic experience of dialogue:

> *Journal Entry - November 23, 1997: As I look back at my educational journey over the past two years, I wonder if I could have continued on this shaky path without the caring environment and support of the "Tuesday Group." Open to anyone, the membership of this group expands and contracts, but has a constant core of seven women. Meetings occur faithfully every Tuesday, over lunch, at the Graduate Student Centre.*
>
> *We share a common thread in an educational web - all graduate students with an interest in adult learning. Otherwise in many ways our lives are different. Of course there are some interesting connections, mutual friends, and shared professional interests - but the strongest link was formed around the need to share the experience of graduate school, to discuss academic thoughts and ideas, and to celebrate in the occasional epiphany (that delightful sense of "ah-ha").*
>
> *I am a late-comer to this group - the newest member - which gives me the advantage of a tremendous pool of graduate school knowledge and*

experience. At times I was reminded of my position in my family - the youngest - always the least experienced - often not understanding what the others said, but quickly gaining an education. There were times that I was mystified by some of the group discussions, but as I continued on my own educational journey, I felt I was able to participate more within the group. Even so, at all times I felt encouraged to share ideas and contribute thoughts based on my own life experiences and perspectives.

The group is a place of connection and sharing - it provides a wonderful space for exploring the many shaky fault lines I have been experiencing. It is a place to discuss difficulties and ideas; to share our writings, to read and be heard, to listen, and to search for understanding. It is a respectful place where I can seek shelter from the seismic waves which often ripple through my life.

I am describing a community of learners which provides a place for dialogue; not simply conversation, although it occurs; not just friendship, although it is there - but a deep sense of sharing meaning "through words." This learning community promotes inner learning and outer learning. I am able to share my insights gained through self-reflection, and to form connections with others. In life we learn continually from others - family, friends and colleagues - but a learning community provides a special space and opportunity.

I imagine that in the midst of the tensions which encourage us to learn, a learning community exists in a seismic gap - a shared place of many meanings

and many possibilities. Is it possible to create this
kind of learning environment in the workplace?

Jill Tarule suggests the term "collaborative learning" as the type of learning possible in a learning community engaged in dialogue. Her recent work revisits and expands on aspects of Women's Ways of Knowing (Belenky, Clinchy, Goldberger and Tarule, 1986). She indicates that "all the WWK women [interviewed in 1986] emphasize that the roots of their thinking are nourished by conversation and that dialogue is how they apprehend new understanding and reinterpret their thinking and their ideas" (Tarule 1996, 285). Can this type of dialogue and collaborative learning occur in an organizational setting?

William Isaacs writes about dialogue within organizations. He asks us to imagine that a flock of birds suddenly taking flight from a tree reveals the potential coordination of dialogue: "this is movement all at once, a wholeness and listening together that permits individual differentiation but is still highly interconnected" (Isaacs 1993, 25). His metaphor speaks to the importance of interconnectedness within the whole, and the need for all members of an organization to engage in Senge's "systems thinking." Dialogue may be the tool which enables systems thinking to occur.

Isaacs stresses that in an organizational setting, the central purpose of a dialogue session:

> ... is simply to establish a field of genuine meeting and inquiry ... - a setting in which people can allow a free flow of meaning and vigorous exploration of the collective background of their thought, their personal predispositions, the nature of their shared attention, and the rigid features of their individual and collective assumptions. (1993, 25)

Isaacs refers to this setting as a learning field; I think of it as a learning community which generates a space or environment for collaborative learning. As Isaacs suggests, these environments are "safely dangerous," in that they allow people to risk while feeling safe in doing so (1993, 38).

These types of learning environments will encourage us to change the status

quo, and will provide the climate in which organizational learning can occur. Whether it is the change required as part of the Emergency Planning Program, or the change occurring as our modern organizations shift into a post-modern world, learning individually and collectively will be key to the process. Perhaps we all need to begin the difficult and unsettling process of both personal and professional critical self-reflection in order to achieve Immanuel Kant's view of existing *"by means of"* each other rather than just *"for"* each other.

Fullan and Stiegelbauer write of the educational change process: "Implementation, whether it is voluntary or imposed, is nothing more than learning something new" (1991, 85). I recognize now, that in coordinating the Emergency Planning Program on campus and in attempting to implement change, I have been deeply engaged in learning on both a personal level and with others as part of a larger learning community.

I have come to appreciate the need for collaboration in the workplace and the development of learning communities. But what does collaboration really mean? I find I spend a large amount of time at work-related meetings, but I question whether they actually reflect collaboration. Some meetings are held when one or two individuals, usually of a higher position in the hierarchy, are consulted regarding a specific decision which needs to be made. Some are meetings which attempt to be inclusive or informative, but often fail. However, I have experienced a few meetings which I think approach a sense of collaboration; in these meetings communication occurs in the form of dialogue rather than conversation. There is a sincerity and depth which I compare to Richter's notion of "pedagogical reaching" discussed earlier. My journal entry about pedagogical reaching describes a positive tension in the classroom which could be applied to the workplace:

> *Journal Entry: October 18, 1995 - .... I too have experienced that positive tension - a sense of connectedness and sharing, of momentarily being drawn into a new space that existed just for that moment between participants and facilitator, between class and teacher....*

This sense of collaboration, of being drawn into a shared space, emphasizes relationship. It can occur in a classroom or meeting room, but sadly, it often seems to be missing in both places. It can only happen when we seek connectedness and relationship rather than power and control; when we value colleagueship as well as independence.

As I reflect on my personal experiences, and my relationship within a large organization I can identify a sense of self, as well as a sense of being within a larger community. Most of my working life has been spent in large organizations so perhaps this notion of interconnection and community seems more natural and more important to me. I know that for many others, the sense of organizational community does not exist. But developing connections and forming learning communities may enable us and our organizations to survive and possibly even transcend the stresses and strains of modern life. This requires individual and organizational self-reflection which can at times be difficult and painful - it can create major shaking in our lives.

Looking back I see that many mistakes have been made and lessons learned during my professional learning journey as an emergency planner which have resulted in seismic shifts in my thinking and practice. These are aspects of my experiences of learning and change which I feel are particularly important to share. By reflecting on these seismic shifts and sharing my experiences as a learning agent, I hope to improve my professional practice, and to encourage organizational learning.

MAJOR SHAKING:

EXPERIENCES OF A LEARNING AGENT

In our past explorations, the tradition was to discover something and then formulate it into answers and solutions that could be widely transferred. But now we are on a journey of mutual and simultaneous exploration. In my view, all we can expect from one another is new and interesting information. We can not expect answers. Solutions, as quantum reality teaches, are a temporary event, specific to a context, developed through the relationship of persons and circumstances. There will be no more patrons, waiting expectantly for our return, just more and more explorers venturing out on their own.

Margaret Wheatley (1992, 150)

SEISMIC SHIFTS/LESSONS LEARNED

Looking back, I understand how coordinating the Emergency Planning Program has required implementing change, and my experience as a learning agent has resulted in a number of seismic shifts or valuable "lessons learned." Reflecting on my role as an emergency planner has not been easy, examining my professional practice has in fact created major shaking, but it is largely through this reflection process that the following seismic shifts in my thinking have emerged. I share them in the hope that they may help to form connections between theory and practice. These are the lessons I have learned:

- *Provide Support, Seek Balance*
  - *Buy in Takes Time and Understanding*
    - *Listen*
      - *Be Sensitive to Others' Realities*
        - *Top Down and Bottom Up Strategies are Required*
          - *We are All Learning Agents*
            - *Expect Problems and Anticipate Change*
              - *Seek a Shared Vision*

Provide Support, Seek Balance

With the clarity of hindsight, it is now possible to see that following the linear approach to the Emergency Planning Program (i.e. the four phases) may have encouraged, or even forced, implementation before support in the form of information and specific training was completely in place. As Fullan and Stiegelbauer state, it is "extremely important that people obtain some support at the early stages of attempted implementation" (1991, 85).

For example, several Building Safety Committees have been struck to address a variety of localized health and safety issues including emergency preparedness. With the help of the MacLaurin Building Safety Committee, a package of information was developed with respect to emergency planning, but I am concerned that I (and our office) did not provide enough specific background information or training to support the Committee members with

other aspects of their mandate. It would have been helpful for the Committees to have some concrete information on conducting building inspections and accident investigations right from the beginning so they could more effectively plan their approach to these health and safety issues.

But where does support end and control begin? I have often felt that I am balancing on a shifting fault line between not providing enough information and direction, or providing too much. It is a challenge to offer the right amount of support without jeopardizing flexibility, particularly as individual or group needs can be so different.

Fullan writes of contending with the forces of change and the need to work with polar opposites particularly to fight against "overcontrol on the one hand, and chaos on the other," and also to simultaneously push for change while allowing self-learning to unfold" (1993, 40). I imagine that a dynamic balance is required between:

- *discipline and freedom (Whitehead 1932, 46),*
  - *rigour and imagination (Bateson 1978, 237), and*
    - *stability and flexibility (Doll 1996, 24).*

It is difficult to find this balance in a world which often appears to oscillate between two poles. But perhaps a place of balance is located at the ruptured fault lines, in the seismic gap between these polar opposites? For me, this place of balance is also a place of possibilities.

Buy In Takes Time, Patience and Understanding

I have also come to recognize that I cannot expect individuals to immediately accept a new idea when I myself have wrestled with the concept for some period of time. As suggested by the Price Waterhouse team:

> Do not assume for a moment that those whose jobs (and lives) will be changed by what you intend will conveniently and effortlessly buy in. Even those who appear to be in favour of change need to be convinced, for many of them will not understand the magnitude or the nature of change you may be contemplating. (1995, 51)

I had the advantage of meeting with several Emergency Planners at a variety of universities in California, as well as the luxury of discussing the finer points of emergency planning with my counterparts at Simon Fraser, the University of British Columbia, Camosun College, and the local municipalities. I look back with some concern that my expectation for adoption was unrealistic. I had more time to think, reflect and to consider emergency planning possibilities - to make meaning out of a complex issue - time which enabled me to see a larger picture.

> When those who have the power to manipulate changes act as if they have only to explain, and when their explanations are not at once accepted, shrug off opposition as ignorance or prejudice, they express a profound contempt for the meaning of lives other than their own. For the reformers have already assimilated these changes to their purposes, and worked out a reformulation which makes sense to them, perhaps through months or years of analysis and debate. If they deny others the chance to do the same, they treat them as puppets dangling by the threads of their own conceptions. (Marris in Fullan 1993, 23)

I felt seismic shock waves as I read Marris' blunt reminder of my responsibility as a change agent to consider those affected by the change process.

I learned that it is essential not only to include others with the process, but also to allow them time to make meaning of the change. Patience and understanding are important when taking an inclusive approach to the change process. "The more stakeholders feel involved in assessing the need for change and in shaping the nature of change, the more prepared they will be to commit to change and contribute to its success. This is buy in" (Price Waterhouse 1995, 51).

Listen

In the excitement of conveying new knowledge, it is sometimes easy to overlook the basic but essential art of listening. It becomes important to suspend one's own perspective long enough to appreciate a different view and to understand different needs. "As the leader of a change team, your

ability to listen sends the message that the voice of the organization is being heard and that its needs will be reflected in the change vision" (Price Waterhouse 1995, 80).

For example, I could more easily imagine how emergency planning might be implemented in the School of Music when I listened to a description of their "typical day," and learned about the large number of valuable instruments located in their building. I began to understand more clearly the special needs and concerns of this particular group of people, and I believe that through our discussions, emergency planning started to take on more meaning for them. "People change when the case for change becomes a personal matter" (Price Waterhouse 1995, 21).

But there were occasions when I heard but may not have listened. This is an uncomfortable reflection, but I sense that at times I felt a very strong need to convey information and advice in order to fulfill my perception of my role as an emergency planner. It is perhaps not unusual for professionals to want to be seen as "educators" and not "learners," as to admit to not knowing may seem unprofessional. We tend not to acknowledge and value the learning which naturally occurs in the workplace on a daily basis.

There are also times to listen to oneself; to understand and appreciate the inner voice. In his discussion on dialogue, culture and organizational learning Edgar Schein suggests, "We have to learn to listen to ourselves before we can really understand others." I wrote about Schein's words:

> *Journal Entry - September, 1996: "These words haunt me - I question whether I really listen to myself. I'm beginning to realize that my every thought and action is based on a complex mixture of what others think and societal standards, with only a small component of what I believe is best. This is a difficult and sad reflection."*

In looking back I see the personal struggle in which I was engaged: the pain and discomfort I felt as my world was being shaken by new thoughts;

thoughts which often questioned underlying assumptions and personal beliefs; thoughts which made me reflect on my own perceptions and world view. On the process of reflection and listening, Schein writes: "It is this process of becoming reflective that makes us realize that the first problem of listening to others is to identify the distortions and bias that filter our own cognitive processes" (1993, 46). In the midst of shifting and shaking, I experienced considerable personal change and transformation as I tried to listen to myself and to engage in self-reflective (inner) learning.

Be Sensitive to Others' Realities

With listening comes the need to be sensitive to the realities of others. To appreciate the backgrounds, knowledge, expertise and intuition of others means to accept that there is likely to be more than one "right" approach. Fullan and Stiegelbauer emphasize that ".... educational change is a process of coming to grips with the multiple realities of people who are the main participants in implementing change" (1991, 95).

Involvement of others is crucial to the emergency planning process. This does not suggest that one's own views are less valuable, only that it is important to recognize other perspectives.

> The solution is not to be less committed to what we perceive as needed reforms, but to be more sensitive to the possibility that our version of the change may not be the fully correct one, and to recognize that having good ideas may be less than half the battle compared with establishing a process that will allow us to use the ideas and discover additional ones along the way. (Fullan and Stiegelbauer 1991, 100)

Emergency planning is such a complex issue, and the options and possibilities so numerous, that there really is not one correct approach; what really seems to matter is creating interest and sharing ideas.

As someone with a scientific background centred in a modernist world, I have found it a challenge to recognize the possibility of multiple realities. Two years ago, as I began my educational journey, I wrote:

Journal Entry - December 1995:

The Unquiet Mind

I am experiencing quaking and tension; perhaps I am living on an active fault line as I journey away from what has been the centre of my educational experience toward the margin of new perspectives. This is an uncomfortable place, but alive with new possibilities.

I cannot dismiss the empirical analytic orientation which has in the past been my educational perspective, but I consider opening my disquieted mind to other possibilities. I reflect on the tension I am experiencing; I sense a need to accept change but I am still, from the familiar empirical analytic perspective, trying to grasp the other side of change, looking for something tangible in the midst of uncertainty.

I try to view the curricular landscape before me, not recognizing what I see but slowly becoming aware of new discourses. Perhaps the dust created by sudden disruption is settling, and a new awareness is dawning. In this space, on the uncomfortable fault line between the centre and the margin, there is much to be learned.

Through the discomfort of my personal experiences of change, I began to reflect upon new possibilities, upon multiple realities. These thoughts are reflected by Flower's discussion on learning organizations: "One of the assumptions that people have not really surfaced or addressed is the implicit belief that there is a single answer" (1996, 38).

Top Down and Bottom Up Strategies are Required

In a large organization such as the University, the support and commitment of senior management was essential to the development of the Emergency Planning Program. As Emergency Planner, I reported to a Steering Committee consisting of the Vice-President (V-P), Academic, the V-P Finance and Operations, the Director of Human Resources, and the Manager of Occupational Health and Safety. From the beginning I knew this project was seen to be an important initiative, and I felt I had the support of several senior administrators on campus. This was encouraging and made my job easier.

At first I was tempted to work quietly on my own; to try to determine the "best approach," and to journey alone along a steep learning curve with the idea of eventually presenting my findings to a (hopefully) interested audience. In fact, I sensed that many individuals were optimistic that I would just quietly produce a document which could be read (possibly), and then stored on the shelf with other important documents to gather dust.

As suggested by the Price Waterhouse team, "Involving employees is messy. Wouldn't it be easier to form a small team, figure out the answers, and tell everybody else?" (1995, 19). However, the Price Waterhouse team quickly adds "But involvement builds commitment and significantly increases the likelihood of a successful transformation." Although including more people inevitably creates more complexity, they are essential to the process. Fullan and Stiegelbauer agree, " ... people are much more unpredictable and difficult to deal with than things. They are also essential for success" (1991, 65).

I gradually attempted to overcome the temptation to act alone, and began to recognize the importance of involving a large number of people. Despite the additional time required to involve others, the benefits continue, and I believe the chances of success are now greater. "To achieve important, enduring, positive change, employee involvement is essential" (Price Waterhouse 1995, 19).

Over the first one and a half years, I tried to create "buy in" from a large

number of directors and managers; individuals closer to the top of the organization. Interest was initially mixed, but a realistic table-top exercise conducted in 1996 proved to be a good learning experience for all of us. The exercise, which is discussed in more detail in the next section, simulated a major earthquake which had created considerable damage to the campus. This helped to foster a greater awareness and understanding of what potentially can happen, and how we should all be planning to enhance our ability to respond to and recover from a major emergency.

Now I sense we are at an important juncture of the program where the focus must shift from a "top-down" approach to much larger "bottom-up" involvement. Buy-in has largely been achieved at the top, but unless there is support and involvement at the grassroots level, the program will not succeed. Many individuals on campus are unaware of the planning and discussions which have been taking place with respect to emergency preparedness over the past two years. Although it is critical to have support from the senior administrators and decision-makers to launch the program, it will not grow and evolve without the interest, support and involvement of all those who will be affected by the change. The concept of shared control is stressed by Marsh: "Blending top-down initiative and bottom-up participation is often a characteristic of successful multilevel reforms that use what amounts to evolutionary planning approaches" (Marsh in Fullan and Stiegelbauer 1991, 83).

An employee who was "in the trenches" at UVic during the December 1996 blizzard and concerned about the way in which the emergency was handled, emphasized that individuals will be less likely to show support at the time of a crisis if they have not been included in the planning process. This comment, made at a meeting of representatives from all the different employee groups (unions and associations) and student representatives (undergraduate and graduate), was a strong message that the focus of emergency planning must now shift to the grassroots level in order to really implement effective change.

According to Fullan, examining what both the top *and* the bottom (i.e. the grassroots) can do in combination will maximize the change; change which is

inherently nonlinear. "All of this is to say that those at the top, as well as those at the bottom, have to turn systemic thinking on its head. They have to ask how we can focus our efforts at the bottom so that there is some chance to achieve widespread improvement under the conditions of nonlinearity in the "big" system" (1996, 421). I suggest that turning systemic thinking on its head would require less focus on the concept of bottom and top, and more on the notion of shared control.

The possibility of shared control raises an interesting question about organizational hierarchy and its role in the change process. Most (modernist) organizations, whether private or public sector, have a well-established hierarchy where individuals in the higher ranks assume more power and control. The line management arrangement in a university setting is distinctly different from that of the corporate world, but a well-defined hierarchy still exists. Some members of a university community (i.e. faculty) experience differing rights and freedoms from other groups within the organization since they enjoy the privilege of academic freedom and tenure. This practice, a centuries old tradition, is intended to protect the advancement of new knowledge from those resistant to change. Guaranteed permanent employment does not condone all actions and behaviours of faculty, but was developed in order to provide freedom in the academic pursuit of knowledge.

How might this form of employment protection affect the implementation of a new program? In a corporate hierarchy, change may be imposed or even enforced. However, for faculty, there can be no coercion or forced buy-in; there must be acceptance of the value of the change. But even with large grassroots support, unless the program is considered to be a priority from the top, it is unlikely to be adopted. Implementing change therefore requires a balance. Senior management has the power and money to effect change, but in any institution, particularly a university, significant change will not occur unless it is seen to be valuable by all its members. The balance I am describing requires relinquishing power and control, and developing shared meaning and a collective vision.

We are All Learning Agents

Jarvis describes the paradox of seeking change within organizations entrenched in ritualistic and repetitive behaviours, where conformity is encouraged. He suggests that maintaining the status quo is comfortable, and change can be frightening (Jarvis 1992, 219). It is indeed a dilemma if individuals prefer the comfort of habitualized action, when learning involves change.

How then is it possible for an organization to learn and to change? According to Argyris and Schön, it is the ability of individuals within an organization to respond to change:

> Organizational learning occurs when members of the organization act as learning agents for the organization, responding to changes in the internal and external environments of the organization by detecting errors in organizational theory-in-use, and embedding the results of their inquiry in private images and shared maps of the organization. (Argyris and Schön in Jarvis 1992, 219)

Learning agents must be willing to accept a major educational role in sharing new knowledge or perspectives with other members of the organization. The organization must provide a safe environment which encourages this form of inquiry, and promotes continuous learning.

When I began this professional journey as an emergency planner, I saw my role as a type of change agent; someone required to implement change. I felt unsettled about this term, perhaps because I perceived modernist overtones implying that one individual can attempt to impose change within an organization. I acknowledge that I did have responsibilities for coordinating emergency planning activities on campus and that this would require change, but I did not feel comfortable with the notion that I had, or needed, power to enforce change. Rather, I welcomed the concept of a "learning agent," as it reflected a more educative role; a role which sought to share meaning, to work collaboratively to effect change.

Jarvis maintains that organizational change is only possible "if the agents are in powerful positions in the organization or if those who exercise power favor change" (1992, 219). This may well be the case in a top-down modernist organization, but this argument is unlikely to survive in emerging post-modern organizations where collaboration is valued over power and control.

With respect to emergency planning at UVic, I sense that both modern and post-modern approaches were evident during this process. It was important that those with power on campus supported emergency planning change efforts, but significant change was emerging in a far more collaborative sense from a number of people involved with emergency planning. It is in this latter environment that everyone involved with the change process could be considered learning agents.

Expect Problems & Anticipate Change

As the project progressed there have been many difficulties and unanticipated problems; at times the lack of progress has been discouraging. However, it is comforting to consider Fullan and Stiegelbauer's view that problems are a necessary part of the process: "Problems are inevitable, but the good news is that you can't learn or be successful without them" (1991, 105).

I feel it is important to stop looking at how far along we should be, but rather at how far we have come, and to recognize that conflict along the way can be stimulating and healthy for the project. "Assume that conflict and disagreement are not only inevitable but fundamental to successful change" (Fullan and Stiegelbauer 1991, 105). If no barriers or resistance are present, one questions if any real change can be going on at all.

At times I have been challenged by those who feel confident that an earthquake or other major emergency will not happen at UVic, or those who would rather deal with the problems at the time of the emergency rather than plan for response and recovery now. Some individuals have indicated that they will probably be dead after an earthquake, so planning is not important! It is also extremely challenging to encourage emergency planning at a time when financial resources are scarce. It is understandable that some feel it is better to direct resources to immediate issues and problems and hope that a

major emergency will not occur. Conflict also arises in trying to estimate the extent of potential damage or disruption which might occur and how the University will manage this unexpected change; outcomes which are often impossible to predict. As emphasized by Fullan and Stiegelbauer, conflict and barriers must be anticipated and seen as a sign that change may be occurring.

In addition to accepting that problems will arise, there is also the realization that the project itself must undergo transformation and change as it evolves. At times it has been tempting to try to adhere to the original plan; to try to avoid issues which might de-rail the initial vision causing deviations from the original strategies. But commitment to the concept of process versus product requires that we accept that many changes will occur as the project grows and evolves: ".... assume that successful implementation consists of some transformation or continual development of initial ideas" (Fullan and Stiegelbauer 1991, 105).

These words emphasize the importance of the change agent herself being flexible to change. I found this challenging; I had difficulty dealing with any departures from the original direction of the program. Once I had struggled with complex emergency planning concepts and issues, and made a recommendation of what seemed a reasonable approach, it was often difficult to accept change, and to recognize and appreciate the natural transformation of the process. This is an issue of giving up control and allowing a new process. Once again, I found myself on shaky ground.

After working on the project for a few months, I decided that it would be appropriate to prepare an interim report at the end of each phase which would be distributed to the members of the Advisory Committee. This approach worked well at the end of Phase 1, but as aspects of the second phase were being completed, I recall trying to generate a similar report. It didn't fit the same format as the first report; it had to be manipulated and forced to produce a similar style of document. The end result was confusion on the part of the Advisory Committee members. Although I had put considerable effort into this report, it didn't work. I was discouraged, but I began to understand that the project was evolving, changing - not static - and I had to be willing to change as well.

Seek a Shared Vision

Some of the most exciting moments of the project arose from collective decisions on direction or focus. Work teams, used by organizations to accomplish a variety of tasks, are often seen to be an essential means of achieving continuous improvement. With a team approach it is possible, or even likely, for the collective wisdom of the group to exceed the sum of the group members' knowledge. When a number of us worked together to prepare the script for the emergency exercise, it ceased to be "my" exercise, and became "our" exercise. Much more interest and support was generated because of this shared approach.

Working together collectively is made even more worthwhile when the group is able to seek a shared vision, and commitment to the project will remain high, if shared vision reflects personal vision. "When there is a genuine vision (as opposed to the all-too-familiar "vision statement"), people excel and learn, not because they are told to but because they want to" (Senge 1990, 9). According to Fullan, " ... shared vision, which is essential for success, must evolve through the dynamic interaction of organizational members and leaders." However, he is careful to add that "Premature visions and planning can blind" (Fullan 1993, 28). It would be naive to assume that the entire campus community has a shared vision with respect to emergency planning, but a number of individuals have been working together toward a common goal and have shared their views of the future for emergency planning on campus.

At a time when I was attempting to implement change through the Emergency Planning Program, and when I was struggling personally with issues relating to change, the concept of organizational learning offered a different (post-modern) approach to organizational change. For emergency planning to be successfully integrated into the university culture, that is, for change to occur, it seemed essential that some sort of organizational learning take place.

Looking back, I question how my new academic discoveries might have influenced my work. Did I incorporate aspects of organizational learning into

the approach I was taking? If I did, how could this kind of approach be effective without strong leadership from the top? Is it possible for an individual with limited power within the organization to promote organizational learning?

ORGANIZATIONAL LEARNING AND EMERGENCY PLANNING

As I look back over the two-year project, I search for signs of organizational learning concepts in the Emergency Planning Program. One of the initial strategies was the focus on process rather than product. This approach provided opportunities for making emergency planning a people-centred program, rather than simply producing ready-made documents for distribution only. This strategy required individuals to become involved, and most importantly, to interact with each other, often in ways never required before.

A large institution such as a university comprises a number of fairly separate units which for the most part operate independently of each other. To encourage effective emergency planning, it is absolutely essential to break down some of the barriers and to form new working relationships. It could be argued that success for the Program is less reliant on ideas and plans, than upon establishing good inter-group dynamics. The time of a crisis is not the moment to be developing these working relationships, although disasters often encourage people to work together more closely as a community.

Senge refers to the problems of fragmentation within organizations and the need to be able to focus on different levels of interactions (i.e. within a local level, within the system as a whole, and even the more global view of within entire industries). His "principle of the system boundary" requires that interactions which must be examined are those most important to the issue at hand regardless of established boundaries:

> What makes this principle difficult to practice is the way organizations are designed to keep people from seeing important interactions. One obvious way is by enforcing rigid internal divisions that inhibit inquiry across divisional boundaries, such as those that grow up between marketing, manufacturing, and research. (Senge 1990, 66)

The University may not have the rigid boundaries found in the corporate world, but there is a certain level of decentralization, and I see the need to break down barriers.

It is impossible to reflect on these issues without considering the changes occurring at both individual and organizational levels due to the influence of the post-modern world. Post-modernism could be described as seeing our world differently; no longer a fragmented, static and unchanging place, but as holistic, evolving and dynamic. It describes a world which recognizes multiple truths and respects differences. It outlines an organizational environment which seeks a stronger sense of community, and focusses on internal connections and relationships.

In his description of the post-modern organization, Bergquist emphasizes the need to establish "strong commitments and partnerships among those working in these organizations" (Bergquist 1993, 250). He discusses the work of Riane Eisler and describes her views on collaborative partnerships; "She dramatically documents the destructive consequences of a world that fails to value the feminine characteristics of collaboration and colleagueship, valuing and rewarding instead the more masculine traits of hierarchy and the use of force to establish status" (Bergquist 1993, 250). It is these characteristics of collaboration and colleagueship which I believe are central to organizational learning.

In the following sections I describe components of the Emergency Planning Program which I believe reflect concepts of organizational learning, and consequently reveal a more post-modern approach. At the end of this section I have provided two ideas for future consideration which could enhance the program, and further promote organizational learning.

Key Response & Recovery Group

The initial attempts to encourage interaction and networking among different groups was aimed at six administrative departments (Campus Security Services, Computing and Systems Services, Facilities Management, Human Resources, Student and Ancillary Services, and UVic Communications Services), and two academic areas (the Libraries and the University Registrar's Office). These groups were selected because of their designated responsibility to coordinate a specific type of campus-wide response to major emergencies (e.g. food, shelter, medical services,

evacuation, search and rescue, emergency communications, etc.).

It was also recognized that soon after a crisis the University needs to establish recovery plans for several core functions including computing systems, records and admissions, payroll, and library access. Twenty-two individuals from areas within these units were asked to begin to coordinate specific emergency planning functions; these tasks required working with individuals within their area and encouraging them to interact with each other. A number of meetings were arranged with the entire group of twenty-two, but gradually additional smaller meetings were set up, often without my involvement, which seemed a very positive sign of networking. I felt that some of the barriers were being eroded, and many individuals, myself included, were learning more about other units, and more about the University as a whole. Learning more about the organization and forming stronger inter-departmental connections is an indication of systems thinking.

Building Safety Committees

The development of Building Safety Committees for all buildings on campus is another important component of the Emergency Planning Program which follows an organizational learning approach. This major initiative was not intended solely for the purpose of emergency planning; it was also intended to involve building occupants in health and safety issues relevant to their own building environment. These issues include personal safety and security, as well as involvement with other Workers' Compensation Board programs such as building inspections and accident investigations. The mandate suggested for each Building Safety Committee is "to encourage a safe and healthy environment" within their own building.

The formation of Building Safety Committees is not intended to abrogate the responsibilities of units such as Occupational Health and Safety, Campus Security Services and Facilities Management, but rather to empower the Committee members, who as building occupants typically know their working environment best. It seems appropriate that the individuals who may be affected by local building health and safety concerns should have the opportunity to become involved in the decision-making process. This

arrangement also enables building occupants to consider working together collectively to form a greater sense of community within their building. The formation of these committees is not an easy task, particularly in the larger buildings with many different and often independent departments or units, and a large transient population of students. Despite these difficulties, it was considered essential to involve more individuals in the process of learning about emergency planning.

The formation of these committees could conceivably provide opportunities for team learning, and offer a forum for networking and continuous learning, both of which are important to stimulating organizational learning. However, there is also danger in striking committees where there is no significant buy-in. There is considerable resistance to sitting on "yet another committee," when all of us are being asked to do more and more, with less and less time. The most successful Building Safety Committees are those which formed because of a perceived local need, not because they were mandated to do so. This highlights the active fault line which exists between administrative needs and employee needs. In order to be sensitive to this tension, I tried to inform and to encourage, but not to coerce. It has required me to search for the balance between control and flexibility.

Employee/Student Representatives

Another approach was to ask each employee group on campus (the unions and associations) and student groups (undergraduate and graduate) to identify an individual to act as a liaison for the Emergency Planning Project. I felt it was important to arrange meetings periodically with these individuals in order to inform them of the progress of the project, and to find out what emergency planning issues or concerns were of greatest importance to their membership. I am also hopeful that in the future, these individuals will provide assistance by disseminating information among the members of their constituencies.

Only a few meetings of this group have taken place, and the first two seemed more of a one-way information flow without much feedback from the employee/student group representatives. Again, I must recognize and be

sensitive to the groups' need to digest new information and to have the time to consider the proposed changes. However, there was much more interest and interaction after the December 1996 blizzard, which affected a number of employees and some students living on campus. Emergency planning suddenly became more of a reality. During our first meeting of 1997, the employee and student representatives made it clear that very few people at the grassroots level know what is going on with respect to emergency planning, and as a result, we began to discuss not only how to convey information, but also how to involve more individuals in the planning process. We still have a very long way to go.

I also struggle on another quaky fault line between the concepts of information and education. There are many ways in which to provide information, but when do the purveyors of information become teachers or facilitators? When do we in Occupational Health and Safety move beyond simply sharing information to providing education or training? In my professional work I use the terms "education" and "training" frequently, but I am haunted by the words of a visiting professor, Dr. David Noble, lecturing on "The Underside of Progress: the Social and Human Cost of Technological Change." He suggests that education is for the advancement of personal knowledge, whereas training is for the advancement of employer's interests.

Involving the employee and student representatives must be more than simply advancing administrative needs. These meetings must be arranged to fulfill a genuine desire to include many more individuals in the emergency planning process. Bringing together this group of people can provide yet another opportunity to promote networking among those who work in distinctly different parts of the campus, and who represent distinctly different employee and student groups. Obviously, not everyone on campus can sit around the table at one time, but providing the space to hear the different voices and perspectives which make up our dynamic whole, can only improve the change process for emergency planning, and in a broader sense, promote organizational learning.

Emergency Exercise

The major emergency exercise conducted in November 1996 was an excellent way to draw people and concepts together. The scenario was based on a major earthquake striking southern Vancouver Island early in the morning, creating considerable damage to the campus and causing a number of serious injuries and concerns regarding missing students.

This table-top exercise was held in the UVic Emergency Operations Centre (EOC), located in the Campus Security Services Building, where the V-P Finance and Operations, a number of Directors and the University Librarian were asked to work together to coordinate the immediate response and recovery activities. This group (known as Group 1) were individuals who would be expected, if possible, to report to the EOC at the time of a major crisis (although our planning must take into consideration that it is impossible to know who will actually be available when an emergency occurs).

The UVic Emergency Management Plan outlines the involvement of the President, V-P Academic, and Associate V-Ps, but they were not included in this first exercise in order to focus entirely on the operational issues of the emergency. Typically their role is to focus on the long-term implications of the crisis such as University closure and building replacement programs.

To make the exercise more realistic, a second group of individuals (known as Group 2) were asked to be available in a separate room to provide feedback to the members of Group 1 as decisions were being made on how to manage the emergency. Group 2 provided an important dimension to the exercise as they were able to assist or obstruct the requests of the Group 1 members. For example, a request to move heavy equipment to one of the collapsed residences to assist with search and rescue efforts, required contacting the Facilities Management representative in Group 2. The Group 2 individual could decide if it would be possible to comply with the request or not. For example, he/she might report back to the EOC that unfortunately the equipment was inaccessible due to damage to the storage shed. This made the exercise much more interesting and challenging, but it also required a large amount of preparation.

Fortunately, the set up of the exercise was something that could be shared. Virtually all twenty-two of the Key Response and Recovery Group representatives participated in the drafting of a script (i.e. the emergency information conveyed in message form to the EOC), which would provide the framework for the exercise. The goal of the exercise was to make the scenario as realistic and challenging as possible without being overwhelming. As this was the first of hopefully many exercises to come, it was essential to create a positive learning environment which would encourage the participants to become involved again in the future.

In the weeks leading up to the exercise a number of meetings were held with the Group 2 participants, to discuss what conceivably could happen to our campus if faced with a 6.9 earthquake at 4:30 a.m. on Wednesday November 27, 1996. Decisions had to be made about the availability of power, telephones etc., and about the extent of damage and how this would affect each of the units involved, as well as scheduled events (for example, we had to speculate whether Fall Convocation could go ahead as planned on November 30th). The Group 2 members were key to establishing realistic outcomes, and the process of determining these outcomes provided a rich learning experience for this group even before the exercise actually took place. As previously mentioned, they were also asked to be available as the two-hour exercise unfolded, in order to ad lib according to the requests for information and assistance which were initiated by Group 1 in the EOC.

To add further interest and excitement, the script also included an aftershock which occurred about half way though the exercise. This caused further "virtual" damage to the campus and knocked out telephone communications, requiring the two groups to communicate through two-way radios slowing the process and adding an additional challenge to those trying to manage the emergency from the EOC.

During the exercise, the tension in the EOC was palpable; the two hours seemed like an eternity for those faced with making difficult and rapid decisions based often on limited information. But the goals of the exercise were met; it was a valuable learning opportunity for all of us, and our experiences would help to provide new direction and focus for the program.

The exercise was difficult, and we discovered a number of issues and problems that need to be addressed. But we discovered these issues together, and perhaps new directions for the program will be based more closely on shared meaning and a shared vision (at least for those involved with this particular exercise).

Future Considerations

Becoming a learning organization requires the kind of environment where continuous learning and networking is encouraged. In addition to the activities I have already outlined, I suggest two other strategies.

The first is the use of participatory evaluation not only to assess the progress of emergency planning on campus, but also to promote organizational learning. Participatory evaluation requires asking internal individuals to assess the progress of the program, and to collectively develop ways to improve it. The very nature of participatory evaluation creates a platform from which a number of individuals can become involved, the program can be assessed and ideas for improvement can be implemented. This form of evaluation may encourage ownership, and building this process into a continuous cycle, can promote organizational learning. This approach could be used by the Key Response and Recovery Group and the Building Safety Committees members.

The other strategy to consider is the use of new technologies such as the Internet and/or an Intranet system. These systems can provide opportunities for networking, as it is possible to share information and ideas easily, and rapidly. An Intranet is a computer system which is based on Internet (Web) technology, but it is used as an internal network only (i.e. the information is not available to anyone outside the organization). Corporations may use an intranet system in order to protect company information, but when there is grassroots involvement in the development of an Intranet, it can become a safe place to engage in dialogue. The ability to encourage dialogue using Web technology would need to be considered in conjunction with traditional face-to-face formats, as it is a medium which is intended to support rather than displace more conventional means of communication.

Differing levels of comfort in using new technologies exist within the workplace. Some embrace it warmly, while others try to ignore it; most of us fall somewhere between these two poles. But remembering the diffusion of innovations theory, it is likely that with time a large proportion of our organization will adapt to new technologies. Already many individuals take part in listserve discussions, either temporarily to discuss a specific issue, or on a more long-term basis. New web-based technologies such as intranet systems, and chat rooms (providing synchronous interaction which more closely simulates the immediacy of a face-to-face conversation) can help to connect people, and can conceivably encourage networking. Using these technologies will never be a panacea for relieving all of the communication ailments an organization may suffer from, but it provides some options. There are those who find the medium attractive and conducive to frank and open discussions, which may offer a deeper form of communication, something approaching dialogue. It may be possible for some individuals to form workplace learning communities through an electronic web, where groups can engage in team learning and can share practices. A specific emergency planning listserve or chat room could be developed which would promote discussion; video clips of critical incidents could be included to create interest and stimulate thought.

In summary, aspects of emergency planning at UVic provide a means of encouraging organizational learning. Additional approaches, based on organizational learning strategies, could be introduced to improve networking and to promote continuous learning.

I feel a sense of quaking and unease with the idea of attempting to introduce organizational learning principles into a specific program which is just a very small component of a large organization engaged in numerous programs, projects and planning activities. Shouldn't organizational learning be driven from the top as a concept intended to influence our overall operational approach, not just how we manage one program?

To believe that a top-down approach is required in order to become a learning organization is a modernist view; to imagine a more emergent collaborative movement echoes the voice of the post-modern. Herein lies a dilemma, as

those of us used to working in a modernist organization may be waiting for leadership from the top, when possibly we all have a role to play in spinning the web of organizational learning and change.

Fullan describes a study which provides insight into corporate renewal, "Beer et al found that isolated pockets of change reflecting new behaviours, led to new thinking which eventually pushed structures and procedures to change. People learn new patterns of behaviours primarily through their interactions with others, not through front-end training designs. Training builds on and extends existing momentum" (1993, 68).

Perhaps it is possible to encourage a sense of organizational learning in one program that might have an effect on the larger whole. A ripple effect might occur leading eventually to organizational change. If the individuals involved in the isolated pocket of change created by the Emergency Planning Program feel positive about the approach taken, they may repeat it for other initiatives. I sense that any one of the many learning agents working within the organization can create momentum within one program; this momentum can act as a small seismic wave evolving outward into the organization causing significant learning and change.

FINDING THE PATTERNS WHICH CONNECT

Journal Entry - November 28, 1997: Last night I dreamed that on a bright, sunny day, I pulled my car over to the side of the road near a tidal bay close to the ferry terminal. Without even stopping to close the car door, I walked down to the beach and decided to swim in the pale green water.

The water was muddy, but I walked confidently into it and felt enveloped by its warmth. As my body gradually became submerged in the murky waters, I thought of my thesis and my writing. The water felt warm and silky as I slowly swam parallel to the shore. Words and meaning came to me as I moved through the green water, and I felt new clarity and understanding about my work.

I touched the muddy bottom with my toes, and watched as clouds of mud swirled upward. I then swam back to the place I had started from. I walked out of the water, but was not wet. I felt an overwhelming sense of peacefulness. I got into my car and continued on my journey.

I awoke from my dream with a strong feeling - a sense of knowing - that I had found the patterns which connect in my work.

I am unable to provide prescriptive recommendations to others who might find themselves in a similar situation of implementing change within a large organization. I can only offer my observations and reflections, and hope that my experiences of exploring personal and professional fault lines will contribute to new meaning for others.

This work has been an exploration of learning and change, which was

necessary for me as a person, a professional, a learning agent and a member of an organizational community. The context has been the shifting tectonic plates of my professional and personal life; as an emergency planner implementing change in a large organization, and as a graduate student experiencing considerable personal change. This exploration has been taking place in the midst of major change, as our world experiences a paradigm shift from the modern to the post-modern. The issues of learning and change are paradoxical and complex, but I felt a strong need to make meaning from the uncertain, and to find the patterns which connect.

I have come to understand the importance of uncertainty and ambiguity in my life. Doubts and questions spark the magical dynamic between learning and change; a dynamic which is needed to engage in self-reflective inner learning, and to form connections with others, enabling outer learning. I have discovered the importance of critical self-reflection to assist in gaining knowledge of self and a greater understanding of relationships between self and others.

I see that it is through critical self-reflection that one can begin to recognize the professional and personal knowledge which drives our practice. It is when the fault lines rupture from the tension between theory and practice that we can begin to see and to acknowledge how we lead our professional lives and how we influence others. Understanding our role as "change agents" in implementing change also requires tapping into the capacities for inner and outer learning. My experience of becoming a learning agent has taught me to be reflective, to be open to change, and to work collaboratively with others to find shared meaning in the midst of change.

I see myself as part of a professional community, and I recognize that our organization is struggling with change. I sense we need to reflect together and to learn together; to move away from fragmented units, and to embrace the sense of community; to acknowledge our connections, and to work together to create our reality. This collaborative approach is important for emergency planning, and for a learning organization. We can all benefit from considering Senge's five disciplines of personal mastery, mental models, team learning, building a shared vision and systems thinking, and from

imagining how these disciplines can be woven into our daily professional practice. We can consider creating learning communities to provide a safe place for dialogue in our workplace, and to encourage continuous learning within our organization.

From the personal, to the professional, to the organizational, we live in a web of relationships with self and others, and I have come to recognize how these relationships are being influenced by a shift away from the positivist modern world to the more holistic perspective of the post-modern. The ravens' call prompts me to question: Could post-modernism be a trend, or fad - a product of our imagination based on the fear and uncertainty of change? Have I been deceived? Perhaps it has been a fad, but the sustained discussion surrounding this new perspective suggests that it is a broad and pervasive shift of mind which is presenting many new challenges and many new ways of thinking.

Learning and change never cease - they interact continually with each other causing seismic waves to ripple through our lives, at times creating major shaking, at times small quakes, and at times only subtle tremors which may go unnoticed. But there are moments, often when we least expect it, that aftershocks can shake our world.

AFTERSHOCKS:

SHIFTING TO NEW GROUND ON LEARNING AND CHANGE

... reality is a shifting phenomenon which is subject to change and uncertainty.

William Bergquist (1993, 25)

SHARING MEANING

When my involvement as an emergency planner came to a close, so did my course work for graduate school come to an end. Much of the major shaking due to experiencing the fault lines of learning and change had subsided, but I was shaken by some unexpected aftershocks as I began to reflect on my academic journey, and to consider how I would write my thesis.

In the early days of my graduate program, I enrolled in classes and focussed on the content of each course. I found it was such a luxury to be embedded in this rich learning environment, taking in the powerful thoughts and ideas of others, even though the experience was at times shaky and unsettling. I typed up a list of all the courses I needed to obtain credit for my graduate degree. At the top of the page was a list of courses required, (which started out to be quite long), with a short list of those courses already done typed below. I met with my academic supervisor faithfully at the end of each term, and I enjoyed handing over my most recent list. As time went on my satisfaction grew as the top list became shorter, and the bottom list became longer! The pleasure in this process was superficial though, as underneath I was well aware that the course work was only the beginning, and that the real work was still to come.

The idea of conducting some form of research was a bit overwhelming for me, perhaps in part because I changed my mind frequently about a topic. How I envied those students who cheerfully informed our class that they had known what their topic would be right from the beginning, and had been working on it all along. I seemed doomed to indecision, a trait with which I have considerable experience. But part of me had faith in the process, understanding that time is often a critical thread in the complex web of graduate work. "It's not a race," my academic supervisor often reminded me, and of course I realized that I wasn't competing with anyone but myself, and my own, often unrealistic, expectations.

In the beginning, it never dawned on me that I would not be conducting some form of quantitative "scientific" research, for that was all I had been exposed to. I distinctly remember asking some fellow students who were further ahead in a similar program if they had done any statistics courses; I

had almost convinced myself that another "stats" course would be helpful for my research. I visualized some kind of survey, but as time went on, I began to hear about a new term, "qualitative" research. It sounded interesting, but in trying to understand it, I found the ground trembling around me. The concept of qualitative research was unfamiliar and unsettling; I wondered and worried about how I might seek valid information from a small number of people. I tried to imagine myself interviewing others, and wondered how I would be able to accurately transcribe that rich information into something meaningful which still kept the "me" out of my work. How could one be objective in this situation I wondered? Somehow a nice survey just seemed so much better, less messy and more controlled.

In the midst of the quakiness of the endless questions which haunted my mind, I started to think about the process of understanding people, and I reminded myself that human beings are complex and uncontrollable. At the same time, I questioned why I should pretend to keep myself out of my work - couldn't my experience be considered informative as well? I found myself in a place of internal tension between the concepts of objectivity and subjectivity, where I began to appreciate a new dimension, the perspective of qualitative research. I was not willing to completely abandon the truths I had valued in quantitative research, but I recognized its limitations, and I was willing to expand my thinking to be open to other ways of seeking information and other ways of knowing. At a gathering of students someone turned to me and asked "What kind of research are you going to do, qualitative or quantitative?" My response reflected my views then, as they are now, "I suppose it will depend on what it is that I'm trying to understand."

Time went on, and I toyed with new and intensely interesting issues and questions as potential topics. I oscillated between the excitement of new concepts and ideas, and the fear of the unknown. My life continued on its shaky course as I struggled with personal change, and all the while I was trying to encourage change on our campus. I was often afraid to discuss my new found knowledge with family, friends and professional colleagues who had a strong positivist outlook that I had once shared. I could imagine their reaction and didn't feel confident enough to cope with it - to "defend" my position.

A course in interpretive inquiry helped me to understand and gain appreciation for the many complex forms of qualitative research. I also spoke to fellow students who were in the midst of writing their thesis and had chosen their methodology to resonate with their topic. A defining moment occurred when two situations came together in my life creating an opportunity for new clarity. I was in the midst of writing a paper for my final course when I attended a friend's oral defense.

Although I thought I had already decided on a topic, I was taking a course which focussed on educational change. For the first time, I had chosen to write at length about the experience of implementing change through the Emergency Planning Program. I had previously kept fairly quiet about my professional life, as sadly I had not recognized the richness of the experience, and I assumed that others would consider it dull and insignificant. However, it felt wonderful to write about something I knew, rather than something I was just speculating about. When I heard the groundedness of my friend at her defense as she talked about her own experiences, I felt an enormous shift in my thinking as I suddenly realized that my topic had been before me all along, unfolding with time, revealing itself gradually, in a space of tension; in the fault lines of learning and change.

My feelings at this revelation are difficult to describe. My journal writings at the time reflect a sense of the excitement I felt as I began to recognize connections in my writing which stretched back two years. I felt exhilarated at seeing these connections which revolved around the theme of change.

> *Journal Entry - March 15, 1997: I am taking a break from writing my paper for the Curriculum Implementation course. I'm excited at finding connections between where I am now, both professionally and personally, and where I was when taking Ted Aoki's course [Foundations of Curriculum Studies].*
>
> *I am actually quoting from my journal writing in October 1995; even then, and still now, I am*

*struggling with issues relating to change. It is all
starting to come together - not in a crystal clear
visual way, but in a comforting inner feeling way
that makes me feel that it is time to begin writing
my thesis. I feel it's there - it's ready - even though
I'm not sure what "it" is yet!*

*Perhaps I'm just wanting to lift the burden, to be
relieved of the pressure and to move on to a new
challenge in my life - and yet it's not just wanting
to be done - it's wanting to find and make
connections to bring closure to this stage of my life.*

*I haven't written much this afternoon - but have
thought a great deal about then (1995), and now
(1997), and I feel a connection with the following
words by Virginia Woolf:*

> *It is in our idleness, in our dreams,
>   that the submerged truth
>   sometimes
>   comes to the top.*

*Even now, when I'm in the midst of writing my thesis, and talking to others
about what it is that I'm doing, I still feel uncertainty. I recognize the
enormous changes I have been going through, but I am still grappling with
new thoughts and ideas. I sense an internal struggle, a war of words between
my professional and personal voices - my professional side expecting extreme
intellectual clarity and conviction, while the personal voice attempts to focus
my attention on inner truth and intuition, perhaps what Daniel Goleman
(1995) would describe as "emotional intelligence."*

Goleman discusses the role of emotions in intelligence. In the middle of this
century psychology was shaped by behaviourists who focussed on the
examination of behaviour from an objective viewpoint. It was felt that only
behaviours which could be seen objectively could be studied with scientific

accuracy; emotions, constituting the inner life, were considered to be out-of-bounds for science (1995, 40). The cognitive revolution of the late 1960s shifted to a focus on how the mind stores and processes information and the nature of intelligence. Emotions however, were still considered to be off-limits:

> Conventional wisdom among cognitive scientists held that intelligence entails a cold, hard-nosed processing of fact. It is hyperrational, rather like *Star Trek's* Mr. Spock, the archetype of dry information bytes unmuddied by feeling, embodying the idea that emotions have no place in intelligence and only muddle our picture of mental life. (1995, 40)

I question if my own inner tension is in part a struggle between my traditional world view which has focussed primarily on the cold processing of fact, and new thoughts which have erupted from intangible feelings that could be considered emotional intelligence. Has the modernist perspective valued only scientific fact and overlooked the richness of other ways of knowing? Has the search for the Truth, completely avoided the truths that are inherent in perspectives other than that of the Western eurocentric view? Do we only value that which is measured by traditional scientific methods, and ignore anything which doesn't fit our positivist norms?

Goleman writes of those who consider that emotions have no place in intelligence:

> The cognitive scientists who have embraced this view have been seduced by the computer as the operative model of mind, forgetting that, in reality, the brain's wetware is awash in a messy, pulsating puddle of neurochemicals, nothing like the sanitized orderly silicon that has spawned the guiding metaphor for mind. The predominant models among cognitive scientists of how the mind processes information have lacked an acknowledgment that rationality is guided by - and can be swamped by - feeling. The cognitive model is, in this regard, an impoverished view of the mind, one that fails to explain the Sturm und Drang of feelings that brings flavor to the intellect. (Goleman 1995, 40-41)

My storm and stress have created professional and personal fault lines which

have influenced my work at UVic as well as my academic inquiry. My choice to research the lived experience of learning and change with respect to my role as the Emergency Planner, comes not from a need to examine and evaluate the design and structure of emergency plans, but from a need to understand the experience of implementing change and the relationship between learning and change. It would be impossible for me to understand my role as a learning agent without understanding myself and my relationships within the organization, and the organization's desire and ability to change. The kinds of questions I am raising simply cannot be answered through a quantitative research project. Although my background has been in the sciences, and I feel a sense of comfort with using a quantitative approach, this methodology does not fit with my academic inquiry. I am drawn to the following quote from Dilthey (1976) shared by van Manen in "Researching Lived Experience,"

> We explain nature,
>> but human life we must understand.
>>> (van Manen 1990, 4).

Inquiring into aspects of human life, and in my case the experiences of learning and change, requires a thoughtful selection of approach. Sandra Harding provides a helpful way of considering the issues of method, methodology and epistemology that has enabled me to focus on the process of my inquiry. Firstly, Harding describes **method** as "a technique for (or way of proceeding in) gathering evidence" (1987, 2). Her description provides an opening for me to consider my method; my process of information gathering.

I use the term "information gathering" because I stumble on the word "evidence" as being somewhat positivist in it's meaning. The Oxford English Reference Dictionary tells us that evidence is "the available facts, circumstances, etc. supporting or otherwise a belief, proposition, etc., or indicating whether or not a thing is true or valid" (1995). It is interesting how often the OED sweeps a lot of meaning under the "etc." carpet.

Harding suggests that there are "only" three methods of social inquiry, and although I become suspicious of numbered categories, her breakdown is

helpful. The three approaches she considers are: listening to informants, observing behaviours, or examining historical traces and records (1987, 2). My method of inquiry has involved the first two, and in my case, it has focussed on listening to self and observing my own behaviours. I firmly believe that questioning the role of change agent and seeking meaning of self and/in organization, requires listening to self, even confronting self, to find greater understanding of personal assumptions, beliefs and values which characterize my behaviours and therefore influence my relationships with others.

How have I listened to myself? The quick answer is: Only partly and with great difficulty. But it is particularly through persevering with the challenges of writing, re-writing and reflection, that I have come to know myself better, and to begin to understand the two voices which currently seem central to my being. I suspect that I have only scratched the surface, and that I have to fight the urge to allow my professional voice to enjoy a place of privilege in my mind. It is a struggle which I know will continue long after this thesis is written. It will become the basis of my life's work, because I don't believe that I can effectively share meaningful professional and personal relationships, or understand the voice of other, until I understand and come to terms with self. This will require forgiveness and an acceptance of a self which fails, which has a dark shadowy side and many imperfections; it also requires an understanding of a self which is constructed through a complex web of past experiences, current happenings and future dreams, which are held together with the sticky threads of cultural and societal assumptions, values and beliefs.

In his discussion of vital tools for change agents, Tony Smith describes the need to engage in a deep and active dialogue with life (1993, 25). He stresses the importance of effective communication as the key to self-knowledge and to change. He suggests that learning how to do this requires a deep understanding of our thoughts and feelings, and of how we relate to others:

> Effective communication ... starts before the talking begins. It is two-thirds listening. It involves listening to ourselves, to other people, and to the world we live in. Of these three, listening to ourselves is the most difficult and is the key to success with the other two. (Smith 1993, 26)

As a change agent attempting to explore the personal and professional fault lines of learning and change, my research method has been to listen to self through writing, rewriting, and reflection.

Secondly, Harding describes **methodology** as "a theory and analysis of how research should proceed" (1987, 2). An analysis of the methodology I have chosen reveals a phenomenological approach, as my inquiry is based on trying to understand the lived experiences of learning and change. It is hermeneutic, in the sense of applying a level of interpretation to those lived experiences. It is an autobiographical narrative as it is a telling of my experiences; a sharing of my story. My rationale for these choices is to harmonize my topic and methodology. To try to understand the experiences of change agentry, and of learning and change, requires writing phenomenologically of those experiences. My aim is to deepen my understanding, strengthen my professional practice, and to invite others into the text in order to provide a space for their own experiences of learning and change.

I did not set out to do this kind of work, but as my topic began to emerge, so did the methodology reveal itself. I have found it helpful to consider van Manen's view that methodology "refers to the philosophic framework, the fundamental assumptions and characteristics of a human science perspective" (1990, 27). He considers methodology to be the theory behind the method, and goes on to suggest that methodology means the "pursuit of knowledge" (1990, 28).

I recognize that inquiry requires us to pursue knowledge, but the term "pursuit of knowledge" causes small seismic shudders in my mind. I prefer to avoid the sense of knowledge as a collection of facts or Truths which are unidimensional. Churchman states: "Inquiry is an activity which produces knowledge" (in Short, 1991, 3). I view inquiry as an activity which seeks to share meaning and to deepen understanding, rather than to produce knowledge which is given the privileged place of Truth. These thoughts of knowledge-producing activity lead me to Harding's views on epistemology.

Harding describes **epistemology** as a theory of knowledge intended to answer

questions about who can be a "knower," how beliefs are legitimated as knowledge, and what kinds of things can be known (1987, 3). It is in this space that feminist theory questions the authority claimed by men who have excluded women from being "agents of knowledge." Harding suggests that epistemologies are strategies for justifying beliefs, and she provides the familiar examples of masculine authority, appeals to the authority of God, and of custom and tradition (1987, 3). Her perspective has enabled me to understand knowledge as socially constructed.

In more recent work, Harding describes "the crisis of epistemology" which refers to the current turmoil caused by "the increasing loss of legitimacy and authority for the kinds of justifications of knowledge claims that have been developed by the modern West" (1996, 431). She points out that different cultures know different things about the world, and have different theories of what constitutes knowledge and how to obtain it (1996, 433).

These thoughts lead me to question my inquiry, and my attempt to share meaning. I am hesitant to see myself as a creator of knowledge, and yet is not my work simply a construction of meaning based on my personal experiences? I know the greatest challenge has been to dig deep enough to find and legitimate an inner voice. This is difficult to do in a culture and society which has not traditionally valued other (female) ways of knowing.

The discovery and recognition of the dominance and persistence of my professional voice has enabled me to understand that much of my previous work, both professional and academic, has been subjected to translation into a style of language possibly not my own. It has been difficult to elucidate a process that has become so seamless. Anne-Louise Brookes describes struggling to understand her difficulty with writing essays. She explains that her thinking for the essay comes from an inner vision, but she adds, "when I begin putting these thoughts into writing I rely on external rather than internal authority because, in fact, I am "translating." I am writing to make my words fit a vision which is not mine" (Brookes 1992, 87).

It is because I have come to understand epistemological framing and the social construction of knowledge, that I have come to recognize the value and

importance of autobiographical writing. "Autobiographical writings ... enable us to identify, analyze, and change those assumptions and social practices which work unconsciously to sustain social illusions" (Brookes 1992, 61). Autobiographical writing also invites us to consider both the horizontal and the vertical aspects of knowing.

An early warning device for earthquakes has recently been developed. An article describing this equipment suggests that its most unique feature is "its ability to distinguish between horizontal vibrations, which can come from a variety of manmade sources, and vertical waves produced by an earthquake" (Clarke 1997, 3).

I have often reflected on knowledge and learning in terms of the horizontal and the vertical. When knowledge is expanded with facts and figures it seems to enlarge on the horizontal plane, and like horizontal vibrations, it is "manmade" or externally constructed. Vertical waves are seismic, causing the kind of shaking which has enabled me to explore a deeper understanding of self. Over the years I have broadened my horizontal knowledge by learning numerous professional facts and details. But through this academic journey my knowledge has been deepened - I have been able to explore the vertical. Two years ago I wrote the following:

> *Journal Entry - October 13, 1995: Bill Pinar describes that a potential reward from the process of turning inward, is the ability to think vertically as well as horizontally (1975, 409). I can immediately visualize my own knowledge base as having a certain width on the horizontal plane, a landscape of knowledge accumulated over time and still evolving, but a somewhat shallow vertical plane, the uncharted or devalued territory of experiential knowledge.*

> *I use the words "uncharted or devalued" to indicate that the vertical plane is not empty, but simply not explored or perhaps not appreciated. I hope the process of journalizing will help me to explore the vertical.*

Farquharson uses a metaphor of an iceberg to illustrate layers of learning (1996, 5). The tip of the learning iceberg reveals our more visible professional, formal knowledge, while the enormous depth of our informal experiential knowledge lies submerged and often unrecognized.

Writing, re-writing and reflection have enabled me to explore the vertical and to tap the submerged depth of my own experiential knowledge. I am reminded of Pinar's discussion of "currere" as the study of educational experience. He suggests that "the problem initially is to get under one's exteriorized horizontal thinking, to begin to sink toward the transcendental place, where the lower-level psychic workings, those psychic realms determined by conditioning and genetic code, are visible" (1975, 407). This is a potential reward for the investigator (according to Pinar), but there is a danger that this form of research can be viewed as self-indulgent, narcissistic and non-academic. I question how I as a researcher can move beyond the realm of sharing the personal, to providing knowledge which may benefit others.

Pinar suggests a Jungian view which considers two layers of the unconscious that may be revealed in our writing; the first is a personal unconscious layer which rests on the second, an untapped collective unconscious layer. In this deeper layer of the collective unconscious may dwell archetypes, or fundamental structures of the human personality. "Once we get past the individualized details of an individual's biography, we may gain access to a transbiographic realm of "currere" (Pinar 1975, 411). Pinar describes a deep place where we may be able to locate "basic structures or processes of the educative process in the humanities" (1975, 411).

My choice of method and methodology is intended to permit exploration into these submerged depths, but I feel seismic shudders as I contemplate the academic issues of validity and reliability. My scientific side sees these as rational expectations; my humanistic side questions how they can apply to qualitative research. My choice of method is an autobiographical narrative inquiry of (my own) lived experiences. It is not intended to be prescriptive, generalizable, or replicable. How do I, as a qualitative researcher, legitimate my work in an academic climate which continues to value quantitative research methods?

The following words from Connelly and Clandinin are helpful: "Like other qualitative methods, narrative relies on criteria other than validity, reliability, and generalizability. It is important not to squeeze the language of narrative criteria into a language created for other forms of research" (1991, 134). These researchers suggest other criteria such as "apparency," "verisimiltude" and "transferability" may be more appropriate. I sense that the strength of this type of research lies in its ability to provide the reader a space in which she/he can either connect directly to the experiences, live vicariously through them, or reconstruct the narrative based on her/his own experiences. An essential underlying characteristic is the ability of the writing to be "authentic," which is possible only if the researcher is watchful, and listens closely to her/his critics.

I also consider van Manen's notion of the elusive spirit of an inquiry: "Although spelling out the various aspects of the research process may help a reader, the critical moments of inquiry are ultimately elusive to systematic explication. Such moments may depend more on the interpretive sensitivity, inventive thoughtfulness, scholarly tact, and writing talent of the human science researcher" (1990, 34).

This is a daunting list of academic attributes, but as a researcher involved in an autobiographical narrative inquiry I recognize my responsibility to be thoughtful, honest, and to continually strive to:

●Find balance between discipline and freedom.
  ●Question myself continuously to ensure rigour,
      without losing sight of imagination.
        ●Acknowledge the shifting fault lines which exist between
          stability and flexibility.
            ●Respect my inner self and ways of knowing,
              and to allow that voice to be heard
                in the midst of a positivist,
                  paternalistic world.

Sharing meaning through my thesis has required me to describe my journey of change, a journey which has enabled me to identify the "what" and "how" of my research inquiry. It has required me to acknowledge the storm and stress I have experienced in understanding the professional and personal

sides of self, and their influence on my work and academic studies. The process of sharing meaning has also enabled me to deepen my knowledge of method, methodology and epistemology, and to explore the vertical in order to understand the significance of autobiographical narrative in the study of educational experience.

All that remains are a few aftershocks which shake my soul enough to remind me that I am a learning agent continuing to learn.

A LEARNING AGENT CONTINUING TO LEARN

In March of 1997, I reached the end of my two year term as the UVic Emergency Planner, and for a time there was some uncertainty about the Program's future. There was discussion about extending my involvement, but it became apparent that by the end of March, my role with this project would change. The University did not lose its commitment to emergency planning, but a decision was made that the project would continue with a new coordinator. I was asked to remain involved in a limited way in order to lend support and to provide information.

> *Journal Entry - March 12, 1997:* There have been many changes lately and in many ways recent days have been very difficult. There has been and continues to be uncertainty about the Emergency Planning Program. I know it will continue, and that my involvement will be less, but the rest is unknown. I feel mixed about it all - in some ways it will be hard to let go, in others ways it will be good to look ahead to new things and new challenges. I must prepare for the transition as best I can.

I felt this change to be the best possible outcome for the Program, as two others have been asked to assume greater responsibilities for emergency planning. This will increase the emergency planning knowledge base on campus, and will allow new ideas and concepts to help the Program evolve and expand through the next stages. Even if additional funding had been found to enable me to continue, I believe this new approach is best for the University.

> *Journal Entry - March 22, 1997:* A meeting was held yesterday with my manager and the department director to discuss the Emergency Planning Program. It is clear to me now that my involvement with the project is over; I have four days in which to complete my final report.

As I sense the ground shifting once again with this new change, I ask myself how I really feel about my role in this project coming to an end. I find it difficult to describe my feelings; I am concerned for the fate of the program, but the strong commitment of the V-P's gives me hope that emergency planning on campus will indeed continue. I also feel a sense of relief, even release, that this complex program is no longer my responsibility to coordinate. I will continue to be involved in a supportive role, and I know that my own personal commitment to emergency preparedness will always be there.

Lastly, I sense excitement emerging from the anticipation of change. I am taking back the work I gave up in order to coordinate emergency planning. Naturally these programs have evolved and changed because of the new ideas and style of the person who has been managing these other responsibilities for me. I know there are many positive changes, and I'm excited that I may be able to apply some of the things I've learned through the Emergency Planning Program to give new life to old functions, and to help me with this transition - with this new change.

As I wrote my final report, I experienced a few aftershocks of change. I knew this project would end, but I had become so embedded in the process it was difficult to imagine my professional life without it. As I outlined what had been accomplished, identified on-going issues and provided recommendations for the future, I began to understand how much of myself had gone into this endeavor. I reflected on the lessons learned - the depth of how much I have learned - and I am grateful for the experience. I looked at how the project evolved, and I suddenly realized how much I, too, have changed.

"Change management is hard work. It even changes the agents of change. You will surely gain a deeper understanding of your organization and of yourself" (Price Waterhouse 1995, 186).

However, just when I felt reconciled to new changes, my professional world was shaken by another aftershock. It started with an unexpected phone call from a colleague on campus regarding emergency planning:

> ***Journal Entry - June 21, 1997:*** *At first I felt angry and frustrated - but I noticed a softer, quieter, inner voice urging me to stay calm; to just listen. These strong emotions were quickly replaced by an overwhelming sense of disappointment.*
>
> *Our discussion was long and difficult. I thought there had been general agreement on approach; now I'm not so sure. Where I thought there had been clarity, now exists confusion. I was told there was no buy-in. I was told that the plans should simply be written up and distributed. Was the concept of process rather than product just an illusion? I wondered how it could have gone so wrong; Where did I go wrong? I tried not to react - just to listen - to leave space for future reflection.*
>
> *I was shaken by this call, and left with some haunting doubts and questions. Perhaps I have been mistaken about my approach to coordinating this program; but others seemed to welcome it.*
>
> *Is this just another challenge? another part of the process? I search my heart and mind, and still feel confident that the participatory approach is important to effecting change - involving others is essential to the process. Of this I feel quite certain.*

As I reflect on this further, I feel my resolve beginning to strengthen - but I must remember - emergency planning is not my responsibility any longer. Aftershocks continue to shake my soul.

As time went on, I realized that the transition was taking longer than expected; the seismic shudders continued:

Journal Entry - November 16, 1997. *It is early in the morning - I am writing this in the pre-dawn light. The scattered clouds are an ominous reddish tone.*

I woke early thinking once again of the Emergency Planning Program - I am still so immersed in it. At the meeting last week I momentarily forgot that I am no longer the Emergency Planner. In my excitement at others' suggestions and new ideas, I jumped at some new opportunities. In doing so I overlooked the fact that many of these decisions are not mine to make anymore. I am to lend support; my involvement is intended to be limited. Will I ever learn to let go?

I also felt some seismic waves when an integral part of the program appeared to be devalued and considered unimportant. I left the meeting shaken, and as I write this days later, still feeling the emotion, I realize that aftershocks are still continuing to disrupt my professional life.

I may have misunderstood or misread the situation. Communication is considered one of our most important emergency functions in a crisis, but it is difficult to communicate even at the best of times. I must try again to listen and to understand. I have to learn to let go - to accept that there are

many ways of approaching this complex issue. I have to find the right way to share my understandings and experiences, to be strong in my convictions, but to know when to step back. I have to focus on collaboration and finding shared meaning.

How quickly fault lines between theory and practice can emerge. How difficult it is, even now, to understand the shaking, to see the possibilities - how difficult it is to change.

Journal Entry - March 2, 1998:
Before the Raven Calls
Once again I have woken before dawn - it is becoming a pattern. It is the time of day when my thoughts are clearest - a time when I feel I am best able to reflect, to dig deep, to tap into the personal. I have not yet dressed for work and donned my professional stance. It is still and dark.

In many raven tales, the Northwest Coast aboriginal people use the expression "before the raven calls" to refer to sunrise. All difficult and dangerous activities had to be completed, or at least started, before the raven calls (Goodchild 1991, 137). Someone from another culture and time once wrote that it is always darkest just before dawn. It is in this place of darkness, a time of difficulty before the raven calls, from which I now write.

Recent weeks have been a time of darkness for me. It has been a time of deep questioning and painful uncertainty as I continue to re-flect and to re-write this thesis, to dwell in the stories, and to live in the seismic metaphor. The pain comes from the shaky

realization that I continue to struggle and have difficulty with change. The modernist perspective still present within me is seeking groundedness and a compelling metanarrative which will still the storms and stop the shaking in my life. But I have changed - I have seen things from a different perspective - and I cannot return to my traditional ways of thinking and knowing. I look ahead and try to visualize groundlessness, where foundations are no longer required or even possible, but this is difficult to imagine. I can only continue to seek understanding as I learn to dwell in the seismic gap.

One of the most challenging experiences of my academic journey has been reaching a point where I can let go of this work. Since it's inception it has been changing, as I have. It continues to foster new possibilities - it has become my crucible of creation. I do not see an ending, but only new beginnings. In the midst of change - the light emerges - and the raven calls.

DWELLING IN THE SEISMIC GAP

I used a seismic metaphor in this thesis to reach closer to my experience of change. New experiences as an emergency planner and as a graduate student came together like large tectonic plates, shifting and grinding against each other, creating tremors and shaking in my life. It is an uneasy and tense metaphor, but it has been a difficult and painful process of change. I have been living on shaky ground.

The tension which I experienced as these two tectonic plates in my life grated together was at times released through ruptured fault lines. These jagged fissures often seemed to appear when I struggled with rigid dichotomies, the dualities of the modern world. They seemed to split apart the "either/or" positions of the positivist world view. These uncomfortable struggles have enabled me to see things differently, as I have come to understand my experiences of change are influenced by the much larger changes which are occurring as our world shifts from the modern to the post-modern. The changes I have been experiencing have emerged from sensing this paradigm shift.

It is thinking in post-modern terms that has allowed me to recognize the space, or seismic gap, created by the ruptured fault lines. This is where the pain and anguish of experiencing uncertainty and change is transformed by the sense of possibility. The seismic gap is for me, not a place of darkness, but is full of new meaning and opportunity. It is an opening which allows me to transcend the positive/negative aspects of the modern, and to dwell in the midst of multiple meanings. It is a place to find balance between discipline and freedom, rigour and imagination, and stability and flexibility.

The seismic metaphor has helped me to seek a deeper understanding of my change experience, but I am left with some questions. How has my life changed? What does it really mean to dwell in the seismic gap? What does this mean for others?

The unsettling and disorienting experiences of recent change have allowed me to see things differently, and in many ways I am starting to live

differently. I have gone to the edges of the fault lines and looked in, and I am amazed at the richness of the opportunities I have seen. I can imagine dwelling in a seismic gap where I am no longer constrained by a positivist world view, but I am not yet dwelling there. My personal and professional life has felt the impact of the post-modern world, but I am still influenced by my traditional world view. At least now I can see the difference.

My professional practice has changed dramatically. The lessons I learned as a change agent on shaky ground represent a shift in my thinking toward a post-modern perspective, and this is having a considerable impact on my work, even though my role as Emergency Planner has now ended. I coordinate a number of health and safety programs which may not require implementing change in such a widespread way, but which affect a number of individuals on campus. I now recognize the importance of designing aspects of these programs in collaboration with those they affect. I am trying to listen, to seek understanding and to invest heavily in shared relationships with others in our campus community. I now have a greater sense of working "by means of" rather than working "for."

I also sense that dwelling in the seismic gap is essential for our organization. Change, whether planned or unexpected, is inherently non-linear and impossible to control. Surviving and even thriving on change will mean focussing on collaboration and a more holistic view. It will mean our organization must become more flexible, and create opportunities for continuous learning through networking and the formation of workplace learning communities. I now know that I can promote organizational learning and change through my professional relationships by collaborating with others as learning agents.

I believe that dwelling in the seismic gap means to step away from the groundedness of the modern world into a dynamic evolving place where change, not stability, is the essence. It means embracing change and seeking collaboration instead of domination and control. It means being comfortable with change and uncertainty; it means accepting shaky ground as part of the change process.

I am unable to provide prescriptive advice for others who may find themselves in a similar position of implementing organizational change. This was not the intent of this thesis; my purpose was to explore my experiences of learning and change. I can only suggest that the kind of tools needed to engage in the process of change, both individually and organizationally, are listening and learning skills. These skills need to be applied inwardly at self through critical self-reflection, and outwardly to others through dialogue. As engaging in deeper double-loop learning requires risk-taking for both individuals and organizations, courage is also helpful.

I am not dwelling in the seismic gap, but I journey there frequently. I know that I need to become more comfortable with change, to be open to possibilities, and to understand that we live in a world of many meanings. The ground will continue to shift and shake for me, as I continue to experience the fault lines of learning and change.

The trembling Earth,
 crust cracking and shifting
  creating tension, creating change.

  Earthquakes and volcanoes
   the crucibles of creation
    shaking our lives and displacing our thoughts,
     exposing cracks and crevices
      causing us to question our world,
       causing us to change.

D. Donaldson, April 1997

BIBLIOGRAPHY

Apps, Jerry. "Whispers of change." *Adult Learning*, 5 (March/April 1994): 7-8.

Argyris, Chris and Donald A. Schön. *Organizational Learning: A Theory of Action Perspective*. Don Mills, Ont.: Addison-Wesley, 1978.

Barrett, Frank J. "Creating appreciative learning cultures." *Organizational Dynamics*. (Autumn 1995), pp. 36-49.

Bateson, Gregory. *Mind and Nature: A Necessary Unity*. Toronto: Bantam Books, 1978.

Bateson, Mary Catherine. *Peripheral Visions: Learning Along the Way*. New York: HarperCollins Publishers, 1994.

Belenky, Mary Field, Blythe McVicker Clinchy, Nancy Rule Goldberger, and Jill Mattuck Tarule. *Women's Ways of Knowing: The Development of Self, Voice and Mind*. New York: Basic Books, 1986.

Bergquist, William. *The Postmodern Organization: Mastering the Art of Irreversible Change*. San Francisco: Jossey-Bass, 1993.

Brookes, Anne-Louise. *Feminist Pedagogy: An Autobiographical Approach*. Halifax, NS: Fernwood Publishing, 1992.

Burke, James. *The Pinball Effect: How Renaissance Water Gardens Made the Carburetor Possible - and Other Journeys Through Knowledge*. Toronto: Little, Brown and Company, 1996.

Caine, Renate Nummela and Geoffrey Caine. *Education on the Edge of Possibility*. Alexandria, Virginia: Association for Supervision and Curriculum Development, 1997.

Capra, Fritjof. *The Web of Life: A New Scientific Understanding of Living Systems*. Toronto: Anchor Books, 1996.

Clark, Carolyn. "Transformational learning." *An Update on Adult Learning Theory.* Edited by Sharan Merriam. San Francisco: Jossey-Bass, 1993.

Clark, Suzanne, and Kathleen Hulley. "An interview with Julia Kristeva: Cultural strangeness and the subject in crisis." *Discourse* 13.1 (Fall/Winter 1990-1991): 149-180.

Clarke, B.P. "Quake shake means 'get ready'." *Oak Bay News* [Victoria, B.C.] (October 1, 1997), p. 3.

Connelly, F. Michael, and D. Jean Clandinin. "Narrative inquiry: Storied experience." *Forms of Curriculum Inquiry.* Edited by Edmund C. Short. Albany: NY: State University of New York Press, 1991.

Cranton, Patricia. *Working With Adult Learners.* Toronto: Wall & Emerson, 1992.

————. *Understanding and Promoting Transformative Learning: A Guide for Educators of Adults.* San Francisco: Jossey-Bass, 1994.

————. *Professional Development as Transformative Learning: New Perspectives for Teacher of Adults.* San Francisco: Jossey-Bass, 1996.

Dakers, Diane. "Inmate finds art of healing in prize-winning carvings." *Times Colonist* [Victoria, B.C.] (August 3, 1997), p. D5.

Dickens, Charles. *Dombey and Son.* London: Dent, 1969 (Original work published 1848).

Doll, William E. Jr. *A Post-Modern Perspective on Curriculum.* New York: The Teachers College Press, 1993.

Farquharson, Andy. *Teaching in Practice: How Professionals Can Work Effectively with Clients, Patients, and Colleagues.* San Francisco: Jossey-Bass, 1995.

Finger, Matthias, and Diana Woolis. "Organizational learning, the learning organization, and adult education." *Proceedings of the Thirty-fifth Annual Adult Education Research Conference*, 1994, 151-156.

Fiol, C. Marlene and Marjorie A. Lyles. "Organizational learning." *Academy of Management Review*. 10, 4 (1985): 803-813.

Flower, Joe. "We are what we can learn." *Healthcare Forum Journal.* (July/August 1996), pp. 35-41.

Fowler, Leah C. "(Re)Constituting the Teaching Self: Narrative Explorations of Difficulty in Teaching." Doctoral dissertation. University of Victoria, 1997.

Fullan, Michael. *Change Forces: Probing the Depths of Educational Reform.* Bristol, PA: Falmer Press, 1993.

————. "Turning systemic thinking on its head." *Phi Delta Kappan*, (February 1996), pp. 420-423.

Fullan, Michael G. with Suzanne Stiegelbauer. The *New Meaning of Educational Change.* New York, NY: The Teachers College Press, 1991.

Goleman, Daniel. *Emotional Intelligence.* New York: Bantam Books, 1995.

Goodchild, Peter. *Raven Tales.* Chicago: Chicago Review Press, 1991.

Greene, Maxine. "Metaphors and multiples: Representation, the arts, and history." *Phi Delta Kappan.* (January 1997), pp. 387-394.

Harding, Sandra, ed. *Feminism and Methodology: Social Science Issues.* Bloomington: Indiana University Press, 1987.

————. "Gendered ways of knowing and the "epistemological crisis" of the West." In *Knowledge, Difference, and Power: Essays Inspired by Women's Ways of Knowing.* Edited by Nancy Rule Goldberger, Jill Mattuck Tarule, Blythe McVicker Clinchy, Mary Field Belenky. New York: BasicBooks, 1996.

Hedberg, Bo. "How organizations learn and unlearn." In *Handbook of Organizational Design.* (Vol. 1) Edited by P.C. Nystrom. New York: Oxford University Press, 1981.

Isaacs, William N. "Taking flight: Dialogue, collective thinking, and organizational learning." *Organizational Dynamics.* (Autumn 1993), pp. 24-39.

Jardine, David W. "Wild hearts, silent traces and the journeys of lament." *The Journal of Educational Thought.* 27, 1 (April 1993): 18-27.

Jarvis, Peter. *Paradoxes of Learning: On Becoming an Individual in Society.* San Francisco: Jossey-Bass, 1992.

Johnson, Kerry A. "Chaos, connectivity, and computers." In *Instructional Design: New Alternatives for Effective Education and Training.* Edited by Kerry A. Johnson and Lin J. Foa. New York: MacMillan, 1989.

Kofman, Fred and Peter Senge. "Communities of commitment: The heart of learning organizations." *Organizational Dynamics.* (Autumn 1993), pp. 5-23.

Lloyds Bank of California. "Self-Directed learning on the job at Lloyds Bank of California." In *Andragogy in Action: Applying Modern Principles of Adult Learning.* by Malcolm S. Knowles and Associates. San Francisco: Jossey-Bass, 1984.

London, Manuel. *Change Agents: New Roles and Innovation Strategies for Human Resource Professionals.* San Francisco: Jossey-Bass, 1988.

Merriam, Sharan B. and Rosemary S. Caffarella. *Learning in Adulthood: A Comprehensive Guide*. San Francisco: Jossey-Bass, 1991.

Merriam, Sharan B. and Barbara Heuer. "Meaning-making, adult learning and development: A model with implications for practice." *International Journal of Lifelong Education*. 15, 4 (July-August 1996): 243-255.

Mezirow, Jack. "How critical reflection triggers transformative learning." In *Fostering Critical Reflection in Adulthood: A Guide to Transformative and Emancipatory Learning*. Edited by Jack Mezirow and Associates. San Francisco: Jossey-Bass, 1990.

Oxford English Reference Dictionary. Oxford: Oxford University Press, 1995.

Pinar, William F. "Currere: Toward reconceptualization." In *Curriculum Theorizing: The Reconceptualists*. Edited by William F. Pinar. Berkley, CA: McCutchan Publishing Corporation, 1975.

Pinar, William F., William M. Reynolds, Patrick Slattery, and Peter M. Taubman. *Understanding Curriculum*. New York: Peter Lang, 1995.

Pite, David. *Quaking in Kobe*. Unpublished, 1995.

Price Waterhouse Change Integration Team. *Better Change: Best Practices for Transforming Your Organization*. New York: Irwin, 1995.

Reid, Bill and Robert Bringhurst. *The Raven Steals the Light*. 2nd ed. Vancouver: Douglas & McIntyre, 1996.

Reid, T.R. "Kobe wakes to a nightmare." *Official Journal of the National Geographic Society*. 188, 1 (July 1995): 112-136.

Richter, Laura. "Pedagogical reaching." In *The Call of Teaching*. Edited by Ted T. Aoki, and Mohammed Samsher. Vancouver: British Columbia Teachers' Federation, 1993.

Rogers, Everett M. *Communication Technology: The New Media in Society*. New York: The Free Press, 1986.

Roth, Gene L. and John Niemi. "Information technology systems and the learning organization." *International Journal of Lifelong Education*. 15, 3 (May-June 1996), 202-215.

Schein, Edgar H. "On dialogue, culture, and organizational learning." *Organizational Dynamics* (Autumn 1993), pp. 40-51.

Senge, Peter M. *The Fifth Discipline: The Art & Practice of The Learning Organization*. New York: Currency Doubleday, 1990.

Short, Edmund C. "Introduction: Understanding curriculum inquiry." In *Forms of Curriculum Inquiry*. Edited by Edmund C. Short. Albany: NY: State University of New York Press, 1991.

Smith, Tony. *Parzival's Briefcase: Six Practices and a New Philosophy for Healthy Organizational Change*. San Francisco: Chronicle Books, 1993.

Stanford University Department of Public Safety. *Emergency Operations Plan*. Stanford University, California. Doc. LP 104 (5/96), 1996.

Suzuki, David with Amanda McConnell. *The Sacred Balance: Rediscovering Our Place in Nature*. Vancouver: Greystone Books, (1997).

Tarule, Jill Mattuck. "Voices in dialogue: Collaborative ways of knowing." In *Knowledge, Difference, and Power: Essays Inspired by Women's Ways of Knowing*. Edited by Nancy Rule Goldberger, Jill Mattuck Tarule, Blythe McVicker Clinchy, Mary Field Belenky. New York: BasicBooks, 1996.

van Manen, Max. *Researching Lived Experience: Human Science for an Action Sensitive Pedagogy*. London, Ontario: The Althouse Press, 1990.

Watkins, Karen E. and Victoria J. Marsick. *Sculpting the Learning Organization: Lessons in the Art and Science of Systemic Change*. San Francisco: Jossey-Bass, 1993.
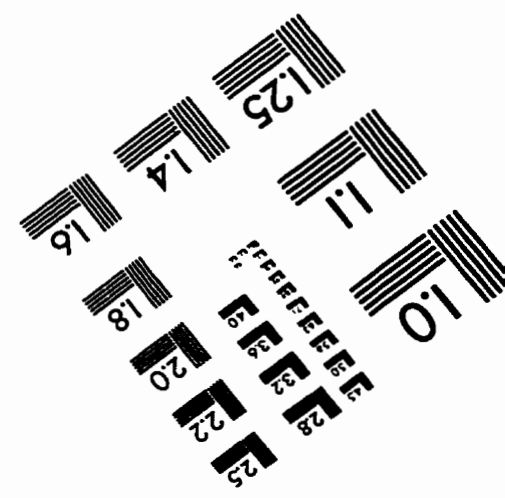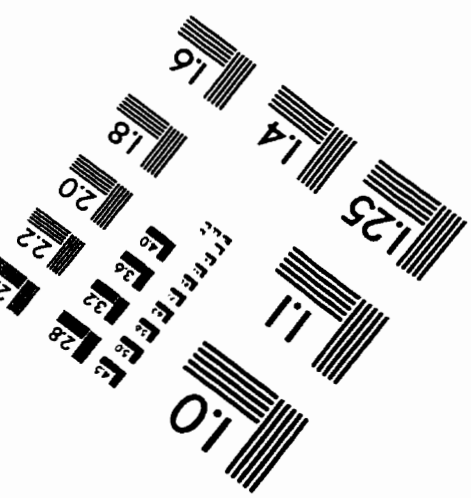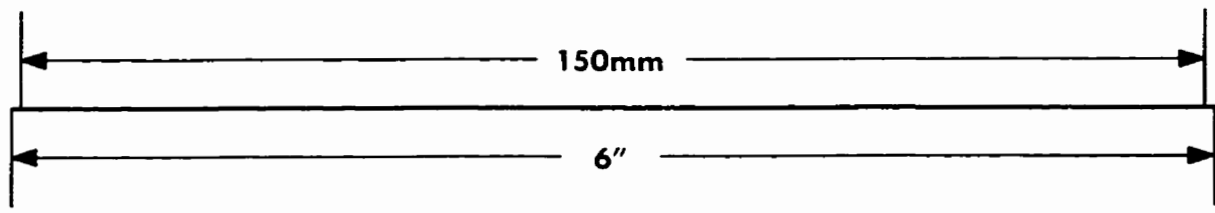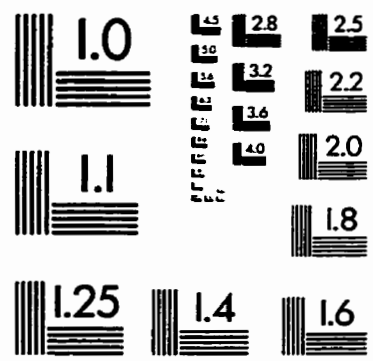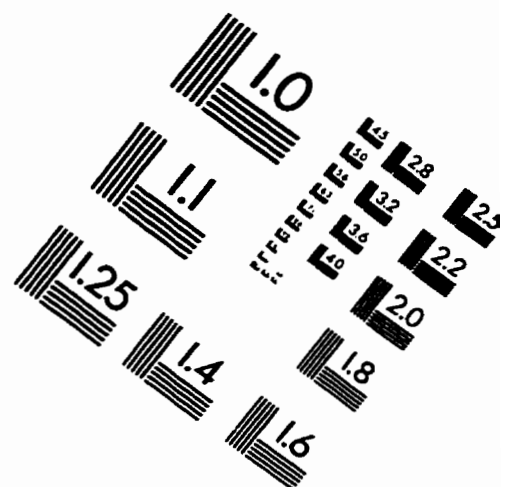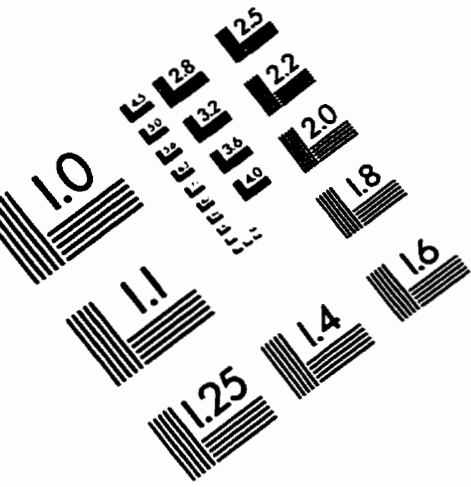
Webster's Seventh New Collegiate Dictionary. Toronto: Thomas Allen & Son, 1967.

Wheatley, Margaret J. *Leadership and the New Science: Learning About Organization from an Orderly Universe*. San Francisco: Berrett-Koehler Publishers, 1992.

Whitehead, Alfred N. *Science and the Modern World*. New York: The Free Press, 1953. (Original work published 1925).

————. *The Aims of Education and Other Essays*. London: William and Norgate Limited, 1955. (Original work published 1932).

IMAGE EVALUATION
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