

UNIVERSITY OF CALGARY

From Indicators to Action:

The Contribution of the Sustainable Calgary

Community Sustainability Indicator Initiative to Sustainability Praxis

by

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A THESIS SUBMITTED TO THE DEPARTMENT OF GEOGRAPHY IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY

Calgary, Alberta
September 2005



UNIVERSITY OF
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Abstract

In 1996 a group of Calgarians formed the Sustainable Calgary Society to pursue a community sustainability indicator initiative. Through the initiative over 2000 Calgarians have participated in the selection, research and documentation of thirty-six indicators of sustainability for the city of Calgary. In this dissertation I explore the outcomes of that process, propose a strategy for moving from indicator reporting to action on sustainability and propose a qualitative place-based model of community sustainability. The exploration begins with a discussion of the philosophical foundations of my inquiry. I focus my inquiry around the embodied phenomenology of Maurice Merleau-Ponty as well as complementary aspects of critical theory (particularly Jurgen Habermas's theory of Communicative Action), postmodernism and feminist theory. I also identify six key concepts that are the conceptual tools of my inquiry. From geography I take place and scale. From environmental science I take the concept of nature. From critical education I employ the concept of transformational learning. And from the biological sciences I take the concept of complexity. The dissertation presents two pieces of original research. The first is an exploration of the personal and community outcomes of the Sustainable Calgary community sustainability indicator initiative. The second is a comparison of sustainability indicator initiatives in eighteen other North American cities. The dissertation concludes with a strategic and a theoretical contribution to the work of Sustainable Calgary and to sustainability's theoretical literature. The Sustainable Calgary indicators to action strategy aligns Sustainable Calgary with the international Local Agenda 21 and Action 21 movement, and employs the concepts of adaptive learning organization, governance for sustainable development and deliberative policy-making to craft a five-point indicators to action strategy. In the final chapter I speculate on an alternative experiential, sense- and place-based theoretical framework for sustainability. I propose that the object and subject of sustainability should be "sustaining ecological community." I propose a relational model of the sustaining ecological community, define the evolutionary and transformational driver of sustaining ecological communities, and offer a set of five criteria by which we can determine whether there is, in fact, authentic experience in a sustaining ecological community.

Acknowledgements

I would like to give a special thanks to my supervisor and dissertation committee members. Dr. Dianne Draper has offered me constant encouragement and the freedom to pursue my ideas throughout my research and reflection. Dr. Byron Miller has been a thoughtful and constructive critical eye on my research and has introduced me to key urban geography literature. Dr. Michael Quinn has proved me with consistent and timely advice and comment throughout my PhD program. Thanks also should go to my fellow PhD student Geoff Gitter his energizing discussions of our mutual research interests.

I would also like to thank my colleagues at PLAN:NET Ltd. for their patience with an office colleague preoccupied with things other than paying contracts, their interest in my work and their support of me in pursuit of my research and writing interests.

This work has been inspired by my experience with Sustainable Calgary. I would be remiss not to acknowledge the role of the original founders of Sustainable Calgary in making this exciting initiative happen and opening doors to my professional and academic world.

Finally, the belief that no person exists outside of a sustaining ecological community is a central preoccupation of my work. I therefore acknowledge the support, encouragement and genuine interest of my large immediate family in Newfoundland and of my partner in life Linda Grandinetti. She has supported my dream of pursuing my PhD, has offered encouragement, keen insights and a critical reminder to speak clearly and from the heart. She has done all of these things with no small sacrifice to indulge me in the luxury and privilege of pursuing my reading, writing and research interests. I will be eternally grateful for that.

Dedication

I dedicate this work to my father and mother who brought me into this world and provided all of the love and encouragement required for a child to grow and flourish.

To my grandmother who has always been a daily reminder of peace and kindness and who invited me to know the community of Calvert, Newfoundland – a truly wonderful place to belong.

To the many friends and communities that have extended their hospitality to me around the world, and in important ways have lead me to undertake my PhD work. In particular I dedicate this work to the people of La Union, Nicaragua, who after fifteen years continue to inspire me to imagine and act to create a better world.

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Chapter 1: Introduction

However dangerous the territory, ways have to be found to confront the idea of 'human nature' and of our 'species being.' Without such formulations, we cannot define what we might be alienated from or what emancipation might mean. Nor can we determine which of our 'slumbering powers' must be awakened to achieve emancipatory goals. (Harvey 2003, 92)

This dissertation was inspired by and is a moment within a participatory, citizen-led process undertaken to deepen community awareness and advance community action on issues of sustainability in the city of Calgary. In the tradition of Paulo Freire's praxis, which involves cycles of action and reflection, this research is designed to follow a project of action with a process of reflection in order to advance the project of action. Many models and processes have been designed and experimented with to address sustainability. In 1996 one particular model – community sustainability indicators – captured the imagination of a group of Calgarians, and led to the formation of an organization called Sustainable Calgary. These citizens, myself included, felt that this concept and the process of exploring it would be an effective way to enhance our understanding of quality of life, to redefine what we mean by progress, and to clarify how we might move toward more ecologically, socially, and economically sustainable communities. Our objective has been to establish and legitimize community sustainability indicator reporting as a necessary but not sufficient tool for realizing a truly sustainable Calgary.

I have chosen geography as the home discipline of my work because of the natural affinity between geography and the investigation of human nature relationships and because of the clarity the discipline brings to questions of place and scale. My research question is: how does community sustainability indicator reporting contribute to a deepened awareness of and stronger action toward sustainability? Answering this research question has required me to pursue answers to three distinct sub-questions:

1. What outcomes have resulted from the Sustainable Calgary indicator project?
2. How does Sustainable Calgary move from indicators to action?
3. How has this experience contributed to the theory and practice of sustainability?

Urban Sustainability: One of Humanities Great Challenges

This research is grounded in the exploration of community sustainability within a large city. Most sustainable development discourse asserts that urbanization is inevitable and irreversible in the foreseeable future; indeed, most of the world's people now live in cities. Cities are seen as the economic and cultural engines of growth, creativity, and innovation. Sustainable development efforts include a focus on how we can improve urban living to make it more ecologically, socially, and economically sustainable (ICLEI 2005, UN-Habitat 2002, Satterthwaite 1999, CIDA 1998, WCED 1987).

In response to the challenge of sustainable development, critiques of classic North American suburban development and of automobile-dependent urban transportation have proliferated (Milani 2000, Newman and Kenworthy 1999, Roseland 1997, Beatley and Manning 1997). These critiques have led to more compact and people-centred urban and community design options (Wheeler and Beatley 2004), energy-efficient building design, redesign of mass transit, and the exploration of concepts such as ecological design and industrial ecology (McDonough and Braungart 2001). In the social realm, many recognize the importance of a sense of community and vibrant neighbourhoods as necessary for a safe, healthy, and vibrant city (Jacobs 1961; Polesi and Stren 2000). There is a strong geographic tradition of critical analysis of the evolution, function, and spatial character of cities from radical/Marxist and humanist perspectives. Geographers have focused on the ways in which the built environment inhibits or enhances opportunities for flourishing, just urban life. David Harvey (1973, 1990) is one of the most well-known theorists in the radical/Marxist tradition. Ley and Samuels (1978), Relph (1976), and Soja (1996) are examples of the humanist tradition in the discipline of geography.

In a seeming paradox in the "globalizing" world, Canadian researchers have joined the chorus of those calling attention to trends toward the devolution of economic and political power to cities. Many urban researchers advocate for more autonomous cities and regions (Canada West Foundation 2002). Some of these advocates make this argument in support

of more efficient globalization,¹ while others advocate greater autonomy in resistance to globalization.²

The spectrum of prescriptions for making cities sustainable ranges from relatively minor reform to significant transformation of cities and urban life. While many acknowledge a sustainability crisis, a general sense of impotence prevails about how to deal with it. In Canada this is exacerbated by the fact that cities are legal creatures of the provinces. Most policy and planning exercises begin from a vantage point relatively close to the status quo, the argument for this stance usually being practicality or pragmatism. The Brundtland Report, the Kyoto Protocol and the City of Calgary GoPlan are all examples of this approach. Solutions arrived at from this perspective are rarely long term. They are piecemeal and incremental in the sense that they set their sights on a goal that may be improvement but is not ultimately sustainable. In this dissertation I argue that we need to orient planning and action toward a realistic end point that is ultimately sustainable. A challenge of this research is to derive practical solutions from such a radical analysis of urban sustainability. My research starts from the assumption that our current ecological, social, and economic crises demand radical transformation of cities. My interest in this research is not to improve how we “make do” in present circumstances but rather to widen the horizon of change into future generations and to critically examine what needs to be done now to ensure long-term sustainability. The goal, as I see it, is not to sustain our current system but to craft and construct one that is sustainable and sustaining.

Sustainability Indicators as a Tool for the Transformation of Cities

My point of entry to the challenge of community and urban sustainability is community sustainability indicator reporting (CSIR). In large part, the current wave of quality of life

¹ One of the most recent examples of this position is Canada’s National Round Table on Environment and Economy (NRTEE 2004). The position is endorsed by Canada’s big city Mayors and the Federation of Canadian Municipalities. Information on these positions can be found on the Web sites of both the NRTEE (nrtee-trnce.ca) and the FCM (fcm.ca).

² This position is in general espoused by what has become known as the anti-globalization movement. David Korten is one author who has outlined some details of such a position in *Post-Corporate World* (1997). Journals such as *Yes: A Journal of Positive Futures*; *The Ecologist*; and *Resurgence* are all examples of periodicals that are sympathetic to this perspective.

and community sustainability indicator reporting is a response to what many see as an inappropriate reliance on a narrow set of economic indicators: the System of National Accounts (specifically the GNP/GDP), major stock market indices, and currency valuations. In her book *Counting for Nothing: What Men Value and What Women Are Worth* (1999), Marilyn Waring traces the birth of national accounts as far back as 1665. Clifford Cobb traces the first attempts to systematically identify indicators of quality of life in the USA to as early as 1910 (Cobb 2000).³ In 1925 Canada and Russia became the first national governments to produce national accounts. Thereafter, the United States and Great Britain, motivated by the need to manage the war effort and working from a framework based largely on the work of John Maynard Keynes, shaped the modern United Nations System of National Accounts (UNSNA). Concurrent with the emergence of the environmental movement in the 1960s, critiques of the UNSNA from outside of the economics profession began to find a voice. At the leading edge of this movement was Hazel Henderson. At the time it was published, her book *Creating Alternative Futures* (1978) was considered one the most lucid critiques of GNP and the current economic order.

Agenda 21 (UN 2004) (the prescription for change agreed to at the 1992 Earth Summit in Rio de Janeiro) provided a major boost to the current wave of CSIR. It expounds the need to identify, measure, and monitor indicators that will facilitate better decision-making in support of sustainable development. A major component of Agenda 21 was Local Agenda 21 - the call for local engagement in sustainable development (Bell 2000). The current wave of indicator-reporting is evident on a global scale in the World Bank's annual World Development Indicators (World Bank 2005), the Human Development Index of the UNDP (2004), UNICEF's State of the World's Children Reports (UNICEF 2005), and so on. Nationally, we see it in the proliferation of State of the Environment Reporting. Locally, Agenda 21 has been a catalyst for indicator reporting in communities around the world.⁴ In

³ In 1914 with funding from the Russell Sage Foundation, the Charity Organization Society of New York produced a study of education, recreation, public health, crime, and general social conditions in Pittsburgh.

⁴ The International Council for Local Environmental Initiatives, based in Toronto, is a focal point for this work (iclei.org).

Calgary, there are indicator reporting and monitoring initiatives in environment, health, social development, economic development, and safety.⁵

Community sustainability indicator reporting (CSIR) is one of the more ambitious and creative attempts to identify indicators that can support sustainable development. CSIR explicitly recognizes the interconnection of the economic, social, and ecological spheres and seeks to create a practical tool for considering these spheres simultaneously in decision-making. Of particular interest is the trend for non-governmental groups to take up the challenge of sustainability reporting and the participatory approaches they bring to the task.

In the North American context, the creation of community sustainability indicator projects has often resulted from grassroots action to revitalize communities. Jacksonville, Florida's⁶ initiative, begun in 1985 and inspired by the work of Hazel Henderson, is perhaps the longest-running indicator project. The next significant advance for quality-of-life indicator development occurred in the aftermath of the 1992 Rio Earth Summit. The Sustainable Seattle⁷ initiative, for example, resulted from consultations undertaken in response to the Rio Earth Summit (Atkisson 1999). Sustainable Calgary's initiative was also largely influenced by preparations for and the aftermath of the Summit. Redefining Progress, a San Francisco-based sustainability organization has identified over 150 CSIR processes in cities across North America.⁸ Sustainable Calgary is included in this group. It is sometimes assumed that indicators are a shortcut around conflict and politics – a neutral tool. One of the most interesting assertions of Clifford Cobb's (2000) work, however, is that indicator development proceeds within, and reflects the outcome of, human relations mediated by

⁵ In Calgary there is the City of Calgary's State of the Environment Report and Performance Measurement Report. The Calgary Health Authority produces an annual Health of the Region Report. Promoting Calgary Inc's Community Strategy includes an effort to document a set of economic development indicators for the City. The most recent effort is Calgary's drive for World Health Organization accreditation as a Safer City, which would include the production of a Safer City Indicators Report.

⁶ The Jacksonville Web site is jcci.org/qol/qol.htm.

⁷ The Sustainable Seattle web site is sustainableseattle.org.

power. Within these power-mediated human relations, individual and group interests are defined from more or less inclusive or exclusive perspectives.

Place and Sustainability

The key concept that supports my research is “place”. I believe place is a strategic rallying point for sustainability because, perhaps more than any other concept I have encountered, it is meaningful to people’s everyday lives, their conscious experience. The concept is as familiar to theoretical discourse as it is to conversation at the neighbourhood pub or around the kitchen table. From an academic perspective, although theoretical links and dialectical analysis can get you from any entry point to a picture of the whole, place does this intuitively. Moreover, human geography is perhaps better positioned to explore place than any other discipline. My choice of the discipline of geography signals a belief that any analysis of human society must be centred on a realistic understanding of the contours and character of the life processes and the geographical places through and from which we have evolved and of which we are inescapably a part. I concur with Julie Graham’s (1992, 190) perspective on the possibilities that the geographic lens onto our world opens up, when she wrote in 1992 that she “tend[s] to see geography as a zone of great cultural diversity” characterized by a “discursive affinity” across disciplines – an open system that allows it to be a living rather than dead system of thought.

Geography’s genesis is in the study of humans and non-human nature. If place is the most likely staging ground for a challenge to non-sustainability, nature is the weak link that needs shoring up. It is the vocation of geography, perhaps, with its roots in the study of humans and non-human nature, to illuminate that linkage. It seems apparent that nature is not particularly under-theorized in geography, but certainly under-represented. The creation of authentic phenomenal place, as many writers attest (Tuan 1974; Relph 1976; Buttimer 1980; Shepard 1999; Evernden 1992; Abram 1996; Peterson 2001; and Berry 1989), is the

⁸ There are several sources for information on sustainability indicator projects in North America and beyond. One of the best databases is the International Institute for Sustainable Development’s Web-based Compendium of SD Initiatives (www.iisd.org).

key to sustainability, but as I argue in this dissertation, to achieve authentic place, the rest of nature will be required to play a lead role.

Throughout this dissertation, I explore and employ phenomenological and critical theoretic approaches to the practice of sustainability. Recurrent themes illuminate the dialectical relationship between experience and abstraction, lifeworld and system, local and global, phenomenology and critical theory, subjectivity and objectivity, structure and process, being and becoming, spirit and materiality. Figure 1.1 is a schematic orientation to this dissertation. My research begins with a practical application of sustainability concepts and tools. My inquiry is grounded firmly in phenomenology and critical theory and moves along two central threads towards two end points. Firstly, I investigate the outcomes of the Sustainable Calgary indicator project and compare the Calgary indicator initiative with initiatives in other North American cities in order to inform a Sustainable Calgary strategy for moving from indicators to action. The key concept of transformational learning and the related concept of deliberative democracy also inform this strategy. Secondly, I gather conceptual material from each of the key concepts of chapter six, along with my interpretation of sustainable development theory and practice in order to propose a radically local, cultural and qualitative theoretical take on sustainability.

Chapter 2 tells the Sustainable Calgary story, the point of embarkation of this dissertation. The Sustainable Calgary community sustainability indicator project is a practical, action-oriented initiative. In this chapter I review the origins of the initiative in the social justice and international development education movements in Calgary. I discuss the key points of the process employed to engage two thousand Calgarians in the selection, research and documentation of the thirty-six indicators contained in the Report. I also summarize an analysis of Calgary's sustainability based on an assessment of the suite of indicators.

In chapter 3, I discuss the philosophical foundations of my approach to this research. My question is which philosophical tradition and theoretical models provide the most

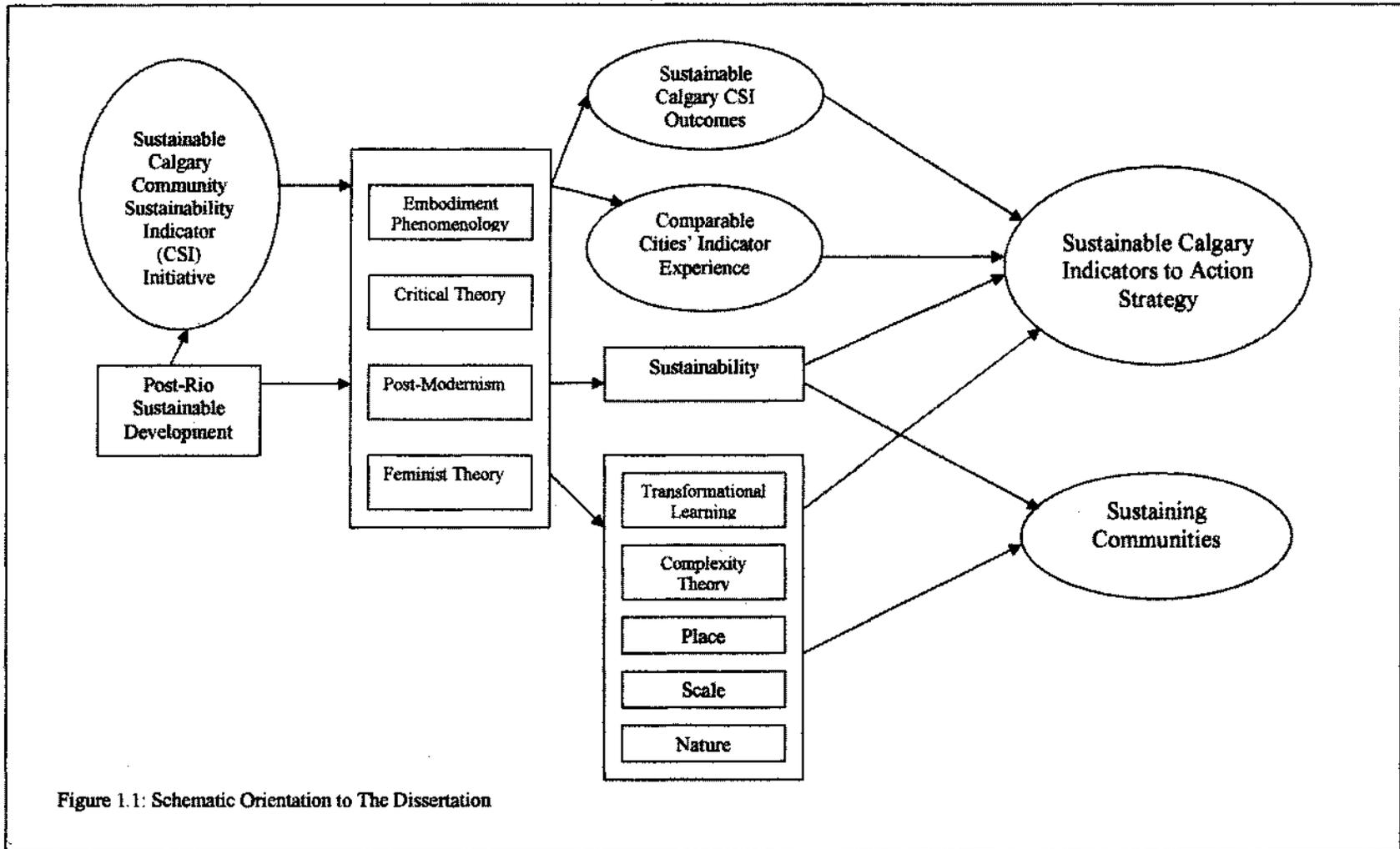


Figure 1.1: Schematic Orientation to The Dissertation

compatible framework for my inquiry. My inclination from the beginning of this research has been that reclaiming local, experiential, ecological place is a necessary condition for turning our collective path toward sustainability. Over time, I have come to believe that philosophically, phenomenology is the best fit for this inquiry. My life experience, particularly in the Third World, and my brief exposures to the Fourth World within my own country have informed me that a critical perspective, that examines material relations of power, is also required to understand and remedy our current globalized, abstract, instrumental world. Thus, critical theory, particularly the ideas of Paulo Freire and Jürgen Habermas, informs this reflection. I also draw upon insights from feminist theory and postmodern theory to situate my approach to the research question, particularly their contribution to sensitizing me to issues of diversity, situated knowledges, practical reasoning and mobilizing for action.

In chapter 4, I discuss my methodology and an approach to this research that I call “rich praxis” – a pragmatic approach that draws upon a diversity of tools. Although the research has been undertaken from within the discipline of geography, no single theoretical framework drives it. I employ elements of the participatory, phenomenological, and critical research paradigms with an ecological sensitivity – what I call ecologically oriented participatory action research (Eco-PAR). Paulo Friere has written that “we make the road by walking”. In that spirit this research follows an abductive path advocated by pragmatists, drawing together insights from a variety of perspectives and experiences in order to say something of value for the practice of community sustainability indicators and the theorization of sustainability. I discuss the unique benefits and challenges of my insider-researcher position. I propose a qualitative research evaluation framework and particular research strategies to satisfy myself and external reviewers that the research is rigorous and that the findings are plausible and worthy of attention. For clarity of presentation some details of my methodology are also presented in chapter 6 (scalar considerations) and chapter 7 (the Sustainable Calgary indicators initiative outcomes research).

In chapter 5, I provide an overview and critique of the concept of sustainable development and its post-Rio Earth Summit theory and practice. This includes a brief summary of the

concept's entanglements with the concepts of sustainability, derived from early twentieth century natural resource management, and with international development as conceived in the post-World War II period. I present a critique of ecological modernization – the currently dominant theory of sustainability and offer an alternative perspective that privileges the local and the cultural rather than the global and technosystemic.

In chapter 6, I identify and elaborate upon the key concepts I require to explore my research question: place, scale, nature, transformational learning, and complexity. I describe three types of place-making – capitalist, cosmopolitan and ecological and argue that ecological place-making has more promise for delivering sustainable communities. I discuss the social construction of scale, its hierarchical and networked characteristics, its variable fluidity and fixity over space and time. I argue for a consideration of the very real rigidities in the scalar configurations we create and inherit, and make a case for the harmonization of these various scales. In my discussion of nature I argue against dualistic conceptions of nature, and against strong social constructionist conceptions of nature. I argue for a more phenomenological and relational conception of nature that allows for a liberal exploration of the unity of all life rather than a focus on the uniqueness of the human species. My discussion of transformational learning highlights the affinities of this body of work with critical theory and especially the work of Marx, Gramsci and Jurgen Habermas. I discuss my preference for the more critically and politically forceful current of transformational learning identified with the work of Paulo Freire. Finally I introduce material drawn largely from the natural sciences in my discussion of complexity theory. I make an argument that complexity theory has much to offer to an understanding of sustainability, particularly with respect to the macro-timescale it works within and its attempts to bridge the natural and the social sciences.

In chapter 7, I present the findings of a series of thirty-two semi-structured interviews that I conducted with former participants in the Sustainable Calgary indicator initiative. The interviews were my primary tool for responding to the first research sub-question: what outcomes have resulted from the Sustainable Calgary indicator project? While many summary reviews of indicator projects have been undertaken, to my knowledge this is the

first time an insider to a process has examined the outcomes of a particular indicator project in some depth.⁹ The research points to significant participant outcomes in personal growth, new understanding of sustainability, acquisition of new skills, professional development, and behaviour change. Community outcomes include modest intervention in the policy process, establishment of a sustainability reporting practice benchmark, contribution to an enabling environment for sustainability activity, and, most importantly, a broad-based community dialogue.

My purpose in Chapter eight is to compare and contrast a group of comparable cities' experiences with sustainability indicators and, in so doing, optimize the Sustainable Calgary strategy for moving from indicators to action. Based on the comparable cities survey and a review of the relevant literature, four broad conclusions can be drawn about the efficacy of indicator projects. First, there is a strong consensus that indicator projects are a key piece of the sustainability puzzle and an effective starting point for taking sustainability seriously. Second, a strong case can be made that indicator projects can be a catalyst for civic dialogue and for social learning. Third, the missing link between policy and indicators must be better understood and operationalized. Fourth, despite the positive assessments of many researchers, there are some fundamental questions about the social sustainability of even the high-performance cities.

In chapter 9, I bring my inquiry to a practical conclusion in response to research sub-question two: How does Sustainable Calgary move from indicators to action? I propose a Sustainable Calgary indicators-to-action strategy that is informed by a consideration of the outcomes achieved to date, the reflections of the interviewees with respect to future directions for the indicator initiative, and the experience of other cities. I propose a five-point indicators-to-action strategy: 1) lobby for alignment of the City's sustainability agenda with the 'Rio Consensus' and Local Action 21 and The Melbourne Principles for Sustainable Cities; 2) rationalize indicator sets that relate to Calgary in order to make the

⁹ Alan Atkisson (1999a), one of the co-founders of Sustainable Seattle has written extensively on his personal reflections on and analysis of the Sustainable Seattle process and Meg Holden (2005), an outsider to the

indicators project effective and accessible as a policy and decision-making tool in a governance milieu where indicator mania has overwhelmed all but the most ardent indicator fans; 3) elaborate foundational principles and principles of practice that support a process of transformational social learning as an integral part of community sustainability indicator initiatives; 4) consult with citizens on the policy and action implications of the 2004 State of Our City Report; and 5) craft an effective civil society dialogue, education, and advocacy strategy, aimed at local government, and supporting citizen-defined priority policy and action.

I conclude the dissertation in chapter 10 with some thoughts on the theory and practice of sustainability. Sustainability, and more so, sustainable development, has focused on the quantifiable change in our material world, or world of objects. In this final chapter, in keeping with the phenomenological approach, I argue that we need to consider the qualitative dimensions of sustainability. In asking the seldom-asked question, what is it we want to sustain, I propose a conceptualization that focuses on qualitative relational aspects of our existence that I believe are the more enduring aspects of our lives. I propose that the object and subject of sustainability should be “sustaining ecological community.” I propose a relational model of a sustaining ecological community, define the evolutionary and transformational driver of sustaining ecological communities, and offer a set of five criteria by which we can determine whether there is, in fact, authentic experience of a sustaining ecological community. My proposition is not meant to replace system-based versions of sustainable development theory and action but to provide a corrective in a world where the cultural debate over sustainability has been circumvented by the rush to a technosystemic fix.

Sustainable Seattle process, has undertaken extensive stakeholder interviews in a qualitative assessment of the Sustainable Seattle experience.

Chapter 2: The Sustainable Calgary Story

Calgary, the fourth-largest city in Canada, was built on the strength of the agriculture and petroleum industries. It sits on the northwest extremity of the Great Plains of North America at the edge of the foothills of the Rocky Mountains and is home to almost one million people within a land area of almost eight hundred square kilometres. The city is generally considered to have benefited tremendously from trade liberalization – in particular, the Canada-U.S. Free Trade Agreement (FTA) and the North American Free Trade Agreement (NAFTA). The oil and gas sector is in a boom period, with growing exports to the United States, and growth is anticipated in the “high-tech” sector. In the period 1995 to 2005, upwards of twenty-five thousand people per year have moved to Calgary, many of them part of the growing immigrant population.

Calgary is the centre of conservative politics in Canada, but rapid urban population and economic growth is changing the nature of that conservatism. The combination of unprecedented economic growth and the influx of new Calgarians is challenging the sustainability of our community on many fronts. Even former Conservative Premier Peter Lougheed, one of the champions of the FTA, recently expressed doubts about the outcome of the free trade regime in terms of impacts on our communities and the sovereignty of the Canadian economy (Lougheed 1999). Meanwhile, the environmental movement has come into its own in Calgary through initiatives such as the Calgary Eco-Centre (circa 1985), Healthy Calgary (circa 1992, affiliated with the Healthy Cities network), Building Stronger Communities (BSC 1997), and a 1995 workshop entitled *Reclaiming Our Communities from the Global Economy* (Keough 1996).

In 1996, against this backdrop, a core group of citizens came together to form Sustainable Calgary under the banner of the Arusha Centre, a community development centre with a thirty-year history in Calgary. The Centre originated as a development education resource centre dedicated to bringing issues of international development and social justice to Calgarians. In the mid-1990s, funding difficulties caused the Arusha Centre to refocus on local community development, including sustainability, cultural diversity and anti-racism,

and community economic development. In 1996 a group of Arusha volunteers learned about the Sustainable Seattle initiative and became excited about the prospects for a similar process in Calgary. Sustainable Calgary was founded after the Arusha Centre hosted a series of public forums to introduce the idea of an indicator project and gauge public support. The idea struck a chord, with attendance at three public forums exceeding expectations. Sustainable Calgary was founded by a group of educators, university students, engineers, planners, social workers, environmentalists, and small business owners, eventually becoming a non-profit society in its own right. Since 1996, over two thousand Calgarians have been involved in the process of creating the 1998, 2001, and 2004 State of Our City reports (Sustainable Calgary 1998, 2001, 2004).

Understanding Indicators and Planning Our Process

For the first year, the sustainability indicator working group focused its efforts on researching community indicator projects and the relevant literature; networking with a diverse group of individuals and organizations throughout the city; mapping out a public process to help it achieve a first State of Our City Report; and defining our mission, objectives, principles, and the sectoral domains within which it would group the indicators.

The indicator project working group identified Sustainable Calgary's mission as the promotion, encouragement, and support of community-level discussion, actions, and initiatives that move Calgary toward a sustainable future. The working group also identified five major objectives in support of the mission. It would 1) create a focal point for discussion of sustainability issues in general and raise these issues to a higher level of public debate; 2) provide an educational tool for teachers, private and public sector decision-makers, and community organizations; 3) monitor issues, actions, and policies that impact Calgary's sustainability and quality of life; 4) provide a basis for action and influence policy, planning, and community processes; and 5) highlight the linkages among social, economic, and ecological spheres of activity.

The work of Sustainable Calgary was guided by four sustainability principles. First, a sustainable community maintains or enhances its ecological integrity. It lives in harmony

with the natural world, protecting the air, water, soil, flora, fauna, and ecosystems on which it depends for its survival – the life support systems for all human communities. Second, a sustainable community promotes social equity. Each and every citizen is afforded access to the benefits and opportunities that a community has to offer, without social or economic discrimination. Third, a sustainable community provides the opportunity for meaningful work and livelihood for all citizens. A strong, resilient, and dynamic local economy is essential for community sustainability. Fourth, a sustainable community encourages democratic participation of all citizens. We live in a democracy, the bedrock of which is citizen participation in decision-making and planning. In a sustainable community, participation is both a right and a responsibility and should be available to every citizen (Sustainable Calgary 2001). Subsequent to the 2001 indicators report, the working-class community of Dover, in Calgary's southeast, completed a local indicators project with the assistance of Sustainable Calgary. The Dover project steering committee added a fifth principle of sustainability: a sustainable community acts responsibly in its relations with all other communities (Dover Community Association 2001).

Following a review of current literature and practice, the indicator project team compiled a list of sustainability indicators used in other community processes or suggested by other practitioners (Hart 1994; MacLaren 1994, 1996; Redefining Progress 1997; Sustainable Seattle 1993). This list was the starting point for our selection process. In addition, we adapted eight indicator-selection criteria from other processes and the literature on sustainability as follows (Sustainable Calgary 2001):

1. Does the indicator link economic, social, and ecological factors?
2. Will people understand and care about the indicator?
3. Will the indicator trigger action?
4. Is the indicator responsive to interventions?
5. Is there a way to accurately measure the indicator?
6. Is the collection of data for the indicator cost effective?
7. Is the indicator comparable to other reference points and standards?
8. Is the indicator consistent with Sustainable Calgary's sustainability principles?

In this first year of planning, Sustainable Calgary defined an indicator as something that helps you understand where you are, which way you are going, and how far you are from where you want to be. A good indicator is an early warning of an emerging problem and helps you recognize what needs to be done to fix it. One of the distinguishing features of a sustainability indicator is its ability to illuminate the linkages among indicators – a direct or indirect relationship between two or more indicators, where changes in one affect the status of another (Sustainable Calgary 2004).

Invoking sustainable development begs the question of what it is you want to sustain. Over time, we realized that we needed to provide a response to that question to clarify what we were trying to accomplish through the indicator initiative. We had to understand both the ends we wanted to achieve and the means we chose to achieve those ends. In the 2001 report, we said:

The goal of a sustainable community is to achieve a good quality of life including love, comfort, health, education, physical sustenance, meaningful work, spiritual meaning, and a sense of belonging. In a sustainable community, the means to attain these qualities is through the most efficient and wise use of time, effort, and resources. High levels of resource consumption characterize the particular lifestyle that supports our quality of life. Sustainability reporting challenges the community to examine whether this lifestyle is sustainable for the long term and, if not, what changes can be made to create a sustainable future lifestyle that can deliver an equal or greater quality of life for our children, grandchildren, and future generations. (Sustainable Calgary 2001, 10)

Finally, prior to launching the public process at the beginning of year two of our work, we defined a domain-based framework of indicators that we thought made sense for Calgary. Each indicator project creates a unique way of organizing its indicators; we wanted a grouping that was intuitive and meaningful to people at first glance. We avoided the expert-oriented causal framework exemplified by the pressure-state-response model. We did not feel the sectoral framework – housing, transportation, energy, and so on – was appropriate for our process as it reinforced the siloed divisions so problematic to local government.¹⁰ Our 2001 process used six sector groupings as outlined in table 2.1 (the 1998 report had five groupings, with Health and Education combined).

Introducing the Issue of Citizenship

A key element of our public process was the invitation for people to participate in the indicator project as citizens. John Ralston Saul (1995) and Mark Kingwell (2000) have written extensively on the importance of acting as citizens in what Saul describes as a very corporate world, where individual action and corporate or identity group allegiance is the norm. The following passage was included in the materials distributed to indicator workshop participants in May 2000:

In this process we are asking people to participate as citizens of Calgary. We are not asking you to represent a particular sector or stakeholder. The issue at stake is the sustainability of our community, not a particular sector or interest. While expertise in a particular area is valuable and a necessary contribution, the process works best when you step out of your own area of expertise and contribute with the big picture in mind, with the good of the community as a whole in mind.

The Public Participation Process

What has made the work of Sustainable Calgary effective is our determination to involve as many people as possible through a participatory democratic process. This process was informed by the indicator project working group experience with participatory methodologies, including participatory action research, participatory appraisal, and popular education and popular theatre techniques. Our process can be broken down into six distinct steps.

1. Process Initiation and Indicator Nomination

In 1997 our public process was launched with a city-wide workshop attended by more than a hundred people. The sustainability indicator concept was introduced and the process for selection, research, and reporting on the indicators was presented and discussed. At the end of the workshop, participants volunteered for one of the five sector working groups – or as they were called, indicator think tanks. After completing the 1998 report, we identified segments of our community that were under-represented in the process: youth, business, ethnic communities, and the disabled. The 2001 process was adjusted to correct this

¹⁰ See MacLaren (1996) for a useful summary of indicator frameworks and their strengths and weaknesses.

Indicator	Sustainability Assessment
Community Indicators	
Crime Rate & Rate of Victimization	Happy Face
Leisure Activity	Neutral Face
Membership in Community Associations	Happy Face
Number of and Attendance at Public Festivals	Happy Face
Sense of Community (in progress)	Neutral Face
Valuing Cultural Diversity (in progress)	Neutral Face
Volunteerism	Happy Face
Economy Indicators	
Housing Affordability	Neutral Face
Economic Diversification – Oil and Gas Reliance (in progress)	Sad Face
Food Bank Usage	Sad Face
Hours Required to Meet Basic Needs At Minimum Wage	Sad Face
Income Equity: Gap between Rich and Poor	Neutral Face
Unemployment Rate	Happy Face
Education Indicators	
Grade Three Achievement Scores	Neutral Face
Adult Literacy	Neutral Face
Daycare Worker Salaries and Turnover	Neutral Face
Lifelong Learning – Library Use	Happy Face
Teacher/Student Ratios	Sad Face
Natural Environment Indicators	
Air Quality	Neutral Face
Bird Population Surveys	Neutral Face
Food Grown Locally (in progress)	Happy Face
Pesticide Use	Happy Face
Surface Water Quality	Happy Face
Water Consumption	Happy Face
Resource Use Indicators	
Domestic Waste	Neutral Face
Ecological Footprint (in progress)	Sad Face
Energy Use	Sad Face
Population Density	Sad Face
Transportation Infrastructure Spending	Neutral Face
Transit Usage for Work Trips	Neutral Face
Wellness Indicators	
Access to Primary and Alternative Health Resources	Sad Face
Childhood Asthma Hospitalization Rate	Neutral Face
Healthy Birth Weight Babies	Happy Face
Self-Rated Health	Neutral Face
Support for the Most Vulnerable	Sad Face
Youth Wellness	Sad Face
Table 2.1 Sustainable Calgary's Thirty-Six Community Sustainability Indicators	

shortcoming. One adjustment was to not rely solely on people coming to our events, as in 1998, but to offer to bring the process to them. As a result, the initial phase of the 2001 State of Our City Report consisted of a series of over fifty workshops; some were open workshops held at the public library, and others were hosted by particular organizations. The host organizations were a diverse group, including the Chamber of Commerce, the Rotary Club, the Royal Bank of Canada, BP Resources, the Developmental Disabilities Resource Centre, Calgary aldermen and staff, University of Calgary classes, the Calgary Mennonite Centre for Newcomers, and the Hillhurst-Sunnyside Community Association. In these workshops, the twenty-four indicators documented in the 1998 report were presented, and participants were asked to comment on the appropriateness of the current indicators and to nominate new indicators for the 2001 report. Participants were aided in their deliberations by the indicator criteria and the sustainability principles. In addition, Sustainable Calgary sponsored a city-wide Youth Creative Writing and Art Contest to engage youth in our process: more than fifty youth submitted their visions of what a sustainable Calgary would look like in the year 2020.

2. Indicator Think Tanks

In the next phase, we held a series of three two-hour indicator think tank sessions over a six-week period. The think tank sessions were open to all who had participated in a workshop. Participants self-selected into one of the five (1998) or six (2001) think tanks, each of which reviewed all of the new indicator nominations that had come out of the public workshops and brainstormed additional indicators. The indicator criteria were used as a ranking tool in the process. After lively brainstorming, debate, and discussion, each sectoral group nominated five indicators (ten in the 1998 process) to be considered for inclusion in the 2001 report in addition to the original twenty-four indicators from the 1998 Report.

3. Dotmocracy

At the 2001 indicator project plenary “dotmocracy” session, a total of thirty nominations (fifty in 1998) were presented and justified by the sectoral think tank teams. With all of the

indicator nominations before the plenary, there was one final opportunity for further nominations from the floor. Then all those present were given five “sticky dots” and asked to place their dots beside the indicators they thought were the most important indicators to include in the report. All of the votes were tallied and the top twelve indicators were added to the original twenty-four from the 1998 report. Thus, we arrived at a list of thirty-six indicators for the 2001 report.

4. Community-Based Research

Following the selection of indicators, volunteers were again invited to join the process as community researchers. The selected indicators were a diverse assemblage of sub-sectors (e.g., crime and safety), indicators (e.g., healthy birthweight babies), and measures (e.g., airborne particulates). The task of the community researchers was to clearly define the indicator and to gather the information required to report on the indicator. The task involved investigative reporting, interviewing, and collecting data from local social development agencies, research institutes, and government agencies. The community researchers were asked to complete a draft indicator page using the template provided. The template’s categories were information on indicator definition and current value; the indicator’s trend over time; why the indicator is important for sustainability; what linkages the indicator has with other indicators; individual and collective actions that can be taken to improve the indicator; and the source of the information collected. In practice, information was often inconsistent, non-existent, or expensive to purchase. Often local information was not available and information aggregated at provincial or national levels had to be used.

5. “Indicator-in-Progress” Task Forces

The 1998 report had identified several “indicators-in-progress” for which no suitable measure or data source could be found (see table 2.1). In preparation for the 2001 report, a series of task forces were convened to study the indicators-in-progress in more detail. Research was commissioned with the collaboration of various funders, and workshops were held with individuals with interest, experience, and/or expertise in the indicators-in-

progress. Valuing cultural diversity is one example of an indicator-in-progress: citizens who participated in the indicator selection process were not just interested in reporting on the statistical diversity of Calgary's population; they wanted to know if Calgarians value the diversity in our community. The Sustainable Calgary indicator project team was not satisfied with the measure contained in the 1998 report, so we convened a task force that included immigrant serving agencies, the City of Calgary, community development experts, and diversity funders such as the United Way of Calgary and the University of Calgary's Cultural Diversity Institute. After examining several potential measures, the group chose the ethnic and gender diversity represented in positions of power and influence in Calgary as the indicator of how we value cultural diversity, the rationale being that if Calgarians value the cultural diversity of our city, that diversity will be represented in these positions of power and influence. In order to measure representation of women, visible minorities, and Aboriginal people in this group as compared with their representation in the general population, Sustainable Calgary volunteers gathered data on a group of 220 positions representing elected representatives, corporate boards of directors, non-profit boards of directors, and media personalities.

6. Report Publication and Dissemination

Two thousand copies of the 1998 and 2001 reports were disseminated throughout Calgary. Sustainable Calgary focused on particular influential individuals and organizations, providing reports directly to organizations such as the University of Calgary board of governors and members of City Council. We made the launch of the reports a celebrated media event, including press conferences, media interviews, and newspaper articles. A public event was organized for each report launch as a way to celebrate its publication and acknowledge all those who had contributed to the report. Popular theatre and appearances by local entertainers were a part of these launch events.

Is Calgary Sustainable?

One of the first questions asked when audiences are introduced to Sustainable Calgary is, is Calgary sustainable? The question has to be answered in a meaningful way that tells a coherent and compelling story and is true to the documented research. In our process, the

project team deliberated and arrived at consensus on the sustainability of each of the indicators. We had chosen not to establish targets for the indicators so there was no unequivocal benchmark from which to judge them. The deliberations were qualitative, subjective, informed assessments of each indicator. Each indicator was judged unsustainable (sad face), sustainable (happy face), or neutral (neutral face) based on an assessment of whether it was moving toward or away from sustainability and how rapidly it was changing. The results of that ranking are included in table 2.1. Our process did not include sector indices, as many indicator sets do (e.g., Atkisson 2005). The story we told under the heading “Is Calgary Sustainable?” was what I call a “narrative aggregation”: the report provided a narrative assessment of the sustainability in each sector and a narrative summation of the city’s overall sustainability.

The thirty-six indicators of community sustainability provide a diverse picture of the state of our city in 2004. On the whole, Calgarians are building a strong, diverse, creative community in a clean natural environment, and we are relatively well educated and healthy – but our use of natural resources is wasteful and costly, and the inequities in our community are making life difficult for many.

Our indicator research suggests that current trends in our community sector indicators and our natural environment indicators are sustainable. The community sector indicators are among the most promising, with some qualifications. The number and diversity of festivals in our city continues to grow, as does our participation in those festivals. Our survey of Membership in Community Associations suggests an increase in participation since 2001. The incidence of crime in our city continues its long-term decline in statistical terms, and Calgarians are generally feeling safer. Volunteer activity is stable at healthy rates, and there is reason to believe that the available statistics under-report our volunteer activities. Leisure and work indicators confirm our self-image as a community that works hard and plays hard, but the combination is resulting in greater levels of stress and neglect in other areas of our lives. There seems to be a growing realization of the diversity of our city and the benefits that diversity brings, but this has yet to translate into a representative diversity among our politicians, media personalities, and community and business leaders.

Over the past decade, we seem to have turned the corner toward a more sustainable natural environment. Surface water quality has been steadily improving and the city has received high marks for its water treatment system and its wetlands conservation program. There is reason to be optimistic about our local food system, in that the number of community gardens, farmers markets, and organic food stores is growing. Our per capita water consumption remains relatively high in comparison to other Canadian cities but has decreased significantly, and our attention to the issue promises sustainable levels of consumption in the foreseeable future. We have reduced the intensity of pesticide application, but overall, amounts applied within our city are increasing and there are only two pesticide-free parks in Calgary. Air quality is generally very good but improvement seems to have stalled. Relatively healthy bird populations attest to what is, all in all, a trend toward a sustainable local natural environment.

Based on our research, we cannot say with any certainty that current trends will result in a sustainable health and education system. Vigilance and continued improvement are the watchwords. The education sector is generally in good shape. Lifelong learning continues to be an important aspect of life in Calgary, with citizens making more and more use of our libraries. Grade three achievement scores continue to indicate a strong start to our children's academic lives. Class sizes are generally too big, although there are signs that the system is responding to this problem. Adult literacy statistics are too infrequently collected to give us a clear picture of how we are doing in this vital area. Salaries for daycare workers have seen some improvement in the past three years, but with turnover rates of 45 percent, well above the national average, we have a long way to go in providing sustainable early childhood education.

While Calgarians generally enjoy good health and longevity, there are worrying signs in terms of access and equity in the system. Our indicators suggest potential problems for our youth and the most vulnerable in our community. Asthma rates are still very high and asthma remains the number one reason for school absenteeism. As many as thirty-seven thousand children in Calgary could be suffering from asthma. Obesity in younger children

and a decreased sense of purpose among older youth are causing concern that they may not enjoy the relatively healthy lives of their parents. Despite a universal recognition of the importance of preventive health care, the proportion of resources we devote to it has been decreasing. Self-rated health responses have remained relatively stable over the past eight years, but low-income and less educated Calgarians continue to rate their health in less positive terms.

Our economic and resource use indicators suggest that we have not made significant progress in these areas over the past decade and that we are moving away from sustainability. Two of our biggest challenges are the significant inequities in our community and the unsustainable rates of resource consumption. While we have performed admirably in keeping our air and water clean, we have not addressed our costly resource consumption. Our energy consumption is among the highest in the world and growing, and the number of Calgarians using transit to get to work has stalled; we have not made a decisive shift in funding toward a transit-, bicycle-, and pedestrian-oriented transportation system. Meanwhile, our city continues to sprawl, and, although we are making progress on domestic waste, we continue to put an increasing volume of material into our landfills every year.

Our economic indicators present an interesting paradox, highlighting most clearly the difference between a sustainable economy and business as usual. The conventional analysis is that our economy is strong and firing on all cylinders. Our economic indicators, however, point out that there is more to our economy than average incomes, low taxes, high personal consumption, and corporate profits. More people are using food banks, more people are living on the streets, more people are finding housing unaffordable, and more people are earning incomes or receiving social supports that do not even come close to providing basic needs.

Employment is strong, salaries are rising, and our province is debt-free – but is it? Our indicators suggest that the economic restructuring of the past decade has left us with a social debt to the most vulnerable in our society, who have paid dearly in order to balance

the books of our province and our city. Through our unsustainable consumption of natural resources, we have also incurred a debt to the ecological support systems that ultimately all human communities depend upon. With a provincial and city economy that is bursting at the seams, growing inequities are a black eye on our community. We have the capacity to change this, but we have not made a conscious decision, as a community, to do so.

Thus I arrive at a reflective moment in my own engagement with Sustainable Calgary. In the next chapter I discuss the philosophical foundations I use to explore my research questions. The embodiment phenomenology of Merleau-Ponty provides a tool for examination of the qualitative and experiential dimensions of human experience. Critical theory provides a tool for analysis of our material world and its attendant techno-systems. Habermas' theory of communicative action provides a critical theoretic tool to take us beyond critique to political action. Postmodernism is a reminder of the need to consider multiple perspectives and ways of knowing the world. Feminist theory reinforces the need to move beyond social critique and acknowledgement of difference, and the paralyzing relativism of some postmodernism, toward a practical exploration of participatory strategies for acting in the day to day world.

Chapter 3: The Philosophical Foundation

At its most basic, my research is driven by a search for understanding, meaning, and a compass for moral and ethical conduct in the service of a more sustainable way of being in and of co-creating the world. The philosophical foundation of my research includes what I believe are two complementary philosophical approaches – phenomenology and critical theory – inflected by postmodernism and feminist theory. Figure 3.1 is a schematic of these philosophical foundations along with my research methodology and research outcomes. Each of these philosophical traditions provides powerful tools for me to challenge and problematize the present moment of modernity with respect to the sustainability of human communities.

Phenomenology

Richard Peet (1998) suggests that, given its fundamental challenge to positivist science, phenomenology is perhaps the most radical of philosophies taken up by geographers. He also observes that phenomenology resonates strongly with pre-positivist geography, notably the ideas of place and landscape espoused by Vidal de la Blache. My phenomenological touchstone will be the unique explanation of this philosophy originally given by Maurice Merleau-Ponty in the late 1940s (Merleau-Ponty 1962). Three key concepts in Merleau-Ponty's phenomenology are intersubjectivity, lifeworld, and embodiment. He argues that inquiry must be grounded in the concrete experience of the intersubjective, embodied lifeworld of the individual. Intersubjectivity describes the phenomenologist's belief that all understanding, meaning, and knowledge is relative to the position and context of the subject and is only possible because the subject establishes communication with other subjects and objects in the world. Merleau-Ponty's phenomenology has figured prominently in the thinking of humanistic geographers (Tuan 1974; Relph 1976; Buttner 1980; Entriken 1991; Sack 1997). More recently, eco-phenomenologists have built directly on Merleau-Ponty's work and have given

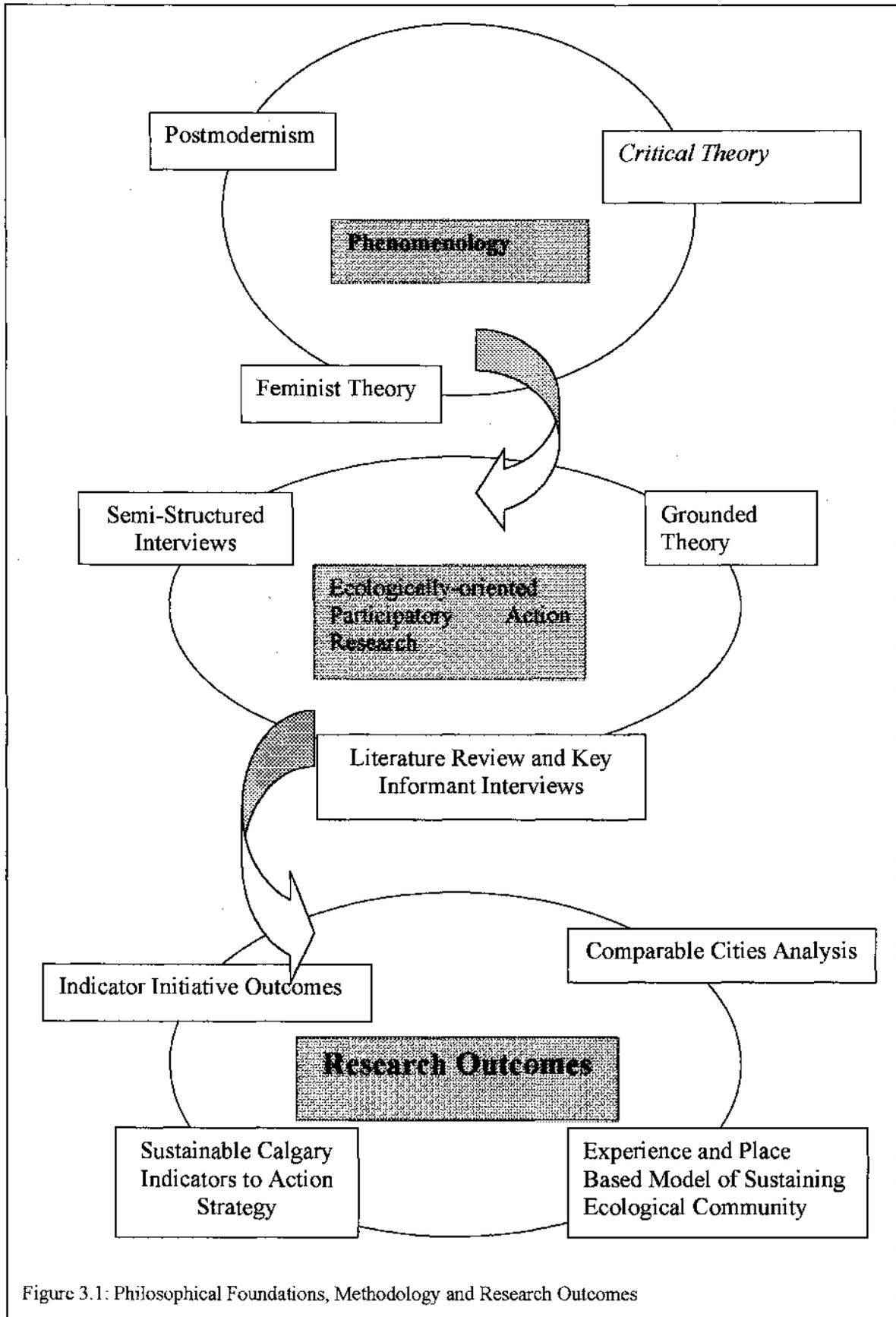


Figure 3.1: Philosophical Foundations, Methodology and Research Outcomes

phenomenology a thoroughly ecological grounding (Evernden 1992; Livingston 1994; Abram 1997). For the eco-phenomenologists, humans and other animals are co-participants in the intersubjective world. The eco-phenomenological perspective is taken up in chapter 6.

In the late nineteenth century the philosophy of phenomenology arose from the discomfort of some philosophers with the scientific enterprise, which, in their view, did not reflect upon the constitution of knowledge that gave rise to science in the first place. According to Matthews (2002) Edmund Husserl is credited with the first effort to describe the new philosophy and propose a method for its practice that involved what he called the “bracketing” of conceptual knowledge, or the suspending of the common sense “natural attitude,” in order to see “things as they are.” In Matthews’ view Martin Heidegger is perhaps the most infamous and influential of the phenomenologists, both in terms of the impact of his work on subsequent philosophers and social theorists, and as the spark for critiques of phenomenology. His insight, “I care therefore I am”, rather than Descartes’ “I think therefore I am”, is an idea I will return to in Chapters 9 and 10. Matthews wrote that both Husserl and Heidegger held to the idea of the potential for humans to achieve a transcendent view of the world. In contrast, Merleau-Ponty’s ideas are important to my thesis because he grounded his phenomenology not in transcendence but in an embodied world.

As the title suggests, Merleau-Ponty’s *Phenomenology of Perception* (1962) sets out to investigate human perception – our first and most primitive interaction with the world. For Merleau-Ponty, perception implies an internal relation between ourselves and the world. He believed that perception exists prior to consciousness and is activated through our relationships with other objects and people. Merleau-Ponty wrote that “[p]henomenology is the study of essences; and according to it, all problems amount to finding definitions of essences: the essence of perception, or the essence of consciousness, for example.” Phenomenology is also a philosophy that “does not expect to arrive at an understanding of man and the world from any starting point other than that of their ‘facticity.’” It is a “philosophy for which the world is always ‘already there’ before reflection begins – as an

inalienable presence; and all its efforts are concentrated upon re-achieving a direct and primitive contact with the world, and endowing that contact with a philosophical status.” Phenomenology “offers an account of space, time and the world, as we ‘live’ them” (Merleau-Ponty 1962, vii). According to Matthews’ interpretation of Merleau-Ponty, this everyday lived world, the “lifeworld,” is the pre-given, pre-conceptual world that is the basis of our science and philosophy; it is the “already there” that our bodies encounter (Matthews 2002).

The key innovation in *Phenomenology of Perception* was “embodiment”: Merleau-Ponty argues that our being in the world is as “body-subjects” rather than as pure disembodied subjects. He asserts that “our consciousness of the world must be mediated by bodily sense organs, a brain and nervous system, and, indeed, by our capacities for bodily movement” (Matthews 2002, 20). In *Phenomenology of Perception*, Merleau-Ponty brings to bear the best scientific understanding of perception available to him. Fifty years later, advances in cognitive science support Merleau-Ponty’s position. In *Philosophy in the Flesh* (1999), George Lakoff and Mark Johnson marshal the most recent findings of cognitive science to argue for what they call the “embodied mind.” They demonstrate how the development of Western philosophy can be explained as a complex of metaphors generated originally out of our sensory contact with and spatial bodily movement through the world.

Merleau-Ponty believed that science is a “second-order expression” of the “basic experience of the world” (1962, ix) Thus, returning to the “things in themselves” is the attempt to become conscious of our perception of the world prior to conceptualizations derived to make order of it through logical thought. He further claims that “every scientific schematization is an abstract and derivative sign-language”: for example, “geography in relation to the country-side in which we have learnt beforehand what a forest, a prairie or a river is” (x).

Merleau-Ponty makes it clear that what he is advocating is not idealism in the sense of pure reflective consciousness but rather that “the real has to be described, not constructed or formed.” He describes perception not as an act or a deliberate taking up of a position, but as

the “background of all acts” (1962, xi). He is also clear about the practical limitations of phenomenological method in that the “reduction” – the suspension of belief in the concepts we have taken on to order the world – that allows us to see things as they are is an ideal: “The most important lesson which the reduction teaches us is the impossibility of a complete reduction” (xv). This limitation is due to the phenomenologist’s realization that “radical reflection amounts to a consciousness of its own dependence on an unreflective life which is its initial situation ... once and for all” (xvi). Further, he warns that “[t]he world is not what I think but what I live through. I am open to the world, I have no doubt that I am in communication with it, but I do not possess it; it is inexhaustible” (xviii).

Another key notion for Merleau-Ponty is that the world is not a fixed entity to be comprehended. From a phenomenological standpoint, “philosophy is not the reflection of a pre-existing truth, but, like art, the act of bringing truth into being” (1962, xxiii).¹¹ Art figures even more prominently in Merleau-Ponty’s later writings: he came to believe that “art can do more than simply describe that pre-objective world of perception: it can directly present it in the works which it creates” (Matthews 2002, 134).

According to Matthews, Merleau-Ponty used Heidegger’s language of being in the world. Being in the world means having an intentionality toward the world, as illustrated in Heidegger’s phrase “I care, therefore I am.” “Being” in the world implies passivity, but the intentionality implies action, or becoming. Another term I would use to describe the act of being in the world is “creativity.” (In chapter 6, I discuss how creativity has been theorized in other contexts.) Matthews claims that Merleau-Ponty was, in his later thinking, moving toward a view of philosophy not as a static “presuppositionless description” of the world but as a “creative re-description” of experience (2002, 160).

Merleau-Ponty’s concept of intersubjectivity has significant consequences for how we make sense of the world. For the phenomenologist, there is no objective meaning. Objectivity is replaced by a making-sense-of-the-world achieved through subjectivity and

¹¹ The idea of bringing forth a world, given that it is mirrored in transformational learning and in complexity theory, is a fascinating perspective that I discuss later.

intersubjectivity. In an intersubjective world, rationality is not a possibility for an individual. According to Merleau-Ponty, if there is rationality, it is where “perspectives blend, perceptions confirm each other, a meaning emerges” (1962, xxii). As interpreted by Matthews, “rationality must therefore be something that emerges from the human processes of reasoning to a conclusion, that all those involved in the argument, are able to share” (2002, 41). This description of rationality resonates strongly with the language used by Jürgen Habermas (1981) in his theory of communicative action and Donna Haraway (1991) in her discussion of “shared conversations.” Merleau-Ponty’s phenomenology, in essence, posits an “inseparability of subject and world” (Matthews 2002, 8). Matthews goes on to interpret that “the phenomenological reduction ... leads not to any form of idealistic distinction between ‘inner self’ and ‘external world’ but to a deepened awareness of our inescapable involvement in the world. ... We become more conscious both of the world’s independence of ourselves, its simply ‘being there’, and of the dependence of our own existence, as conscious beings, on our situation within the world” (34). For Merleau-Ponty, “being in the world is necessarily being in a natural, social, and cultural world and our perspective is determined not only by space and time but by history and culture” (Matthews 2002, 21). The profound implication of the notion of intersubjectivity is captured in the final sentence of *Phenomenology of Perception*: “[The human being] is but a network of relationships” (Merleau-Ponty 1962, 530).

In a well-respected guide to *Phenomenology of Perception*, Monika Langer (1989) provides a useful interpretation of Merleau-Ponty’s phenomenology. She points out that phenomenology sets out to focus “on the actual human situation as the starting point for any authentic philosophy” and to “counter the assumption that genuine thinking must be abstract” (1989, viii). Phenomenology “stresses the central importance of our being in the world” (xi) rather than relying on “thinking that looks on from above” (xii). According to Langer, Husserl was impressed with Descartes’s attempt to bracket out everything except the “intuitively apprehended existence of the finite self” but criticized him for not going far enough and bracketing out the assumed finite thinking self (hence, “I think, therefore I am”). Husserl went one reduction further to try to grasp the essence of consciousness. Langer observes that in his later writing, Husserl was coming around to the idea that the

disembodied self was not defensible, and he began to fashion the concept of “lifeworld.” Merleau-Ponty saw this late change of direction in Husserl’s writing and picked up the thread, refashioning the lifeworld in a manner consistent with his embodied subject.

The historical context that Langer (1989) provides for the development of Merleau-Ponty’s thought resonates with the search to find a compass for ethical conduct that I mentioned at the outset of this chapter. Langer situates the development of Merleau-Ponty’s phenomenology in the context of the pre- and post-World War II era. She points to writers such as Karl Jaspers, who elaborates on Weber’s iron cage metaphor, warning of the “deracination and functionalization of humans in mass society” (Langer, 1989, ix) and of the need to recognize “that technology, know-how, achievements, are not enough” (Jaspers in Langer, x). In light of the horrors of the Second World War and the spectre of worse to come, Jaspers, Merleau-Ponty, and others were concerned with the need for a “non-operational” way of thinking about our place in the world. Matthews quotes Merleau-Ponty’s own ethical principle from the latter’s *Sense and Non-Sense*: “In morality as in art, there is no solution for the man who will not make a move without knowing where he is going and who wants to be accurate and in control at every moment. Our only resort is the spontaneous movement which binds us to others for good or ill, out of selfishness or generosity” (Merleau-Ponty in Matthews, 2002, 131). As Matthews concludes, “[P]olitical or moral action necessarily proceeds from where we are, and is guided by our inevitably limited perspectives, but it does not follow that it is nothing more than a leap in the dark” (131).

Langer begins her concluding chapter by explaining that

Merleau-Ponty’s central concern in the *Phenomenology of Perception* is to prompt us to recognize that objective thought fundamentally distorts the phenomena of our lived experience, thereby estranging us from our own selves, the world in which we live and other people with whom we interact. In exposing the bias of objective thought, Merleau-Ponty seeks to re-establish our roots in corporeality and the perceptual world, while awakening us to an appreciation of the inherent ambiguity of our lived experience. (1989, 149)

Matthews tempers Langer’s assessment, claiming that for Merleau-Ponty the purpose of phenomenology “was not to attack science, but to understand better the significance of its

findings for our general view of human beings and their place in the scheme of things; the enemy is not science but misguided philosophical conclusions from it" (2002, 42).

Critical Theory

Critical theory is a second cornerstone of the philosophical foundation of my research because it provides a tool to understand and critically assess the world as it is, to imagine the world as it ought to be, and to engage in the transformation to a more just world. Critical theorists look beyond the appearance of things to reveal the hidden social and economic connections and processes that shape our world. For critical theorists, things are internally related through processes, and it is these processes and things-in-relation that hold the secrets to explanation. Critical theorists do not see themselves as impartial academics: they believe that, with the aid of social theory, they can make a significant contribution to the pursuit of social justice. Within geography, a home for critical theorizing is provided by radical geographers. As Richard Peet wrote in 1977, "[O]ut of the tension between the mundane focal interests of the 'new geography' and the urgent need for social relevancy and political involvement came the first stumbling moves toward a 'radical' geography" (2002, 55). Geographers in the critical tradition include Peet, Derek Gregory, David Harvey, Neil Smith, and Doreen Massey. For my purposes, two important touchstones of critical theory outside the discipline of geography are social theorist Jürgen Habermas and adult educator Paulo Freire. I bring Freire into the conversation in the next chapter when I sketch the key concept of transformational learning.

Jürgen Habermas is considered one of the most influential theorists of the twentieth century (Pusey 1987). He is recognized as part of a second wave of critical theorists known as the Frankfurt School. The first wave of critical theorists established themselves in the midst of Hitler's reign in Germany and early on were forced out of Germany by Nazism. The central concern of first wave critical theorists was the narrow instrumental use of reason – in the scientific enterprise, the capitalist economy, state bureaucracies, and the culture industry – to facilitate humans' domination of nature and other humans (Peet 1998). While Habermas's analysis, like that of his Frankfurt School predecessors, is rooted in historical materialism, he sets out to augment Marxist theory by incorporating phenomenological, anthropological,

psychological, cultural, and linguistic perspectives on human evolution. He proposes the theory of communicative action (Habermas, 1984) as a process by which the “ideological blinders” and “exploitation” of instrumental reason can be overcome. His theory incorporates key phenomenological concepts, such as intersubjectivity and lifeworld; he claims that it is through communication, which he sees as inherently consensus-seeking, that society will evolve toward greater freedom and justice. The key problem of modernity in this historical time, in his view, is the increasing colonization of the lifeworld by the capitalist system. The economic and bureaucratic systems, in the service of capitalism, are driven by the narrow instrumental or operational imperative of efficiency of means. Habermas proposes that a calling into question of the legitimacy of the state – crises of legitimation and motivation – occurs when society is unable to realize freedom and justice due to capitalism’s distortion of the role of the state and economic systems. Unlike many Marxists, Habermas eschews revolution and class struggle in his analysis; rather, his solution lies in creating the conditions for open and free communication. A particularly important agent in this task is civil society, which operates not in an operational (success-oriented) mode of action, which promotes instrumental or strategic actions, but in a communicative mode of action, that seeks understanding and consensus (Posey 1987; Seidman 1989).

Habermas outlines a “discourse theory” wherein he defines a “discourse principle.” (Seidman 1989) According to the discourse principle, decisions can only be made through debate and discussion, with the participation of all those affected by the decision. Habermas also defines an “ideal speech situation” as existing when the participants in a debate and discussion have access to the same knowledge and can interact in the absence of any form of coercion. Based on his understanding of human nature, particularly the role of language, Habermas asserts that in such a situation people will seek to express themselves accurately in light of known facts and legitimately in light of ethical norms, and to give a truthful account of their feelings and an interpretation of their experience.

Habermas identifies three types of sciences, with a distinct interest attached to each one. The interests of the empirical-analytical, historical-hermeneutic, and critical sciences are

technical control, mutual understanding, and emancipation, respectively. He also associates the sciences with processes of production, interaction, and power. Derek Gregory (2002), one of the pioneers of critical geography, has been Habermas's main conduit into the discipline. Gregory argues that Habermas attempted a sophisticated blend of the historical-hermeneutical sciences and the empirical-analytical sciences in the service of a more comprehensive emancipatory science. Gregory believes that to be practically successful, Habermas's theory must find a way to initiate processes of self-reflection as a first step toward emancipation. This in turn depends upon "the extent to which empirical-analytical and historical-hermeneutic forms of science can effectively be brought into conjunction" (101).

Postmodernists are critical of Habermas for his Eurocentric, universalist, rationality-based social theory. Most famously according to Parfitt (2002), Michel Foucault challenged Habermas, contending that power is ubiquitous even in speech and thus an ideal speech situation is not possible. From my perspective, Habermas's model is still a powerful explanation of social change and of the capitalist system. Most importantly, I think Habermas builds a sturdy bridge between agency and structure, and suggests a viable solution – communicative action – to the current social and economic dilemmas that we face. However, I am also sympathetic to feminist and postmodernist critiques of his writing.

For my purposes in this dissertation, criticisms and extensions of Habermas are required in three general directions. First, his circumscribed understanding of human social experience must be broadened. Postmodernist and feminist theories provide ample tools for this task. Habermas does stretch the boundaries of rationality, but he relied on an analytical kind of rationality that I would argue is bound by a Eurocentric philosophical tradition. This tradition is not inclusive of other ways of understanding the world, such as Eastern or indigenous philosophies (Wilber 2000; Abram 1996), or feminist notions of understanding that give more consideration to emotion-inclusive ways of knowing (Belenky et al. 1986).

Habermas is also criticized for his defense of modernity and the Enlightenment project. The shortcomings of this stance show themselves in Habermas's anthropology, which, in my understanding, assumes a developmentalist dynamic in human progress. Within the natural sciences, anthropologists (Pavelka 2002), evolutionists (Gould 2003), and complexity theorists (Kauffman 1995)¹² would take issue with the progress-in-evolution thesis. Habermas's developmentalist interpretation of human history gives short shift to the accomplishments of more "primitive" societies. The anthropological record provides ample evidence to dispute the presumed "march of progress" in his stages of human history (Sahlins 1972; Brody 2000; Davis 2001 Pavelka 2002). Post-developmentalists also make convincing arguments about the dangers of what Sachs calls the "development enterprise" (Sachs 1992, 1993; Escobar 1995; Said 1994). In his critique of neo-classical economics, David Suzuki is fond of saying that economists have not learned how to subtract and the same might be said of modernists: there is a presumption that the gains of modernity have come with no losses. If, for example, as many would argue, indigenous societies have possessed and, to some extent, lost a more sophisticated understanding of their relationship with the non-human world than non-indigenous societies (Davis 2001; Brody 2000; Goulet 1994), how can we tally that loss against the greater differentiation we find in modern societies? Bruno Latour (1993) argues that we have never been modern and that our separation of humans and nature has been to our detriment. Would a developmentalist anthropology conclude that hunter-gatherer societies existing in the world today are inferior to modern societies and thus that in situations of conflict, modern society's needs take precedence? Although Habermas has made an important contribution, he has really merely renovated the Western tradition and then assumed it for the world.

Secondly, Habermas's circumscribed understanding of the greater unfolding of life has to be broadened to recognize that humans are only one part of that great unfolding (Pavelka 2002). The shortcomings here are reflected in the absence in his theories of cosmology or natural science, areas of knowledge that would add a 'proto-historical' perspective to Habermas's insights. I think it is legitimate to ask what the basis is for his optimistic view of human nature and rationality: could there be in some sense a proto-rationality in nature,

¹² In chapter 5 I elaborate on the key concept of complexity.

of which human rationality is only one variant? His limitation of communication to human language is, I think, arbitrary. If, as both Habermas and Chomsky believe, we are hardwired for language in a way that allows for intersubjective consensus (Pusey 1987), might there not be other hardwirings, not limited to humans, that predate speech and that might allow us to communicate with non-humans? Evidence of this can be found, for example, in primate studies. In *Next of Kin*, Fouts et al. document the extraordinary findings on the ability of chimpanzies to master and communicate with humans through sign language. (Fouts, Mills and Goodall, 1997). The current consensus in the natural sciences is of the common origin of life for all species. Complexity scientists speculate that the universe contains protean impulses toward organization and complexity, of which the human species is only one outcome (Kauffman 2000). In my view, both evolutionary theory and complexity theory provide evidence that any attempts to single out human attributes as essentially unique, or superior, are misguided.

The third critique of Habermas is the missing geographical element in his social theory: a spatial analysis is needed (Miller 2001). His theory does not incorporate the difference that space/place makes. At any point in time, a spatial variety of societal types inhabits the world. Hunter-gatherer animist societies still thrive in our world. Even within the apex and the cradle of the “modern” world, there are variations. In a forward to Norman Douglas’s *Old Calabria* (1914), Jonathan Keates vividly describes Calabria as “a place in which the Renaissance and the Enlightenment [are] unknown” (vii). “Calabria endures,” he says, “sullenly defiant of our modern manias for system, connection and universal openness” (ix).

Marxist Analysis

Let me turn now to a discussion of the contributions that radical geographers have made in bringing spatial material analysis into Marxism’s historical material analysis. Both Harvey (1996) and Lefebvre (1991) theorize a three-dimensional, or trilectical, space: lived space, conceived space, and imagined space. Harvey approaches spatial analysis largely through an urban lens in the belief that urbanism is a “mirror in which other aspects of society can be reflected.” As an example, Harvey draws the comparison of the general relationally

defined centre-periphery dialectic with the particular relationally defined urban centre that contains a periphery. In Harvey's words, "[T]here can be no centre without a periphery and each helps to define the other" (2002, 64). Consistent with his understanding of the dialectic method, Harvey believes that Marxism should analyze space, social justice, and urbanism as a relational whole and not piecemeal, as though they were isolated phenomena. The orientation toward emancipatory action characteristic of critical theory is visible in Harvey's designation of status quo, counter-revolutionary, and revolutionary theory. Revolutionary theory, presumably synonymous with critical theory, identifies moments of choice within the social process where change can happen and where there is then a "prospect for creating truth rather than finding it" (Harvey 2002, 67).

Four other concepts of space and nature developed within the critical tradition also assist my analysis: uneven development, second nature, the second contradiction of capital, and notions of the social construction of nature. Neil Smith (1984) has explored the notion of uneven development and what he calls "second nature" in his critical analysis of capitalism. Uneven development is the observation that capitalism's resilience is in part due to a spatial fix of its inherent contradictions. As capital exhausts particular locations (for example, when labour organization results in higher wage demands), it moves on to the next location in a continuous circulation of creative destruction. Smith also defines second nature as nature (including humans) enclosed within the capitalist system of production such that little if any nature is left in a "pure" state. James O'Connor (1998) has developed a thesis of the second contradiction of nature. The well-known first contradiction has to do with the exhaustion of labour as more and more of the value of labour is extracted by capitalists, such that production activities outstrip the possibility of consumption. O'Connor's second contradiction has to do with underproduction of nature: as capitalism increases the rate of circulation and the use of nature's material resources, it reaches natural limits such that resource inputs into the production process are exhausted. Likewise, human labour is exhausted as working conditions, work time, and so on physically deplete workers.

While Harvey remains wedded to a modernist notion of progress and universality, Noel Castree, another prominent Marxist and critical theorist, incorporates many postmodern

sensibilities in his attempt to clarify a green Marxist critique of capitalism. Although geographers have done well to illuminate the social construction of space, Castree maintains that theorizations of the social construction of nature remain muddled, in part because “geography is a profoundly anthropocentric discipline ... [and] has been generally unwilling to think about nature ‘in itself’” (2003a). He argues that what is at stake in wrestling with social construction of nature is the need to go beyond oppositional or dualistic thinking and engage in what he calls “postanalytical” or radically “relational” thinking of the kind inspired by Bruno Latour’s notion of Actor Networks (Castree 2002, 2003a, 2003b). Within the social-construction-of-nature school, Sarah Whatmore’s *Hybrid Geographies* (2002) is the most prominent example of this kind of thinking. In theorizing the changing conditions of capitalism, Whatmore points out that whereas in the past, extensive expansion provided capital’s stabilizing fix, a new emphasis on an intensive expansion of capital via the manipulation of human and non-human reproductive processes provides the stabilizing fix. I propose to fill in geography’s neglect of this topic by drawing upon eco-phenomenologists in Chapter 6.

Marxists are generally critical of the easy ride Habermas gives to capitalism. In their social theorizing, Marxists prefer to maintain a focus on the dominant role of capitalist economic relations and the notion of conflict and struggle. David Harvey and other radical geographers do an exceptional job of explaining and critiquing capitalism, but in response to the question of what to do about it, short of revolution and overthrowing the capitalist system, they come up short. We can agree that we have created a capitalist, technologically enhanced, operationalist society: the question is how to wrestle control of it from capitalism and instrumental rationality. I am much more sympathetic to Habermas’s position that social theory must be more wide-ranging and that conflict and struggle are moments within a communicative consensus-seeking process. As Gregory points out, Habermas attempted a synthesis of the outside and the inside. While postmodernists and critical geographers continued to refine theoretical knowledge, Habermas turned to practical solutions and perhaps opened himself up to criticism by doing so. I think Habermas’s theory of communicative action, via the ideal speech situation, is still one of the most practical instruments we have at hand to grapple with the ills associated with capitalism. Indeed,

Habermas's ideas continue to be a guidepost in the development of practical processes such as deliberative democracy, a practice I discuss further in chapter 9.

Postmodernism

Postmodernism, with significant roots in phenomenology, is a more acute critique of social reality than is critical theory. The postmodern lens through which I approach this research draws upon the postmodern tendency to investigate reality from a diversity of perspectives and to challenge the claim that Western science illuminates objective truth. Postmodernism highlights issues of indeterminacy and conditional knowledge. As Jean-Francois Lyotard famously wrote, postmodernism is an "incredulity towards metanarratives" (metanarratives being grand theoretical frameworks designed to explain The Meaning of Everything) and allows for only "local determinism" over finite periods of time (1994, 27).

Dear and Flusty (2002a) write that postmodernism has three tendencies: style, epoch, and method. These tendencies can be found in the new literature, where they are expressed in the belief that a radical break with past societal trends is underway, and in literary criticism, where they are manifested in the revolt against the rationality of modernism. The latter tendency, method, is the most relevant to my analysis. Dear and Flusty understand that "Postmodern philosophers ... renounce the authority that implicitly or explicitly bolsters the privilege of one theory over another" (Dear and Flusty 2002a, 5). Dear and Flusty contend that postmodernism found its way into geography via the resurgence of Marxist social theory in the 1960s and 1970s. They recognize that postmodernists learn to contextualize, to tolerate relativism, and to be conscious of difference. They argue that postmodernity has been "liberating" in that it has "enfranchised and empowered" non-traditional scholarship and undermined the "hegemony" of traditional scholarship (especially outside the hard sciences), and legitimized "difference" in all its forms, even as some argue that it is less useful than it could be as an agent of progressive change due to its "extreme relativism" (2002b, 10-11). Dear and Flusty identify seven topical areas of geography where postmodernism has contributed since 1989. Four of these – place-making, the global-local debate, our place in nature, and the problem of representation in

ethnographic research – are related to my current research and are discussed in detail in other sections of this dissertation.

In *The Condition of Postmodernity*, Harvey (2002a) is critical of postmodernity's "insistence on the impenetrability of the other, its concentration on the text rather than the work, its penchant for deconstruction bordering on nihilism, its preference for aesthetics over ethics" (173). He does recognize, however, that "[a] mode of thought that is anti-authoritarian and iconoclastic, that insists on the authenticity of other voices, that celebrates difference, decentralization and democratization of taste as well as the power of imagination over materiality, has to have a radical cutting edge" (174). He identifies four areas where postmodern thought has contributed to historical geographical materialism: the treatment of difference and "otherness" as central to the dialectics of social change; the inclusion of images and discourse as productive activities; the recognition that space and time matter in theorizing capitalism; and the realization of the need for an open-ended and dialectical approach to historical geographic materialism (2002a).

Paraphrasing Vidal de La Blache, (as discussed in Livingstone 1992) one might characterize the paradoxical tendencies in postmodern thought as postmodern impossibilism and postmodern possibilism. While postmodernist writers such as Lyotard (1984) claim that it is impossible to make any universal generalizations about humans and society, the multiple perspectives that postmodernism opened challenged deterministic notions of reality and made creative change inevitable. Postmodernism is fundamentally attractive to geographers because it asserts the importance of position and location – the difference that geography makes. It also reinforces the notion of the embodied relational self. We extend spatially into the world through our bodies and as Merleau-Ponty says, we are "but a network of relationships." (1962, 530)

Feminist Theory

Feminist theory, which incorporates elements of phenomenology, critical theory, and postmodernism, highlights the need to value diversity, multiple perspectives on reality, and diverse ways of knowing. The unique elements that feminist theory brings to my research

are attention to legitimation of subjective experience, a keen advocacy for participatory approaches to the creation of knowledge, and the practical mobilization to action. In *Feminism and Geography*, Gillian Rose (2002) asserts that by challenging the mind and body dualism and championing embodied positionality in the world, feminism has given epistemological priority to “the personal, the subjective, the body, the symptomatic, the quotidian as the very site of material inscription of the ideological” (315). She highlights the multiple subjectivities of class, gender, ethnicity, sexual identity, and so on – the “geometrics of difference” – that feminist philosophy has made visible. Rose explains that feminism’s sensitivity to subtleties in how embodied subjects experience physical and abstract identity spaces gives rise to unique insights through what Kamuf called “plurilocality.” Rose concludes that other feminist contributions to geography include feminism’s “refusal to separate experience and emotion from the interpretation of places...[and]...the possibilities of a different kind of space through which difference is tolerated rather than erased” (322)

Julie Graham (2002), in response to Marxist-privileged understandings of the world, contrasts essentialist and over-determinist processes. She argues that “to understand a process or event involves theorizing the way in which every other process contributes to its contradictory development” (184). In Graham’s view, over-determinist researchers will never be able to say that they have conducted complete or definitive analyses. Instead, they will view their work as partial and particular. “They will be careful not to claim that they have found the singular and universal truth about, or the best explanation of, the object at hand” (184) because “knowledge is inevitably in touch with the world but it can never replicate or capture it” (185). In my mind, the situated, emotion-valuing, and necessarily partial knowledges that feminism brings to social theorizing evokes an image of knowing the world with humility rather than with a swagger.

One of the most influential contemporary feminist writers is Donna Haraway. For Haraway, all knowledge is situated knowledge because people are necessarily embodied and situated somewhere in space and time. It follows, then, that “partiality and not universality is the condition of being heard to make rational knowledge claims” rather than

the conventional “view from nowhere” of scientific objectivity, which she calls the “god-trick” (Holloway 2004, 168). In Lewis Holloway’s interpretation of Haraway, anybody’s situated knowledges “are necessarily partial perspectives, are geographically and historically specific and are in a continual process of structuring and being structured by social conditions” (Holloway 2004, 170). Haraway does not see the possibility of single truths but rather suggests that we engage in politically and ethically motivated “shared conversations” that can affect our way of being in the world without a resolution of differently situated knowledges. Haraway’s work has also been adapted to conceptualizations of “situated moral understandings” as a challenge to modernist notions of universal ethics (Holloway 2004, 171). For Haraway “Science has been about a search for translation, convertibility, mobility of meanings, and universality – which I call reductionism, when one language (guess whose) must be enforced as the standard for all the translations and conversions. What money does in the exchange orders of capitalism, reductionism does in the powerful mental orders of global sciences: there is finally only one equation” (Haraway 1991, 186).

Feminists are also at the forefront of practical application of new research methods that are participatory and engaged rather than neutral. As Peet notes, “[T]here is a general feminist insistence on collaborative methods in which the typically unequal power relations between researcher and informant are broken down,” and the “feminists often adopt a strategy for collaborative relationships with participants in their/our research employing qualitative methodologies of some kind.... Intersubjectivity rather than objectivity is the ideal” (2002, 279).

A Pragmatic Philosophical Synthesis

Julie Graham finds a useful perspective in Richard Rorty’s conception of knowledge as “an ongoing and contradictory process of social interaction ... grounded in social and personal experience rather than universal protocols” (Graham, 2002, 187). There is some sense in Rorty’s (1994) analysis that what we really need to do is recognize the subjective nature and limited applicability of any method and use the best tools available for the problem at hand. This pragmatic argument is appealing in light of my research. I find concepts and

perspectives in each of phenomenology, critical theory, postmodernism, and feminist theory that resonate with my research interests. Habermas is widely recognized as having constructed his theoretical edifice by employing a pragmatic tactic of picking liberally through many theoretical and philosophical traditions (Pusey 1987). I have used a similar approach, drawing upon good ideas and analysis from all of the traditions I have reviewed here, and some more besides, and applying them in the service of the practical task of moving from indicators to action.

Having outlined the philosophical foundations of my inquiry, in the next chapter I present the details of my methodology. The foundation of this methodology is participatory action research (PAR). As I hope I have demonstrated in this chapter, PAR is a research method suited to shared phenomenological inquiry in a world of difference. PAR is also founded in a critical theoretic, social justice seeking research attitude. At the heart of the PAR methodology is the desire to catalyze change, rather than simply create knowledge for its own sake. Consistent with my argument that humans should include the rest of nature in our communicative and world-creating activities, I propose a research method I call ecologically-oriented participatory action research (Eco-PAR), as the ideal to which I strive in this research.

Chapter 4: Methodology

This research project is set within the context of an ongoing participatory action research (PAR) process. I maintain that this research is a moment of reflection that has been preceded by a moment of action – the Sustainable Calgary community sustainability indicator project. My hope is that this moment of reflection will, in turn, inform a new cycle of action – the Sustainable Calgary indicators to action strategy. I begin this chapter with a brief introduction to qualitative research, of which PAR is a sub-genre. I then provide an overview of what I call an ecologically oriented participatory action research paradigm (Eco-PAR), including a discussion of three of its four defining characteristics: its axiology, ontology, and epistemology. I go on to examine the fourth defining characteristic of Eco-PAR– my methodological choices. Under the umbrella of PAR, I have taken a pragmatic or eclectic approach to my choice of research methods (Kemmis and McTaggart 2000). The methods I have employed are semi-structured interviews, group analysis, and elements of grounded theory. Following my discussion of Eco-PAR, I address the issue of researcher reflexivity, a particularly important topic given my intimate involvement, from its inception, as researcher and co-participant in the Sustainable Calgary indicator initiative. Finally, I propose an evaluative framework and outline a set of fifteen research strategies employed to satisfy myself and external reviewers that this research is in fact rigorous and that the findings are plausible and worthy of attention. I remind the reader that the preceding chapter contains the detailed discussion of the philosophical foundations that support this methodology.

In this discussion, I draw upon several sources. The *Handbook of Qualitative Research* (Lincoln and Denzin 2000) is a key reference. My understanding of the evolution and differentiation of qualitative research paradigms and defining characteristics of those paradigms is anchored by Lincoln and Guba's (2000) essay entitled *Paradigmatic Controversies, Contradictions, And Emerging Confluences*. My discussion of PAR is informed by Stephen Kemmis and Robin McTaggart's (2000) essay, *Participatory Action Research*, as well as by *The Methodology of the Participatory Research Approach* (Bryceson et al. 1980). My evaluative framework is adapted in large measure from

Evaluating Qualitative Research in Social Geography (Baxter and Eyles 1996) and *Problems of Reliability and Validity in Ethnographic Research* (LeCompte and Goetz 1982). My approach to semi-structured interviewing was informed by Fontana and Frey's *The Interview: From Structured Questions to Negotiated Text* (2000). Interview analysis techniques were adapted from Strauss and Corbin's *Basics of Qualitative Research: Grounded Theory Procedures and Techniques* (1990). Although grounded theory has been criticized as a positivist method, I argue that elements of the method can be used in a participatory and interpretivist framework; I support this position with reference to *Grounded Theory: Objectivist and Constructivist Methods* (Charmaz 2000).

The Qualitative Research Approach

Qualitative research is clearly a very different exercise than quantitative research. Until fairly recently, quantitative research methods have been the standard against which all research has been judged. Even inquiries into human behaviour have attempted to measure the credibility of their research against criteria established for quantitative research in the natural sciences. Fortunately, the situation has changed dramatically over the last forty years. Academics of many persuasions have taken issue with the assumption that the "scientific method" alone holds the key to illuminating reality. More importantly, social scientists have introduced and defended a diversity of qualitative research techniques and proposed criteria of rigour that are uniquely suited to the demands of qualitative research. In the introduction to part 2 of the *Handbook of Qualitative Research*, Lincoln and Denzin describe the qualitative research tradition as "rich, deep and complex.... The interpreter must always ask, How shall I be toward these people I am studying?" (2000, 159). In chapter 6 of the *Handbook*, Lincoln and Guba (2000) discuss the plethora of emerging qualitative research paradigms. They recommend that current researchers be conversant with all of these paradigms in order to carry on conversations with others, respond to the challenges raised by researchers using other paradigms, and work in an arena where, in the words of Clifford Geertz, there is an increasing "blurring of genres" (Geertz in Lincoln and Guba 2000, 164). Lincoln and Guba construct comparative tables for several qualitative research paradigms, outlining what they maintain are the research-paradigm-defining concepts: axiology, ontology, epistemology, and methodology. In table 4.1, which is based

on Lincoln and Guba, I present these defining concepts for four qualitative research paradigms – phenomenological, participatory, constructivist and critical theory – as well as the post-positivist and positivist research paradigms.

The Ecologically Oriented Participatory Action Research Paradigm

Geertz' "blurring of genres" is characteristic of the research paradigm I employ in this research. The Eco-PAR paradigm is an amalgamation of the phenomenological, participatory, and critical paradigms, as defined by Lincoln and Guba, with an additional ecological caveat that the subjects of the research include "others" from the rest of nature. Kemmis and McTaggart's (2000) discussion of PAR is consistent with my claim that PAR amalgamates the three paradigms noted above. They define PAR as an approach to research that seeks to illuminate individuals' self-understanding, offer a critical analysis of social reality, and marshal that understanding and analysis for the political task of social transformation. This definition highlights the clear distinction between positivist and interpretivist paradigms with respect to their stance on action and research. Positivists view action as "a form of contamination of research results and processes" (Lincoln and Guba 2000, 174), whereas interpretivists, including Eco-PAR practitioners, see action on research results as "a meaningful and important [and I would claim unavoidable] outcome of inquiry" (Lincoln and Guba 174). In the words of Orlando Fals-Borda, PAR seeks to "investigate reality in order to transform it" (Fals-Borda in Kemmis and McTaggart 2000, 592). Kemmis and McTaggart maintain that PAR is a dialectical approach in that it aims to transform both theories of society and social practices, and to illuminate both individuals' subjective understanding of themselves and the objective social reality they find themselves immersed in.

PAR, inspired by the work of Paulo Freire, is a method of collective research wherein the traditional researcher joins forces with laypersons to conceive of, design, and carry out research into some social phenomenon. The collective also analyzes and acts upon findings of the research. PAR breaks with the positivist tradition of the objective researcher, who stands apart from the phenomenon being researched, by collapsing the subject-object

Paradigm-Defining Characteristic	Phenomenological/ Transcendence	Participatory	Constructivism	Critical Theory	Post-Positivist	Postivist
Axiology	Practical knowing about how to flourish with a balance of autonomy, cooperation and hierarchy in a culture is an end in itself, is intrinsically valuable.		Propositional, transactional knowing is instrumentally valuable as a means to social emancipation, which as an end in itself, is intrinsically valuable.		Propositional knowing about the world is an end in itself, is intrinsically valuable	
Human Nature	Humans as pure spirit, being consciousness	Humans as co-creators in and of their world	Humans as relational interpreters of their world	Humans as critical analysts and co-creators of social relations	Humans as adaptors	Humans as responders
Ontology	Reality as a projection of human imagination	Participative reality – subjective-objective reality, co-created by mind and given cosmos.	Relativism – local and constructed realities	Historical realism – reality shaped by social, political, cultural, economic, ethnic, and gender values crystallized over time	Reality as a concrete process – imperfectly and probabilistically apprehended	Reality as a concrete structure – apprehendable
Epistemology	To obtain phenomenological insight	Critical subjectivity in participatory transaction with cosmos; extended epistemology of experiential, propositional, and practical knowing; cocreated findings	Transactional/ subjectivist; created findings	Transactional/ subjectivist; value-mediated findings	Modified dualist/objectivist; critical tradition/ community; findings probably true	Dualist/ objectivist Findings are true
Methodology	Exploration of pure subjectivity and intersubjectivity	Political participation in collaborative action inquiry; primacy of the practical; use of language grounded in shared experiential context.	Hermeneutic/ dialectic		Modified experimental/ manipulative; critical multiplism; falsification of hypotheses; may include qualitative methods	Experimental/ manipulative; verification of hypotheses; chiefly quantitative method.

Table 4.1: Comparison of Qualitative Research Paradigm-Defining Characteristics (adapted from Lincoln and Guba, 2000)

dichotomy of traditional research. The people of the community where the research is being undertaken are not seen as objects of research but as subjects fully engaged in the research process. Furthermore, the PAR researcher takes a position in solidarity with the subjects with whom he/she is engaged.

Given the amalgamation of research approaches in PAR, I would concur with Bryceson et al. (1981) that PAR is in large measure a pragmatic research approach. Bryceson et al. highlight five characteristics that define PAR: a subjective commitment on the part of the researcher to the people under study; close involvement of the researcher with the researched community; a problem-centred focus concerned with understanding a problem in order to resolve it; a commitment to a dialogic learning process for both researcher and researched; and respect for the non-researchers' capability and potential to produce knowledge and analyze it. I would add one more characteristic to a definition of Eco-PAR: the presumption that "others" in the rest of nature possess agency and communicative ability, and are counted among the research subjects.

Turning to the four defining concepts of Eco-PAR, we begin with axiology. Axiology has to do with values: ethical, aesthetic, and spiritual beliefs about what defines human nature. Lincoln and Guba (2000) identify several ways in which values feed into the inquiry process: choice of problem; paradigm; theoretical framework; data gathering and data-analytic methods; treatment of values already resident in the context; and choice of format(s) for presenting findings. In my Eco-PAR research paradigm, values are explicitly formative of the research. The researcher takes an ethical stance wherein she/he strives to find common meaning with the other human research subjects within a context wherein the rest of nature is always present. Understandings that emerge from the research process can inform ethical and practical conduct in the world of both researcher and research subject – a world in which the researcher, the research subject, and the rest of nature are co-creators. In that sense, Eco-PAR strives to create practical knowledge, but it is also concerned with creating critical knowledge in support of emancipation from oppressive social and ecological relations and structures.

The second defining concept of Eco-PAR, ontology, is concerned with the essence of reality, of human being in the world, and of truth and knowledge. Positivists take the position that there is a foundational real world to be discovered, or at least approximated, by methods of inquiry that avoid human contamination of the process. They see their task as the search for some ultimate objective truth. Eco-PAR researchers, on the other hand, take the position that the world is an intersubjectively co-created reality. Humans, in concert with the rest of nature, actively construct and co-create knowledge and truth, which are continuously shaped and conditioned by historical circumstances. From the pragmatic point of view taken by Bryceson et al., “knowledge begins and ends with practice” (103). As Paulo Freire and Myles Horton (1991) wrote in the title of their book: “we make the road by walking”.

A third characteristic of Eco-PAR concerns epistemology, which asks, “How will I come to know the world?” The Eco-PAR research paradigm maintains that knowledge is sought for the purposes of insight, understanding, meaning-making, and use value. What Lincoln and Guba (2000) say of the epistemology of the PAR paradigm – that it exhibits a “critical subjectivity in participatory transaction with the cosmos” (168) – is true for the Eco-PAR research paradigm as well. In Eco-PAR research, findings are co-created through experiential, propositional, and practical knowing. The world comes to be known through dialogical means. We are able to know the world because we are its co-creators, but because we are positioned in the world, we can only know it partially. Thus, knowledge of the world is enhanced through communication and consensus among diverse and partial perspectives.

An important epistemological issue is the nature of causal attribution and contribution. In *Method in Social Science*, Andrew Sayer (1992) explores the basic and, as he sees it, often misunderstood and undervalued act of conceptualization in social research from the vantage point of realist philosophy. Sayer argues that intensive qualitative research is more able to attribute causation than extensive quantitative research. He tells us that “different types of tests are also appropriate for intensive and extensive research. As regards the former, we must distinguish between testing to see how general the particular findings are in the wider

population (replication) and testing to see that the results really do apply to those individuals actually studied (corroboration)” (Sayer, 1992, 246). In the Eco-PAR research paradigm, causation is always partial. Furthermore, it is rare to be able to attribute causation unequivocally: in practice, it is most often possible only to demonstrate contributory causation. Thus, improved understanding rather than explanation is the goal of Eco-PAR. The co-constructed truth is dependent upon the situatedness of the researcher and the research subjects. For this reason, participatory methods are often employed to achieve ‘poly-angulation’. In the richly connected ecological world, causal chains aid understanding but are practically and necessarily partial.

The Methodological Mix

As noted previously, Eco-PAR’s pragmatic approach does not adhere doggedly to fixed technique or method, but is comfortable with choosing, from a menu of methods, those that serve its learning and social transformation agenda. Participation in this context is not so much a method as it is an approach that is, ideally, honoured in each chosen method. Consistent with its ontological and epistemological foundations, Eco-PAR employs methods that increase the circle of dialogue and the effectiveness of intervention in the democratic political process. Ideally, methods employed by the Eco-PAR research paradigm are dialogical/dialectical when dealing with living research subjects (humans and the rest of nature), but not necessarily so when analyzing systems, objects, and quantities. In this research, I have employed several research methods: semi-structured interviews, grounded theory, group analysis, and key informant interviews.

The Semi-Structured Interview

I chose the semi-structured interview as my primary method of investigating the outcomes of the Sustainable Calgary community sustainability indicator initiative.¹³ In making this choice, I was obliged to address several issues, including selection of interviewees, trust and rapport in the interview process, and interview interpretation.

¹³ In total thirty-two interviews were conducted. Chapter 7 contains a more detailed account of the selection process.

Sayer discusses the selection of interviewees in *Method in Social Science* (1992). He recognizes that sampling, or selection of subjects, is very different for extensive versus intensive research:

In extensive studies, the criteria by which samples are drawn have to be decided in advance and adhered to consistently in order to ensure representativeness. In intensive studies the individuals need not be typical and they may be selected one by one as the research proceeds and as an understanding of the membership of a causal group is built up. In other words it is possible – although not mandatory! – for intensive research to be exploratory in a strong sense. Instead of specifying the entire research design and who and what we are going to study in advance we can, to a certain extent, establish this as we go along, as learning about one object or from one contact leads to others with whom they are linked. (244)

Fontana and Frey (2000), in describing the inherent trust in the interview process, claim that so long as interviewers account for the shaping of knowledge creation by contextual, societal, and interpersonal influences, the process will yield credible accounts of reality. Fontana and Frey (2000) differentiate between structured and unstructured interviews. In the structured interview, the interviewer is expected to play a neutral role, exhibiting a “balanced rapport” and an “interested listening” posture, and “eliciting a rational response” using a “stimulus-response format” (650). The unstructured interview tends not to exhibit any of these characteristics. The traditional type of unstructured interview is the open-ended, ethnographic (in-depth) interview. Fontana and Frey identify seven tasks of unstructured interviewing: accessing the setting; understanding the language and culture of the respondent (gender, profession, economic class, ethnicity, age, education); deciding on how to present oneself; locating an informant or informants; gaining trust; establishing rapport; and collecting empirical materials.

Fontana and Frey pay special attention to gender influences on interviewing. They argue that the sex of both interviewer and respondent makes a difference within what Denzin has called the “cultural boundaries of a paternalistic social system in which masculine identities are differentiated from feminine ones.” (Denzin in Fontana and Frey, 2000, 658). Fontana and Frey reference Ann Oakley’s characterization of interviewing as “a masculine paradigm, embedded in a masculine culture and stressing masculine traits while at the same time excluding traits such as sensitivity, emotionality, and others that are culturally viewed

as feminine traits” (Fontana and Frey 2000, 658). Fontana and Frey identify some key interview characteristics or trends that bring the feminine dimension into the interview process, including a shift to allow the development of a more reciprocal, non-hierarchical relationship between interviewer and respondent. Interviewers are encouraged to show their “human” side by answering as well as posing questions and by expressing feelings. Digressions by respondents into anecdotes of their personal lives are welcomed as a rich aspect of the interview process. Fontana and Frey cite Denzin’s “feminist, communitarian ethical model of research” (666). This model presumes a researcher who builds “collaborative, reciprocal, trusting, and friendly relations with those studied.... It is also understood that those studied have claims of ownership over any materials that are produced in the research process, including field notes” (Lincoln in Fontana and Frey, 2000, 666).

Bringing the postmodern influence into the issue of interview interpretation, Fontana and Frey (2000) recognize that “interviewers are increasingly seen as active participants in interactions with respondents, and interviews are seen as negotiated accomplishments ... shaped by the contexts and situations in which they take place” (663); that “every interview ... is an interpersonal drama with a developing plot” (Pool in Fontana and Frey 2000, 663); and that “reality is an ongoing interpretive accomplishment” (Holstein and Gubrium in Fontana and Frey, 663). Fontana and Frey suggest that polyphonic interviewing (using recording methods such as audio tape and videotape) is one way to record the voices of subjects with minimal influence from the researcher. They also take the position that the role of the researcher is not to interpret a common voice from the subjects but to present differences and interpret these differences.

Once the interviews have taken place, another set of decisions must be made with respect to interpretation. Besides the conventional interpretation based on interview text, Fontana and Frey (2000) note that non-verbal techniques and cues are also important to interviewing and interview interpretation. These cues include the establishment and variation in personal space (proxemics), the pacing of speech and silences in conversation (chronemics), body movement and posture (kinesics), and variations in volume, pitch, and quality of voice

(paralinguistics). The authors also cite phenomenologist Van Maanen's "confessional style" in reporting on the interview process. This is a kind of "warts-and-all" approach, where the researcher does not report a sanitized version of the interview process but provides the reader with a real account of the process, including such things as "problematic feelings and sticky situations" experienced as part of the interview. Fontana and Frey believe that this style makes "the reader aware of the complex and cumbersome nature of interviewing people in their natural settings and lends a tone of realism and veracity to studies" (661).

Grounded Theory

The grounded theory approach is a "qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon" (Strauss and Corbin 1990, 24). In my research, I employ grounded theory methods to derive, order, and generalize themes and concepts from the interviews. The use of a set of guide questions in my semi-structured interview process certainly implies some theoretical propositions with regard to outcomes expected from the indicator initiatives. Nevertheless, the interview process was designed and conducted to facilitate wide-ranging discussion and exploration of unforeseen outcomes. The decision to record the interviews derived in part from my desire to maximize open-endedness and to allow me to be more attentive to exploring unanticipated outcomes with the interviewees. Grounded theory relies upon an intimate familiarity of the researcher with the interview data. For this reason, I chose not to have a third party transcribe the interviews and not to use data analysis software. Grounded theory has rigorous procedures. For my purposes, I have adapted grounded theory coding procedures to identify concepts and categories of concepts from the interviews. I have not employed grounded theory to create causal chains or formal theory. While there are critiques of the positivist and post-positivist biases in grounded theory, Charmaz argues that "we can use grounded theory methods as flexible, heuristic strategies rather than as formulaic procedures" (2000, 510). It should also be noted that Charmaz's approach does not run aground of the creators of grounded theory, who sanction the adaptation of their methods without being obliged to use the entire method or to develop full-blown theories about a phenomenon (Strauss and Corbin 1990).

Group Analysis

Within the Eco-PAR framework, knowledge results from co-creative activities and learning is an integral component of the research process. In keeping with these foundations, after the first stage of my interview data analysis, in which I identified concepts and categories of concepts from the interviews, I employed group analysis. In a group setting, I introduced the propositional themes I had derived from analysis of the interviews. As a group, we validated, rejected, or adjusted the proposed themes. The group analysis featured responses to the proposed themes and a dialogue not only on the themes but also on the research process and the indicator initiative.

Literature Review and Key Informant Interviews

I gathered the data for indicator projects in other cities through a literature review and key informant interviews. I restricted the key informant interviews to two cities. Originally, my research proposal suggested a preference for face-to-face interviews of key informants in each of the comparable cities; however, funding constraints did not allow me to follow through on this plan. I chose Boston simply because an opportunity arose for me to visit Boston and meet with the coordinator of the Boston indicator project. I chose Seattle more deliberately because of the profile of the Seattle process, its similarity to the Calgary process, and the fact that Calgary's process was in fact inspired by the Sustainable Seattle initiative.

The city comparison data and analysis contained in this dissertation has been drawn predominantly from sustainability indicator literature focusing on case studies of the various cities and from summary research of multiple cities. The most significant sources of data have been the Web sites of each of the indicator projects and of the local governments of the comparison cities.

Mapping the Research Process

I present figure 4.1 as a conceptualization of this research process in order to clarify the immediate moment of reflection represented by this dissertation, the wider research process in which it is embedded, and the multiple co-researchers involved. This research moment is embedded within an ongoing research process initiated by Sustainable Calgary in 1996. As the figure makes clear, as primary researcher, I have been intimately involved in all aspects of this research. In a significant sense, the co-founders and subsequent key volunteers and project leaders have all shaped the research question: how to move from indicators to action. The current project steering committee members have been engaged over the past three years in discussions pertaining to the choice of research paradigm and of research methods. They have also been involved in the creation of the guided questionnaire research tool. As the researcher, I do not stand outside of the researched community, nor is the project steering committee completely outside of the researched community. One other individual from the steering committee is a co-founder of Sustainable Calgary and is among the interviewees. In addition, the researcher, the interviewees, and the steering committee have all been involved in the process of validating the research analysis. Finally, the research has been undertaken under contract to Sustainable Calgary. From this schematic, I hope three things are clear. First, the research process is deeply subjective. Second, the intimate connections among the various actors, while problematic from a positivist perspective, offers the potential for rich analysis of and deep insight into the indicator initiative. Third, the dialogic nature of the research process supports a significant social learning process among the community of co-researchers.

My conceptualization of the research process raises the issue of control of the process. Who initiates the research? Who determines what the salient questions are, what constitutes findings, how data will be collected, if findings will be made public and in what form, and what representations will be made of participants in the research? In conventional inquiry, control is not an issue: the control is with the researcher in order to protect objectivity and validity. For new paradigm researchers, control is not a matter of advocacy on the part of the researcher, as is often assumed. Rather, it is a matter of “fostering emancipation, democracy, and community empowerment, and of redressing power imbalances such that

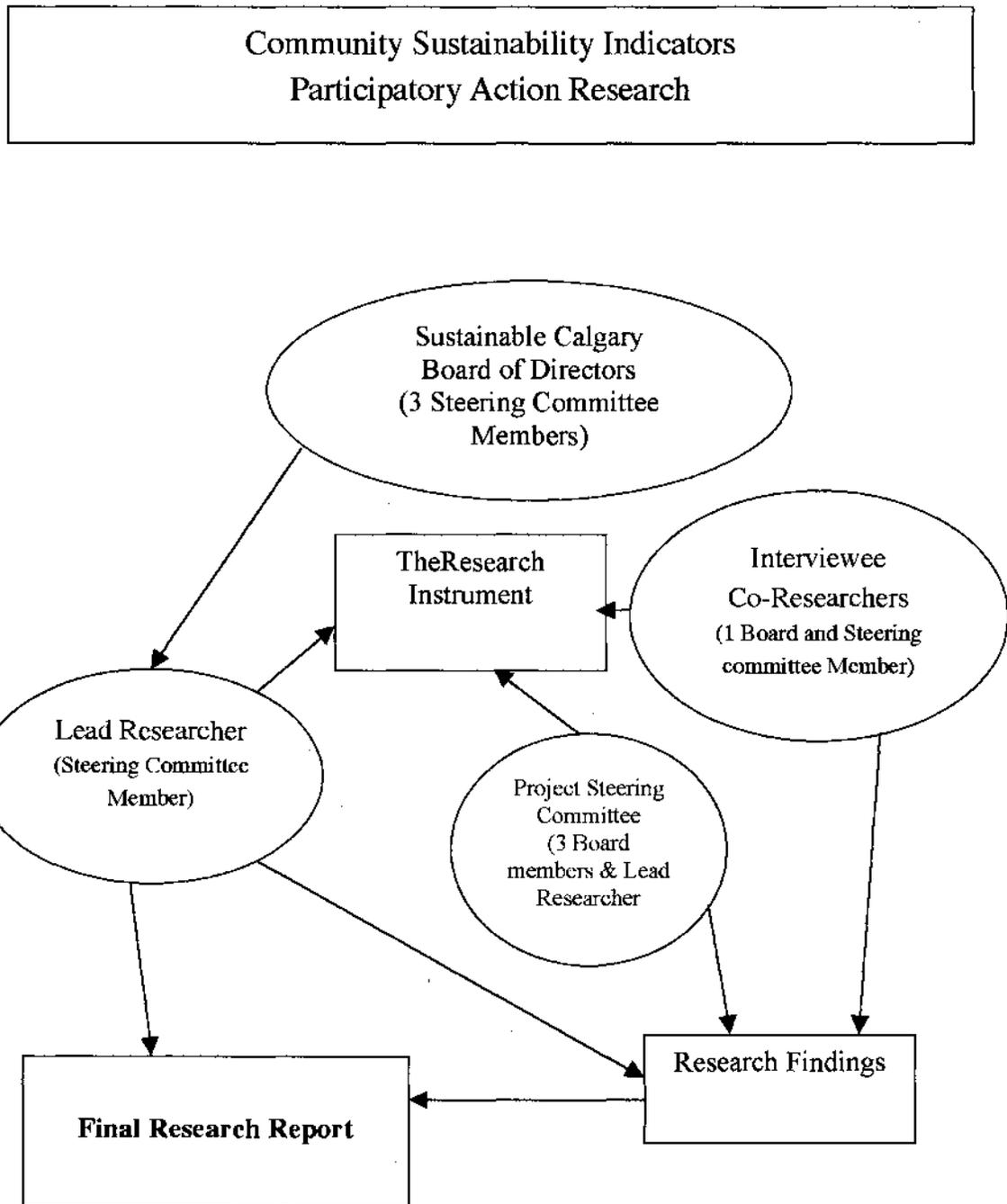


Figure 4-1 – Schematic Representation of The Outcomes Research Process

those who were previously marginalized now achieve voice or human flourishing” (Lincoln and Guba 2000, 175). As discussed above, the parameters of this research have been negotiated in less than trivial ways with a community of activists/researchers associated with Sustainable Calgary. Still, given the practical constraints of academic research and the constraints on the rest of the community of activists/researchers with respect to the time they can devote to intimate engagement with the research process, the locus of control of the research agenda is tilted significantly in my direction.

Reflexive Analysis: The Researcher as Participant

One of the foundations of Eco-PAR research is that there is no completely objective vantage point. A researcher is more or less subjective, depending on the circumstances and methods employed, but is never completely objective. Instead, the researcher stands as a subject along with other subjects in the research. As a researcher, I engage in this research from a unique but partial point of view, just as every other participant in the process does. My position is even more implicated in this proposed research process as I have been a “member of the community” since the beginning of the Sustainable Calgary community sustainability indicators initiative. I am a community member applying the academic tools of research to contribute to a process of transformation in my own community. This puts me very far along the subjective axis of the research continuum.

One way to ensure the credibility of the research, then, is to make as transparent as possible the vantage point from which I speak so that others can judge the research from an informed position. This reflexivity will allow me to be more transparent with regard to the life context and theoretical biases I bring to the analysis. It requires that I explicitly identify the context of my analytic process. It also provides the reader with a greater context within which to validate or challenge my findings or claims. Ultimately, validation will come from assessments made by my peers and the citizens to whom the research is addressed.

I bring substantial experience in sustainability education, research, and action to this proposed research project. I have been engaged in issues of sustainability from a local to a global level for fifteen years. I am a co-founder of the Sustainable Calgary Society and was

project coordinator for five years. My sustainable community work has also taken me to rural villages in Nicaragua, to Eastern Europe, central and southeast Asia, and to the Middle East. One of the stronger threads linking this research with previous work is an eight-year experience designing, implementing, and evaluating a community-based sustainable community education program through the International Centre at the University of Calgary. My understanding of transformative learning processes is heavily influenced by that body of work (Keough 1998). My most intimate community connection remains the small outport of Calvert, Newfoundland. My world view is profoundly shaped by my attachment to that place and by my concern that Calvert and many other local communities are disappearing in the face of global changes far beyond local control. I maintain that each of these experiences colours and shapes my political commitments and my analysis of sustainability in Calgary.

My intimate connection with Sustainable Calgary from its inception, and particularly with the indicator project, is important contextual information to aid others in evaluating the rigour, plausibility, and worth of this research. It means that I bring a passion to the search for relevant outcomes and will leave no stone unturned to document outcomes. However, it also means that I cannot claim to be neutral in terms of my personal stake in seeing significant outcomes. My own challenge is to avoid misrepresenting the research findings through an over-exuberance to show results from the indicator initiative.

Assessing Rigour, Plausibility, and Worth

In *Evaluating Qualitative Research in Social Geography*, Baxter and Eyles (1997) identify three components of the research process on which evaluation focuses: first, evaluation of the research methodology, methods, and analysis (plausibility of the research design); second, corroboration or refutation of the research findings (plausibility of accounts); and third, evaluation of the fit with an existing body of literature or theory (appeal to interpretive community). Baxter and Eyles also organize qualitative research evaluation around four categories: dependability, credibility, confirmability, and transferability. These are roughly analogous to the quantitative evaluation categories of reliability, validity, objectivity, and generalizability. Table 4.2 is a compilation of the criteria, practices, and

strategies for achieving rigour in each of the categories suggested by Baxter and Eyles. The table serves as my guide to the design and execution of my research design. Table 4.2 informed my identification of the fifteen research strategies discussed in detail below.

Dependability

Dependability (LeCompte and Goetz (1982) retain the term “reliability” for this category) refers to the robustness or consistency of the interpretive process. Baxter and Eyles (1997) state that “dependability includes the consistency with which the same constructs may be matched with the same phenomena over space and time” (516). For LeCompte and Goetz, both external and internal reliability are important to the credibility of qualitative research. Internal reliability refers to the degree to which other researchers, starting with particular constructs, would match them to data in the same way as the original researchers did. “External reliability addresses the issue of whether independent researchers would discover the same phenomenon or generate the same constructs in the same or similar setting” (LeCompte and Goetz, 1982, 32). LeCompte and Goetz state that because of the “uniqueness or complexity of phenomena and the individualistic and personalistic nature of the ethnographic process, ethnographic researchers may approach rather than attain external reliability” (37).

Credibility

Baxter and Eyles (1997) take credibility (LeCompte and Goetz (1982) retain the term “validity” for this category) to be “the degree to which a description of human experience is such that those having the experience would recognize it immediately and those outside the experience can understand it” (512). Like reliability, credibility (or validity) can be approached from both internal and external perspectives. “Internal validity refers to the extent to which scientific observations and measurements are authentic representations of some reality” (LeCompte and Goetz 1982, 32). External validity, on the other hand, addresses “the degree to which such representations may be compared legitimately across groups” (32). LeCompte and Goetz assert that although problems of reliability threaten much ethnographic work, “validity may be its major strength” (43).

General Category	Sub-Category	Definition	Practices and Strategies to Obtain Rigour	Threats	
Reliability (dependability) Quantitative Analogue Reliability	Internal Reliability	Internal reliability refers to the degree to which other researchers, starting with particular constructs would match them to data the same way as the original researchers.	Low-inference descriptors Participant Researchers Mechanical Recording	Multiple Researchers Peer Examination	Poorly Defined Constructs Premature Closure
	External Reliability	External reliability addresses the issue of whether independent researchers would discover the same phenomenon or generate the same constructs in the same or similar setting.	Researcher Status Position Social Situations and Conditions Methods of Data Collection Inquiry Audit	Informant Choice Ident. Analytic Constructs or Premises Methods of Data Analysis	
Validity (credibility) Quantitative Analogue Validity	Internal Validity (trustworthiness)	Internal validity refers to the extent to which scientific observations and measurements are authentic representations of some reality.	Natural Settings Prolonged Period of Data Collection Reflexivity (Disciplined Subjectivity) Persistent Observation Triangulation (multiple sources, methods, investigators and/or theories)	Participant Focused Interviewing Interview Practices Respondent Selection Procedures Analysis Strategies	History and Maturation Observer Effects Selection and Regression Mortality Spurious Conclusions
	External Validity (authenticity)	External validity addresses the degree to which such representations may be compared legitimately across groups.	Participant Derived Constructs Mutually Intelligible Instructions and Formats Referential Adequacy Peer Debriefs	Shared Meaning of Constructs Negative Case Analysis Member Checking	Selection Effects Setting Effects Research Over-saturation History Effects Construct Effects
Confirmability Quantitative Analogue: Objectivity		Confirmability is the degree to which findings are determined by the respondents and conditions of the inquiry and not by the biases motivations, interests or perspectives of the inquirer. It suggests academic integrity including qualities the qualities of responsibility, honesty and trustworthiness.	Account for researcher interests and motivations and their effect on interpretations Audit Trail (raw data, products, process notes, material on intentions and dispositions, instrument development information)		
Transferability Quantitative Analogue: Generalizability		Transferability refers to the degree to which findings fit within contexts outside the study	Thick Description of Context, Construct/Hypothesis Development Meaning		

Table 4.2: Qualitative Research Rigour and Worth

LeCompte and Goetz (1982) approach the issue of validity by posing questions that one could respond “yes” to if a piece of research had validity. For example, they suggest asking, Are these findings sufficiently authentic (isomorphic to some reality, trustworthy, related to the way others construct their social worlds) that I may trust myself in acting on their implications? Would I feel sufficiently secure about these findings to construct social policy or legislation based on them?

An important question for the credibility of qualitative research is whose voices are heard. Baxter and Eyles (1997) stress the need for researchers to ensure that the voices of researchers and participants are clearly heard in the report text. They suggest one way to accomplish this is to employ “strategies for returning interpretations to respondents for commentary (and perhaps revision)” (512).

A key consideration in discussions of validity is authenticity. Lincoln and Guba (2000) suggest five criteria to help judge the authenticity of interpretive inquiry: fairness, ontological authenticity, educative authenticity, catalytic authenticity, and tactical authenticity. Fairness is a matter of balance: “All stakeholders’ views, perspectives, claims, concerns, and voices should be apparent in the text” (180). Ontological and educative authenticity are criteria for “determining a raised level of awareness among participants of themselves and of others in their social world” (180). Catalytic and tactical authenticity refer to whether a given inquiry “prompts first, action on the part of research participants and second, involvement of the researcher in training participants in social and political action if the participants so desire” (181). Lincoln and Guba also describe validity as an ethical relationship. *From the preceding discussion, I would maintain that validity is a communicative accomplishment at least as much as it is an analytic accomplishment.*

Confirmability

The third evaluation criterion, confirmability, is “the degree to which findings are determined by the respondents and conditions of the inquiry and not by the biases, motivations, interests or perspectives of the inquirer” (Lincoln and Guba in Baxter and

Eyles 1997, 517). Confirmability is the analogue to objectivity in quantitative research. To satisfy this criteria, researchers are required to “account for their interests and motivations by showing how they have affected interpretations” (517).

Transferability

“Transferability refers to the degree to which findings fit within contexts outside the study” (Baxter and Eyles 1997, 515). Transferability is dependent in large part on “thick description of how constructs/hypotheses are developed and what they mean” (515). This requires the researcher to describe the study context as thoroughly as possible. Baxter and Eyles caution that there is nothing inherent in qualitative research to ensure that findings are “transferable beyond the single case” (516). LeCompte and Goetz (1982) recognize that generalizability in qualitative research is problematic but that “by admitting into the research frame the subjective experiences of both participants and investigator, ethnography may provide a depth of understanding lacking in other approaches to investigation” (32).

Research Strategies

Following from the preceding discussion of rigour, plausibility, and worth of qualitative research, I have employed the following strategies to satisfy myself and external reviewers that the research is in fact rigorous and that the findings are plausible and worthy of attention.

Contextualization

Contextualization of this qualitative research is provided in large measure through the Sustainable Calgary story told in chapter 1, which documents the creation and evolution of the indicator initiative. With this contextualization, questions of transferability can be addressed. Comparison with other initiatives can be made and variances in the findings across initiatives can at least in part be accounted for by differences in the context of each initiative. Fortunately, the transferability of this indicator initiative outcomes research can be tested by comparing it to the indicator initiative most similar to Calgary’s – Sustainable

Seattle (see chapter 7). An investigation of the outcomes of the Seattle process, similar in design to this research, was recently conducted as part of a PhD dissertation. (Holden, 2005)

Selection of Interviewees

Reliability and validity of qualitative research is in part dependent on the interviewee selection procedures. The researcher must ponder whether or not the selected interviewees provide a representative account of the outcomes of the indicator project. In this research, there is a balance or trade-off between two unique aspects of the research. On the one hand, the research attempts to give an accurate assessment of personal outcomes for participants in the process. In this respect, ideally, a more random sampling of interviewees would avoid selection biases that result in the recruitment only of individuals known to have experienced significant personal benefits. On the other hand, the research is attempting to uncover as much information as possible about the wider impact of the indicator initiative. This can be accomplished best with a purposive recruitment of interviewees. These two objectives are at cross-purposes, and this research design has necessarily sought a compromise between these two objectives by establishing criteria for achieving representativeness of the interview group and for creating procedures for purposive sampling. For this research an initial invitation posted to the Sustainable Calgary website yielded no responses. Interviewees were selected from a list of former participants generated from the lead researchers indicator project records. Final selections were made based on the lead researchers assessment of the likelihood that a particular participant would have significant outcomes to report and the desire to achieve a representative sample of participants with respect to age, gender, length of residence in Calgary, place of residence in Calgary and ethnic origin. Since no two selected groups will ever be identical, external validation of the research findings has limitations.

Building Relationships of Trust

As noted previously, success in qualitative research is as much a communicative accomplishment supported by the establishment of ethical relations as it is an analytical

accomplishment. Part of ethical relations is the researcher's status position, which can affect external reliability. In this instance, the lead researcher was a co-founder of Sustainable Calgary and co-author of the State of Our City reports, facts known to the interviewees. This status has both negative and positive possibilities. On the negative side, the researcher runs the risk that he is too close to the process to be critically and reflexively subjective. There is also the risk that participants will tend to be more positive in their assessments of the initiative given the status of the interviewer. On the positive side, the researcher is intimately familiar with the project and already has a relationship with the interviewees, enhancing the opportunity for deeper discussion during the interviews. The researcher can also bring much more experience to bear on the interpretation of the interviews than someone with no history with the initiative. In this research, I had a prior relationship with all of the interviewees. With respect to establishing trust, I would infer some measure of trust embodied in that relationship simply from the fact that interviewees responded to the personal invitation to be interviewed. Furthermore, the ethical research protocols of the University of Calgary were instrumental in establishing transparency in the research process – an important aspect of building and maintaining trust.

Disciplined Subjectivity

One of the biggest challenges to the researcher attempting to represent the authentic experience of interviewees is to maintain what Baxter and Eyles (1997) refer to as “disciplined subjectivity” (510). It is practically impossible and, I would argue, undesirable for a researcher to bracket out his or her subjectivity. Yet a reflexive posture toward the research process allows the researcher to ensure that his or her biases do not prevent an unencumbered exploration of the research question or interpretation of the interviewees' comments. In this instance, I kept a journal of my own reflections on the research process as it proceeded as a method of invoking my own disciplined subjectivity. The journal entries were used as a method of systematically reflecting on my own subjectivity as I recorded post-interview notes.

Natural Setting

Internal validity depends in part on the naturalness of the setting of the interviews. I requested that the interviewees choose the location for the interview in order to make the setting as comfortable and convenient as possible for them. Some chose to conduct the interview in their place of work, while others were comfortable coming to my office; others invited me to their homes for the interview. All interviews were conducted one-on-one in private. One obstacle to achieving internal validity is the fact that it had been at least two years since interviewees had been engaged in the indicator project. Several interviewees mentioned the difficulty in recalling events or attributing personal change or change in the community to the project, given the passage of time since they had participated in the initiative. This difficulty probably resulted in an underestimation of attributions, and less anecdotal evidence of specific instances of personal change as a result of involvement in the project, than would have been the case if for example participants had been encouraged to keep a journal during their participation in the indicator project.

Participation in the Research Process

Among the strategies for obtaining internal reliability is that of carrying out the research in collaboration with participant researchers or multiple researchers, and through peer examination. For this research, the indicator project outcomes research methodology and the semi-structured interview guide questions were reviewed by and discussed with my academic supervisor and the members of the Citizen's Forum project steering committee (my peers). Formally, I was the lead researcher, but as explained previously, the Eco-PAR approach takes the position that the community of participants are co-researchers. As lead researcher, I made efforts to ensure transparency of the research process during interviewing and through the group workshop following preliminary analysis by providing the draft report to the interviewees for final comment and validation.

Co-Researcher Validation

As has been mentioned, validity is the strong suit of qualitative research. An important strategy to ensure validity in qualitative research is to request that interviewees validate the

analysis and findings of the researcher in order to confirm that the analysis and findings accurately represent their perspectives and that quotations are not misused or misinterpreted. Giving interviewees the opportunity to review the draft report also facilitates the learning process of all co-researchers, what Lincoln and Guba (2000, 180) call the “educative validity”. Ideally, each interviewee and the researcher will gain new insight into the phenomenon under study as a result of exposure to the words and analyses of the other interviewees and the researcher.

Group Validation

A foundational principle of Eco-PAR is participation. An ontological and epistemological assumption of Eco-PAR is that knowledge is dialogically co-created, that any individual perspective is partial and thus polyangulation will achieve a better approximation of reality. The group validation process was designed with these assumptions in mind.

Documentation of the Research Process

External reliability and confirmability depend on the availability of materials for audit. In this case, the following materials are available for a potential audit: invitations to participate in the research, consent forms, audio-recordings of the raw data, post-interview researcher notes, data interpretation notes, group workshop notes, and interviewees’ electronic responses to the request to review and validate the final analysis. The requirement for confidentiality is a constraint on the theoretical availability of research materials.

Mechanical Recording of Interviews

Reliability and validity is also enhanced by mechanically recording interviews, since direct access to the audio of the interview is a significant aid to analysis. The decision was made in the research design to audio-record each of the thirty-two interviews.

Minimize Mediation in Data Manipulation and Analysis

It is my belief that authenticity of qualitative research can be enhanced by the researcher becoming immersed in and intimately familiar with the available data. Every opportunity to interact with the data enhances that immersion and intimacy. For this reason, I chose to minimize technologies that mediate between the researcher and the data. In particular, I chose not to have an external person transcribe the interviews and not to use ethnographic coding software.

Low-inference Descriptors

The reliability of research is enhanced by the use of low-inference descriptors. High inference-making occurs when the researcher infers that interviewees' own concepts or themes (i.e. the words they use) are substitutable by or can be gathered by the interviewers own chosen words. In this research the concepts or descriptors used were drawn as much as possible directly from interviewees' own comments.

Detailed Profile of the Interviewee Group

Assessment of external validity (comparable findings across another sample) and transferability (comparable findings in another city) requires that a detailed profile of the interviewed group be documented so that differences in findings from group to group might be explained. Chapter 7 includes a detailed profile of the group of thirty-two individuals interviewed for this indicator initiative outcomes research.

Polyvocality

Since, in the Eco-PAR paradigm, all perspectives are partial, I have presented as many voices as possible in the research analysis. In fact, all interviewees are represented in the analysis. While using real names in the text may assist a reader to assess the rigour, plausibility, and worth of the research, it would be in violation of the ethical commitment to confidentiality. As a compromise, all interviewees agreed for their quotations to be attributed to an alias. In this way, confidentiality can be maintained, but at the same time a

reader will be able to follow the thinking of individuals through the entire research report. This format will also allow the reader to compare the researchers' interpretations with the interviewee statements used to arrive at those interpretations. This approach aids the assessment of reliability, validity, and confirmability of the research findings.

Inclusion of Negative Cases

According to Baxter and Eyles (1997), external validity can be enhanced by the inclusion of negative case analysis. In this research, negative or contrary interpretations of themes and concepts are presented alongside the dominant interpretations whenever negative or contrary views were expressed by interviewees.

The detailed account of the Sustainable Calgary indicator initiative outcomes research including the participant interview process and the research findings are presented in chapter 7. However before presenting that material I layout more of the conceptual groundwork that I will take up, alongside the chapter 7 research findings, to make my arguments for a Sustainable Calgary indicators to action strategy and for the concept of sustaining ecological communities, in chapters 9 and 10 respectively. In the next chapter, I discuss the evolution and current practice of sustainable development and sustainability. In chapter 8 I introduce five key concepts that I employ in making the arguments of chapters 9 and 10.

Chapter 5: The Origins and Evolution of Sustainability

In this chapter I critically review the origins and evolution of sustainable development following four lines of inquiry. Firstly, I explore the problematic nature of the term's association with sustained yield natural resource management strategies and with the international development paradigm. Secondly, I summarize the post-Brundtland practice of sustainable development and situate community sustainability indicators within the constellation of activities that constitute that practice. Thirdly, I sketch the main tenets of the dominant sustainable development theory, ecological modernization, and critique its technosystemic orientation. I close the chapter by introducing an alternative theoretical orientation that embeds 'sustainability' within a culturally and politically oriented democratic discourse that advocates a place-based theorization of sustainability. In my view the conceptual struggle to define sustainable development has been dominated by supporters of ecological modernization. Dissenters have attempted to stake out an alternative paradigm of sustainability, focusing on the question of what is sustainable rather than how do we sustain the present order at all costs. Others, including Davison (2001) orient the question away from what we can sustain and toward the issue of what milieu provides sustenance to human communities. Ultimately this is the question I take up in chapter 10.

Something for Everyone in Madam Brundtland's Sustainable Development

In 1987 the Brundtland Commission Report (WCED 1987) – also called the United Nations Report on Environment and Economy – popularized the term “sustainable development.” The Brundtland Report's definition of sustainable development and its general prescription for change remain the touchstone of sustainable development discourse. The Report defines development as “what we all do in attempting to improve our lot within our environment” (xi). Sustainable development is defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987, 8). Four key concepts of sustainable development are outlined in the report: 1) the notion of needs and the overriding priority to address those of the poor; 2) limitations to growth; 3) equity within and between generations; and 4) participation in decisions affecting our lives.

The Brundtland Report (1987, 3) states explicitly that it is "futile to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality" and that in fact "inequality is the planet's main environmental problem and its main development problem" (6). Throughout the report, the authors acknowledge the need for effective participation in decision-making processes by local communities. Problems arise, however, as one delves deeper into the report's contents and proposed solutions. Upon close examination, the schizophrenic nature of its message, crafted in an attempt to please a divergent assembly of stakeholders, becomes apparent.

The Report (1987) explicitly recognizes the inequities in the international system, as illustrated by the figures for world consumption patterns given in table 1.2 of the Report (33): for example, 26 percent of the world's population in the North uses 80 percent of the world's energy. However, it then goes on to suggest that this problem can be alleviated by continued growth in the North and the redistribution of a mere 25 percent of the incremental growth of the rich. This estimate is arrived at without any reference to the problem of resource scarcity, yet it is made with full knowledge that "the world manufactures seven times more goods today than it did as recently as 1950" (206) and that "given population growth rates, a five to tenfold increase in manufacturing output will be needed just to raise the South's consumption of manufactured goods to levels of the North by the time population growth rates level off next century" (15). Despite this analysis, the report states that "[g]rowth has no set limits in terms of population or resource use beyond which lies ecological disaster" (45).

Sustaining the Unsustainable

I contend that sustainable development has been handicapped by its association with sustained yield resource management and the international development paradigm. Prior to the 1980s, the term "sustainability" was most commonly associated with forest resource management (Canadian Institute of Forestry 2005). The concept of sustained yield evolved out of a 400-year tradition of German forestry, Germany being a country where natural

forests were long a thing of the past. In North America, from the early 1900s, maximum sustainable yield (MSY) became the guiding principle of resource management as applied to very different forests and to fishery resources (Larkin 1977; Maser 1988). MSY represented the simple principle that you could not extract a resource at a faster rate than it could be replaced. Worster (1993) claims that the term emerged in the search for a "less intimidating" (133) alternative to what many in the environmental movement had surmised was the need for a radical transformation of civilization. Lester Brown of the World Watch Institute in Washington borrowed from the concept of MSY and first coined the term "sustainable development" in the late 1970s. It was further defined by the First World Conservation Strategy in the early 1980s (IUCN 1980), that adapted the concept to the management of global ecological systems. Thus, a concept that emerged as a way to manage and wring the maximum productivity out of denaturalized forests became a cornerstone of the strategy for poverty reduction and environmental protection on a global scale.¹⁴

New and Improved Development

Another key to understanding the paradox of sustainable development is the critique of the second word in the phrase. The concept of development has spawned much debate, writing, emotion, and revolution. In his inaugural address in 1949, U.S.A. President Harry Truman heralded the development era: "[G]reater production is the key to prosperity and peace," he said. "The United States is pre-eminent among nations in the development of industrial and scientific techniques" and thus duty-bound to "relieve the suffering" of the people of the "underdeveloped world" (Sachs 1992a, 4). Since Truman's address, international development has become an enormous enterprise. Development has been the rallying cry for massive economic, social, and political changes that have taken place in the Third World; it has been a pervasive force in the communities of the Third World for over fifty years. A vast body of knowledge and a large number of institutions, including dozens of United Nations agencies, have been created over the last forty years to oversee international development: its definition, evolution, latest theories, and implementation. Proponents of

¹⁴ Bell and Morse (2000) point to continuities in the evolution of the term and its derivatives, observing that Agenda 21 still calls for the deployment of MSY for international fisheries management.

development argue that international institutions such as the Bretton Woods institutions (the World Bank, the International Monetary Fund, and the World Trade Organization) were developed to mediate capitalism's impacts and ease the development transition of the South (Cavanagh et al. 1994). Others disagree.

Anti-colonialists, post-colonialists, and post-development theorists have pushed back against the development enterprise (Fanon 1963; Nkruma 1965; Shiva 1988; Alvarez 1992; Sachs 1993; Bhabha 1994; Escobar 1995). Wolfgang Sachs, a European architect with a background in the German Green Party, argues that development practitioners have mistakenly set out over the last forty years to reproduce in developing countries the education, health, and social systems extant in the West. Sachs claims more pointedly that they have promoted the American Way of Life (1992a). In his view, development, in its many reincarnations, has always been a rather one-sided conversation whose goal has been to bring the global South within the sphere of the modern industrial economy on the global North's terms.¹⁵ According to Sachs, the Bretton Woods institutions were not created to democratically maintain order between trading partners but as a policy instrument of the Western nation states that control them (1992a, 1993).

Five years before Truman's launch of development, Karl Polanyi expressed concern in *The Great Transformation* (1944) about the emergence of economic determinism in the form of free market capitalism. Essentially, Polanyi argued that since the intervention of the free market in the mid-nineteenth century, our economic lives have become severed from, if not dominant over, other spheres of life. What he calls the public sphere has been lost or subjugated to the economic sphere. Following Polanyi, Sachs argues that large international development institutions single-mindedly promote economic determinism to diverse cultures around the world, displacing local and indigenous cultures and economies with the global, capitalist economy. Recently, in *Globalization and Its Discontents* (2003), Joseph

¹⁵ Development terminology has evolved over time. The terms North and South are generally considered to be synonymous with developed world or industrialized countries and underdeveloped world and industrializing countries respectively. The North has also been referred to as the overdeveloped world and the South as the majority world.

Stiglitz spotlighted the near “conspiracy” of the United States government, Wall Street, and the IMF to steer global financial policies to benefit the United States and financial markets.

Self-proclaimed “de-professionalized” intellectual Claude Alvarez (1992, vii) argues in his book *Science, Development and Violence* that

The idea of “development,” especially in the preceding four decades, has been closely identified with those of progress, modernity and emancipation. For that reason it has successfully maintained an aura of indisputable inexorability normally associated with the law of falling objects. But this view is misleading. I will argue that “development” is a label for plunder and violence. (Alvarez 1992, 1)

These are harsh words for a concept normally held in high regard. Increasingly, however, Alvarez’s words mirror the view of many people from the South (Khor 1992; Shiva 1992; Agarwal 1993; Esteva 1992). Vandana Shiva, an Indian academic and activist whose academic training is in nuclear physics, espouses a critique of development strongly influenced by the Chipko movement of tribal women in India. She equates the mistreatment of women by men, the colonized by the colonizers, and nature by humanity. Her notion of the enclosure of the global commons is central to her critique of the concept of sustainable development: she draws parallels between the eighteenth-century enclosure of the commons in Britain and the present enclosure of the global commons. She notes that all resources for nature’s renewal and for human subsistence outside of the market are being commodified for the purpose of gain and accumulation. Through this expansion of the capitalist economic system, the natural world has become objectified and desacralized. Nature becomes simply a collection of resources to be used as humans see fit. By extension, people become merely an essential element of resource production – a modern concept of “resources” that compares poorly with the traditional view of regeneration of a prodigious nature and a reciprocity and respect between humans and nature known as *Pakriti* (Shiva 1992). Shiva concludes that elite consensus on sustainable development has become the rationale to accelerate the enclosure of the global commons.¹⁶

¹⁶ For more on this issue of commons enclosure, see Mies (1986); *The Ecologist*, (1993); and Ostrom (1990, 2001).

The Co-opting of the Environment Movement

Confounded by the entanglements of sustainable development, since the early 1970s, the environmental problem increasingly has been framed as an economically, socially, and culturally undifferentiated human impact on the biosphere. The environmental critique has shifted from fundamental questioning, by the environmental movement and the grassroots, of the role of corporate power and imperialist states in our economic system toward the technical fix of global environmental management, designed to maintain the current economic system (Sachs 1999). Sachs argues that while we are all in this together, some are more responsible than others for ecological exhaustion and social inequality. As Johnson, Gismondi, and Goodman (forthcoming) and James O'Connor (1998) argue, the crisis is social-ecological, not simply ecological. The December 1989 issue of *Scientific American* was a marquee event in this shift described by Sachs. The issue, entitled "Managing Planet Earth," tackled everything from food scarcity to revolutions in materials science, side by side with full-page ads by corporations such as Ford, Shell Oil, and Union Carbide proclaiming their allegiance to sustainable development.

The World Bank itself has embraced the concept of sustainable development. This should be a warning signal to all that the concept has been co-opted. If one looks at the bank's literature, they have predictably interpreted sustainable development as being compatible with economic growth. In a 2002 *Letter From The President*, James Wolfensohn wrote that "sustainable, equitable, long-term economic growth" is the key to achieving global development goals. (World Bank 2002) Currently the World Bank's Web site advocates "sustained and inclusive economic growth" (World Bank 2005).

North/South: The Great Divide

During preparations for and staging of the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, the divide between the North and the South with regard to sustainable development became all too apparent. On the one hand, the majority of influential governments from the North, along with the multinational economic power brokers, argued that business as usual, with minor corrections, would lead along a

sustainable path and defined the problem of environmental degradation for the South as over-population and lack of technology: the solution was to curb population growth, undertake a massive transfer of technology from the North to the South, and further integrate developing countries into the global capitalist market economy.

In contrast, the goal of many Southern governments and much of the international NGO community was to put the role of consumption in the North front and centre on the Rio agenda. Their position was that poverty alleviation was a priority and the number one reason to protect the environment and this was only possible by curtailing the consumption of developed countries. Integral to this argument was the issue of Third World debt and the inequitable distribution of power and resources in the world. Southern governments and international NGOs called for a redefinition of “development”, serious attention to the scourge of militarization, the recognition that capitalism and communism do not exhaust the possible choices of political system, and the devolution of power to the community level (CCIC 1992; Schneider and Roy 1992).¹⁷ This call, what I call the Rio Consensus, has become the driving grassroots agenda of sustainable development. Let me now turn to the state of the art of sustainable development 23 years after Rio.

The State of the Art of Sustainable Development

The debate over sustainable development has only intensified since 1992. In *Technology and the Contested Meanings of Sustainability* (2001), Aidan Davison argues that efforts to rehabilitate or recapture the concept of sustainable development are “ultimately futile” because, in his estimation, sustainable development is “conceptually incoherent and politically compromised” (41). The well-known energy expert and writer David Brooks, of the International Development Research Centre, is critical of sustainable development but argues for the possibility of its reform (1988). He acknowledges that the Brundtland Report brought to the international arena the concerns of environmental degradation and the need to integrate economics, development, and the environment; however, he asserts that

¹⁷ My experience in the preparations for the UNCED as part of the Canadian Council for International Cooperation and Canadian Environment Network’s Sustainable Development Working Group supports this view of the UNCED process.

sustainable development is fundamentally a radical notion and that the Brundtland Report chose to be ambiguous about the ramifications of this radical concept. In order to do so, it compromised itself enormously. Brooks argues that in many ways the Brundtland report has served its purpose and it is now time to move beyond it.

Professor William Rees of the University of British Columbia is one of the leading thinkers on sustainable development. Like Brooks, Rees (1990) points to the “something-for-everyone,” schizophrenic nature of the Brundtland Report, but he argues for redefinition rather than abandonment of the concepts of development and sustainable development. He laments that to date the sustainable development-inspired prescription for change is more of what he calls the expansionist paradigm: expanded free trade, deregulation, privatization, technology transfer, and an increased role for transnational corporations. This prescription is silent on the need to look at the underlying social and political problems, such as inequity and unfair distribution, whose symptoms are environmental problems. Rees predicts that the ecological reality will sooner or later force “ecological limits” onto the planning landscape. He reminds us that all production is consumption in a world governed by the second law of thermodynamics. In calling for a new paradigm for all our social, spiritual, and economic institutions in order to meet the challenge of a sustainable world and communities, Rees puts the onus on changing human institutions rather than the environment insisting that if we tend to ourselves, nature will take care of itself.

Despite the continuing debate, the Brundtland concept of sustainable development has captured the imagination of environmentalists, developmentalists, and capitalists alike. More than any other concept over the past fifteen years, sustainable development has shaped deliberations over the future of our planet, nation states, and communities. Brundtland attempted a grand synthesis of environmental protection and human development, arguing that they are not incompatible. To my mind, sustainable development is a kind of compromise, a bricolage patched together to obtain enough political capital to move forward on an important agenda to alleviate poverty and environmental destruction within the context of a capitalist world system. As Lafferty (2004) notes, sustainable

development is an “outside in” policy fix that left Rio de Janeiro in 1992 in search of an implementation strategy at the national, regional, and local levels.

Conceptual Frameworks and Models

Theorization and conceptualization of sustainable development has ensued since 1992, and conceptual models have proliferated. Much of the literature positions contending paradigms of sustainable development along an anthropocentric–ecocentric continuum. (see table 5-1) Neoliberal accounts presume an unlimited resource base and tout market solutions for all problems. Technocentric models put their faith in the power of technology and expert systems to resolve and mediate the problems of unsustainability. Ecological modernization places great faith in technology, but recognizes the need for social equity and advocates more democratic means of decision-making to achieve the desired ends. For each of these three models (Mason 1999), economic growth remains a central premise of sustainable development. In contrast, ecocentric models question economic growth, the role of technology, and who holds the power to privilege what kinds of knowledge. For ecocentrists, social and species equity form the heart of the sustainability debate (O’Riordan 1981; Eckersley 1995).

Systems thinking has become theorists’ and practitioners’ preferred tool for conceptualization and elaboration of sustainable development. As such, theorization has been preoccupied with the rationalization and integration of conceptually defined social, economic, and ecological systems of the material world (Atkisson 1999; Bossel 1999; Bell and Morse 2000). First-generation models of sustainable development tended to reflect the compromise position of the Earth Summit, depicting a search for the common ground, or win-win-win scenarios, among the economy, society, and the environment (WCED 1987). Second-generation models moved to a more ecologically based conception that positioned the economy as a subsystem of society and society as a subsystem of the ecosystem (Rees 1996). Other models include the political system, with some emphasizing the bureaucratic structures of governance and others emphasizing citizen participation beyond the conventional representative form of democracy (O’Riordan 2001). Herman Daly is well known for his pyramid model of ultimate ends and means and intermediate ends of means.

(Meadows, 1998) Atkisson's compass model calls for an integration of nature, economy, well-being, and society (NEWS) (Atkisson 2005). Some models use a social, natural, and financial capital accounts framework (NRTEE 2003) or a genuine wealth (financial, manufactured, human, social, and natural) framework (Anielski 2004). One recent model, proposed for the Canadian Index of Well-being, positions well-being at the inner core of the concentric circles of economy, society, and ecosystem (CIW 2004).

In an effort to guide practice, many thoughtful sustainable development principles have been formulated since the Earth Summit. Among the most prominent are the Bellagio Principles for assessment of sustainability initiatives (Hardi and Zdan 1997), the Hannover Principles of Sustainable Design (McDonough 2000), and the Melbourne Principles for Sustainable Cities (UNEP 2002). Of these three, the Melbourne Principles (summarized in table 5.2) are the most relevant to urban sustainability work. Many cities – for example, Portland (Sustainable Portland Commission 1994) and Vancouver (City of Vancouver 2004) – have drafted their own set of sustainability principles to guide their sustainability activities.

A Diversity of Solutions

Beyond the definitions, frameworks, and principles, individuals, NGOs, governments, and the private sector have proposed a diversity of practical prescriptions, processes, and tools for sustainable development. Many of these have gone beyond the drawing board to implementation. Table 5.1 positions some of these models roughly along the continuum of sustainability paradigms while appendix 1 summarizes the most prominent and successful approaches in use today. I present table 5.1 not to provide precise definitions but as a heuristic device to orient discussion of sustainable development and sustainability. Table 5.1 begins with a comparison of four interpretations of sustainable development paradigms. The subsequent rows of the table locate sustainability approaches, alternative democratic models and Canadian political orientations along the paradigms' continuum.

Source	Globalism			Localism
	Anthropocentric	→		Ecocentric
Mason		Technocentric		Ecocentric
Sachs	Contest	Astronaut		Home
Baker	Treadmill	Weak	Strong	Ideal
Keough	Neo-Liberal Economic growth, knowledge is liberating, the market solves all problems, discourse through the market. Desire to upscale	Technocentric Modernization Economic growth, technology solves environmental problems. Knowledge is liberating, discourse is expert oriented. Desire to Upscale	Reflective Modernization Economic growth, Technology unproblematic and good, social equity is important. Discourse is central. Scale Neutral	Ecocentric Questions both economic growth and role of technology. Knowledge and power linked. Equity is important, Discourse is central. Desire to downscale
Associated Sustainability Approaches (Appendix 1)	The Creative City Industry Clustering	Industrial Ecology Factor 4/10 Natural Step Natural Capitalism Smart Growth	Sustainable City Healthy City Safer City Liveable City Agenda 21 Smart Growth	The Eco-City Community Economic Development
Democratic Model (Table 9.3)	Representational Market	Representational Participatory	Deliberative Participatory Environmental	Inclusive Participatory Ecological
Canadian Political Party Exemplar	Conservative Party	Liberal Party	New Democrats	Green Party

Table 5.1: Paradigms of Sustainability (adapted from Mason 1999, Baker, 1997 and Sachs, 1999)

Ecological Modernization: An Emperor in Old Clothes

It is widely agreed that ecological modernization (EM) has become the dominant theoretical framework of sustainable development. Proponents of EM claim that it is a pragmatic answer to the sustainable development problematic – one that avoids the critical myopia and utopian dreams of its critics. (Mol, 2001) Mol claims that EM has come a long way since its emergence as a reaction to the deindustrialization/demodernization current in Europe and North America in the 1970s¹⁸ and to Marxist critiques of the economic order, which ecological modernizers considered extreme (Mol and Spaargaren 2002). In an article defending EM, Mol and Sonnenfeld (2002) describe it as a theory of how industrial societies deal with environmental crisis. They outline three phases of EM. In their reading, it emerged in Germany, with a heavy emphasis on industrial technological innovation and modernization, an antagonism to bureaucracy, a steadfast belief in markets, a systems theory orientation with a limited notion of human agency, and an analysis dominated by a focus on the scale of the nation-state. Mol and Sonnenfeld argue that in the 1990s ecological modernization evolved to a more balanced view of the role of the market and state intervention, and gave more attention to institutional and cultural dynamics. The third, contemporary stage Mol and Sonnenfeld call reflexive ecological modernization (REM). They argue that REM has successfully responded to the critiques of theorists such as Ulrich Beck et al. (1995) and that this version of EM has successfully incorporated social learning, cultural politics, and new institutional arrangements into its theoretical frame. Mol and Spaargaren (2002) challenge the technocratic characterization of EM by juxtaposing the early stages of EM (techno-corporatist or economic-technical) with the latest stage (reflexive or institutional-democratic).¹⁹

Mol (2001) describes five trends in social and institutional transformation that shape REM theory and define its current practice: 1) the changing role of science and technology from repair options to preventative options; 2) an increased awareness of the importance of market dynamics and economic agents to reform; 3) the transformation of the nation-state

¹⁸ Barry Commoner (1992) is often cited as one of the proponents of this current.

¹⁹ These typologies are borrowed from Hajer (1995) and Christoff (1996), respectively.

to be less top-down and command- and control-driven, and more decentralized, flexible, and consensual in its governance; 4) the modification of the position, role, and ideology of social movements to a more accommodating, less strident stance; and 5) the changing of discourse and emerging ideologies that no longer counterpoise economic and environmental interests. Mol also claims that EM is now more able to accommodate societies beyond Western Europe, as well as global dynamics, within its theorizing.

One of Mol's more contentious claims is that the radical environmental change that drives EM has been decoupled from radical social change, thereby negating the need for the radical social prescriptions of Marxists, for example (Mol 2001). Mol observes that for ecological modernizers, capitalism is neither an essential precondition for nor a key obstruction to environmental reform: "[Mainstream EM theorists] rather focus on redirecting and transforming 'free market capitalism' in such a way that it less and less obstructs, and increasingly contributes to, the preservation of society's sustenance base in a fundamental/structural way" (Mol and Spaargaren 2002, 23). Robert Paehlke (2001) urges environmentalists to abandon their critique of EM in order to meet the threat of subversion of the sustainable development agenda by the neoliberal agenda.

I grant that Mol and Paehlke's positions have some persuasive power and that real progress has been made within the terrain that EM stakes out for itself. However, as Donald Worster (1993, 132) warns, "the first thing you need to know when starting to climb a hill is where the summit is, and the second is that there are no completely painless ways to get there. Failing to know those things may lead one to take a deceptively easy path that never reaches the top but meanders off into a dead-end, frustrating the climber and wasting energy".

Aidan Davison (2001) provides a solid critique of EM, which he sees as a manifestation of "technological society," while at the same time offering the concept of cultural sustainability as an alternative. He argues that "[t]echnological society names a peculiar political and moral condition in which the greatest common good is understood as the greatest possible productivity of technosystems" (93). In Davison's view, EM "is founded

on a pursuit of eco-efficiency ... [that is] encouraged by a technological optimism that extrapolates existing trajectories in resource management, corporate liberalization and planetary science toward the ethical goal of an ecologically stable, equitable regime of global governance.”(5) Drawing upon neocolonial, post-colonial, and post-development theorists, Davison argues that EM “reinforc[es] the neocolonial oppression of humanity’s poor majority” (5). Moreover, he finds that ecomodernist interpretations of ecological notions such as limits and scarcity, which he regards as “the organizing principle of modern society” (71), and holism are actually reinvigorating the modernist cultural project that seeks mastery over nature. Davison critiques EM’s “dualistic metaphysics” that “neglect[s] the interplay between the world-views that define our thinking and the technological world that defines our experience” (6); he argues that EM “[equates] moral development with technological development” (56).

In Davison’s (2001) view, “[t]he triumph of ecomodernism has been to hold together a wave of environmental concern that disengages normative ecological questions about our behaviour, our everyday practices, from the practical discourses of economic growth, global managerialism, corporate liberalization and technological globalization.... In doing so the historical possibilities of contesting sustainability have been displaced by an ahistorical agenda for engineering the future” (2001, 62). Davison’s analysis resonates with Bruno Latour’s critique of the modernist project, which Latour (2002) argues has come to the end of its ability to hold science and technology apart from social process. Davison laments [t]he Brundtland Commission’s role in all of this – to “cement into the foundation of sustainable development policy the conviction that technology is the neutral instrument of social institutions” (24).

In Davison’s (2001) characterization, “the first wave of environmental concern was deeply skeptical of the modernist model of progress and called for far-reaching spiritual, moral, and economic change in technological societies”... adopting an “antigrowth position with respect to the orthodoxy of unlimited economic growth and technological globalization” (13). Davison argues that the first wave was so successfully co-opted and coerced, beginning in the 1970s, that “[t]hose who see the ideal of sustainability as a prompt for

challenging political and moral questions, those who see it as latent with contested moral meanings, are finding themselves either enclosed within the stifling language of efficiency or pushed toward the margins of global environmental politics” (5).

The second wave of environmental concern, what Dryzek (1997) calls the promethean response, is characterized by regulatory initiatives to stabilize the global environment, wrest the agenda from activist first-wave environmentalists, assure the citizenry that all is in good hands,²⁰ and ameliorate the direct effects of environmental degradation in the First World, thereby assuring First World citizens that the issue is being dealt with. Meanwhile, according to Davison (2001), “[s]ince the 1980’s, ecological crisis has been increasingly interpreted as a threat to human survival that can only be countered by redesigning nature to make its central telos (reason for being) the ability to secure the future of the technological society.” – a perspective wherein “the earth itself is seen as a device” (206).

Davison points to the Club of Rome’s progression from *Limits to Growth* to *Factor Four* (see appendix 1) as emblematic of this shift from wave one to wave two environmental concern. The role of the development paradigm in this shift becomes clear in light of President Truman’s claims that greater production will lead to world peace and that the U.S. As predominance in science and technology makes it duty-bound to rescue the Third World from its misery.

Davison singles out economist David Pearce as a leading figure in the shift to eco-modernization. In *Blueprint for a Sustainable Economy*, Pearce (2000) argues for the need to fine-tune markets, strengthen economic growth, and monetize externalities and environmental goods. In what seems to me to be a promethean delusion, Pearce argues that “the fact that problems of unsustainability still persist does not mean many techniques and tools in economics are wrong.... [R]ather it is an indication of the degree to which economic approaches have been underused so far” (2000, 233).

²⁰ This latter sentiment was certainly my experience in meetings organized in the Fall of 1992 in Ottawa by Environment Canada to brief non-governmental organizations on the outcomes and aftermath of the Earth Summit in Rio de Janeiro.

As I interpret Mol's and Paehlke's consensus argument, having staked out a dominant position, EM's supporters are now comfortable bringing critics on side on their own terms. David Pepper (1998, 3) supports this sentiment in his analysis that "EM is essentially a political strategy to try to accommodate the environmentalist critique of the 1970s on, with the 1980s regulatory neo-liberal climate". In this light, EM's consensus may be described more accurately as a co-optation or capitulation of first-wave environmentalism. In defending the need for "resistance" to the EM agenda, other authors support this analysis. Otterson (2000) makes his argument for resistance in the context of a case study of Norway's energy industry. Dryzek (2001), in a rebuttal to Paehlke (2001), argues that forcing consensus closes off valuable debate. In *Resistance Is Fertile*, Dryzek (2001) argues that left to their own, nation-states and global capital will not reform. It is only the threat of destabilization and resistance hovering over them that makes change happen. "Far from being an undesirable alternative to 'the creation of new forms of democratic governance at the global scale,' as Paehlke suggests, resistance is central to the development of those forms" (Dryzek 2001, 16).

With respect to the debate over the preferred stance toward capitalism, in my estimation, Mol's argument demonstrates a naïveté toward the dynamics of capitalism. Pepper (2001) provides support for my critique of Mol in pointing out that New Zealand, the United Kingdom, Norway, Australia, Netherlands, Japan, the United States, West Germany, and France all had rising income inequality between 1977 and 1990, a time period during which EM was claiming significant gains toward sustainable development. In Pepper's (1998, 3) estimation, EM's goal is "capitalism ostensibly with a greener aspect – and as such [EM] avoids addressing basic contradictions of capitalism". Pepper argues similarly that EM tends to focus on the West and ignores the inter-relationships that allow the West to become sustainable while the rest of the world wilts: in fact, environmental improvement in the West has been achieved by offloading environmental problems onto the South. Lofdahl (2002) suggests a similar dynamic based on a modelled analysis of the environmental impacts of international trade flows.

Mol's (2001) analysis also suggests a lack of consideration of anything other than representative liberal governance and Western leadership in the task at hand. Mason (1999, 99) picks up on this shortcoming of EM when he finds that EM is still in the expert domain rather than the discursive domain. He suggests that "the greatest institutional obstacle to environmental democracy [is] the current insulation of economic life from requirements of democratic responsiveness and accountability". Mason argues for a much more robust democratic form of governance, decentralization to local control, strong support for localization, and the re-embedding of economics into the democratic realm. I end this chapter with a discussion of other writers who support Mason's basic position.

The Local Alternative

When all is said and done, EM is dominant but not hegemonic. So far I have made the case that the current dominant approach to sustainable development is problematic because of its neocolonial and technosystemic character. I have argued that this has come about in part because of the historical baggage carried by the terms "sustainable" and "development." These terms tilt the debate toward the modernist dream of prediction and control of global ecological systems to the benefit of a privileged segment of the human species. In the closing section of this chapter, I briefly sketch some of the various threads of a nascent, amorphous, and emerging alternative discourse around community sustainability to be found in ecological economics, neo-Marxist literature, and environmental and ecological political theory. The alternative is characterized by a turn toward the local, place, and the lifeworld rather than the global, space and the technosystem. The elements of a vibrant alternative sustainability discourse are disparate: there is by no means a consensus on what the alternative looks like, but there is strong alignment in the distaste for the status quo.

One of the earliest attempts to take up the issue of scale in sustainable development discourse was Daly and Cobb's *For the Common Good* (1989). Through an inquiry into "the extent to which an economy supports or destroys healthy communities" (1989, 6), Daly and Cobb challenge the status quo whereby the economic system takes precedence over community. They ground their argument in Karl Polanyi's examination of capitalist economics and his observation that in capitalist society, "instead of economy being

embedded in social relations, social relations are embedded in the economic system” (Polanyi in Daly and Cobb, 1989, 8). Daly and Cobb assert that “the scale of human activity relative to the biosphere has grown too large” and that we have entered “a new economic era of “uneconomic growth” that impoverishes rather than enriches” (2). In provocative language, they declare that this is “the fundamental wild fact that so far has not found expression in words sufficiently feral to assault successfully the civil stupor of economic discourse” (2). They propose the idea of “homo economicus as person in community” in place of “homo economicus as pure individual” (7), bolstering their argument with Schwarz’s finding that “a strong, local community is essential to psychological well-being, personal growth, social order, and a sense of political efficacy” (Schwartz in Daly and Cobb, 1989, 18)). In a pragmatic turn inspired by Alfred North Whitehead’s concept of “misplaced concreteness,” Daly and Cobb suggest that “instead of shaping the study of economy to the needs of science ... it [should] be shaped to the needs of the real world” (20). They offer a thought-provoking quotation from John Maynard Keynes: “I sympathize therefore with those who would minimize, rather than with those who would maximize, economic entanglement between nations. Ideas, knowledge, art, hospitality, travel – those are the things which should of their nature be international. But let goods be homespun whenever it is reasonably and conveniently possible; and above all, let finance be primarily national” (Keynes in Daly and Cobb 1989, 209). In summarizing their thesis, Daly and Cobb state that “the goal of the changes proposed in this book is a bottom-up society, a community of communities that are local and relatively small” (366).

Both Murray Bookchin’s social ecology (1990) and Takis Fotopolous’s (1997) inclusive democracy project propose a radical locally anchored democracy. Fotopolous argues that “the concentration of power ... is shown to be the fundamental cause of the present multi-dimensional crisis: political, economic, social and ecological” and affirms “the incompatibility of democracy with any form of concentration of power” (171). Following from this analysis of power, Fotopolous “proposes the local community as the prime agency of a renewed and deepened democracy” (Fotopolous in Levin 1999, 386). Direct local democracies would relate to other local democracies under the confederal principle, which proposes autonomous communities where direct economic, social, and ecological

democracy flourish and a series of nested confederations (regional, national, global) provide a mechanism for non-coerced association and coordination among the communities.

Ulrich Beck et al. (1995) conceive of a reflexive modernization wherein “our relationships to nature and each other should be re-embedded in locality and place and [where] local cultures and knowledge systems, different from the universal industrial modernization model, should be encouraged” (3). Arturo Escobar (2001) defends the idea of autonomous local communities based on his experience in Latin America and on his critique of development and the unreflective modern project of globalization. He proposes that “place-based struggles might be seen as multi-scale, network-oriented subaltern strategies of localization” (171) and that such struggles might give rise to “the multiplicity of place-based practices of culture, nature and economy” (172). Similarly, Sachs exclaims, “Sustainability Yes, but at what level? Where is the circle of use and regeneration to be closed? At the level of a village community, a country, or the entire planet?” (1993, 17).

The preceding discussion hints at an alternative to the dominance of EM and opens the door to my own proposition for sustaining ecological communities – one I will elaborate in chapter 10. I will argue that a truly sustainable alternative must reject technosystemic control of human agency and embrace the lifeworld in defense of sustaining ecological communities. My argument will be predominantly from a phenomenological perspective, phenomenology being the philosophical tradition that I believe is most able to respond to the question of what it is to be human. That question is a crucial prerequisite to the question that nobody asked in Rio: what is it we want to sustain?

Chapter 6: Key Concepts

Key Concept: Place

The record shows that sustainable development has been a policy imposed from the outside (Lafferty 2004). The concept was invoked as a response to the recognition of the global problems of poverty and environmental degradation. As such, sustainable development's conceptualization has predominantly been from a global perspective that privileges the notion of space over place. In this research, I argue that achieving sustainability will require human societies to begin with local place. The concept of place has seen its fortunes rise and fall over the past forty years. Through the 1960s and 1970s there was a consensus of sorts that the traditional geographically bound place was no longer a concept of any consequence, that it had become an anachronism. Place disappeared from the serious theoretical landscape, overtaken by abstract space (Harvey 1996). A corrective is now emerging forcefully, asserting that perhaps geographers in particular were too quick to discard the concept. A new, more theoretically sophisticated conception of place has emerged in the philosophical, anthropological, geographic, and political ecology literatures. This re-emergence of place has not been entirely due to theoretical interest; it also has resulted from the observation that in a decentred, globalized, time-and-space-compressed world, people are seeking security in place in many different ways, some healthy and some not so healthy.²¹

One intellectual strategy in support of sustainability is to make the case for the privileging of place over space, the local over the universal. Thus, I begin with an overview of the philosophical turn from a space-centred to a place-centred world. Philosopher Edward Casey has been a dominant figure in this enterprise. After legitimizing this privileging, I explore the contours and dynamics of place-making and propose alternative kinds of place-making – capitalist, cosmopolitan, and ecological – that I believe are useful in examining how Sustainable Calgary can move from indicators to action and how the place-centred perspective might provide us with a more effective conceptualization of sustainability. I

argue that capitalist place-making is predominantly an inauthentic objectifying and commodifying process and that focussing on cosmopolitan and ecological place promotes genuine attempts to bring some humanity to the places we live. Furthermore, ecological place offers one of the keys to discouraging or reversing neoliberal globalization and realizing sustainable human communities. More importantly, an emphasis on ecological place allows me to maintain fidelity to my own ontological and epistemological commitments identified in chapter 2.

It is important to acknowledge at the outset that Yi Fu Tuan (1974), Anne Buttimer (1980), Edward Relph (1976), and Nicholas Entrikin (1991) all point out that place is not a fixed entity but a dialectic process. This process captures what Tuan (1974) considers a predisposition of the ecology of the human brain to organize phenomena in binary oppositions: –“security and adventure,” “place and journey,” “home and horizons of reach,” “closed and open,” “being (static structure) and becoming (dynamic process)” (16). The very act of perception – a “reaching out to the world” (16) – embodies this dialectic. The journey to place is reminiscent of Tuan’s image of the human condition as a dialectical search for security and adventure. Perhaps at this juncture we have ventured too far into the woods and are anxious to get back home before dark.

The Philosophical Fate of Place

In *The Fate of Place*, Edward Casey (1999) maps the history of how western cultures have thought about place. From a phenomenological standpoint, he demonstrates how from classical Greece to the present, humans have mused over place: for example, Aristotle “made ‘where’ one of the ten indispensable categories of a substance” (ix). Casey challenges the “article of faith ... that places are the determination of an already existing monolith of Space” (14), contending that Greeks such as Aristotle and Plato gave priority to place and found space to be derivative of place. He argues that through the scientific revolution and Newton’s formulation of the laws of motion, the concept of space came to dominate that of place and that space has since been the dominant referent for Western

²¹ Appadurai (1996), for example, laments the misreading of ethnic unrest in terms of tribalism rather than as

knowledge. Starting ambiguously with Kant, and gathering steam with Alfred North Whitehead and Martin Heidegger, place has begun to reassert its presence. Casey suggests that in the second half of the twentieth century, place has once again come to be seen as preceding space. He bolsters his argument with a demonstration of how the theorists Bachelard, Foucault, Deleuze, Guattari, Derrida, and Irigaray all position place prior to space. In contrast to the conventional notion of space as an inert and inconsequential canvas on which life paints itself, Casey observes that “[p]laces also gather experiences and histories, even languages and thoughts” (24), and therefore, a place is “more an event than a thing” (26). “[P]laces gather bodies in their midst in deeply enculturated ways” (46): I take this to mean that culture is in a dialectical relationship with place. Finally, Casey makes a strong argument for geographically grounded place.

Anachronistic Place

Doreen Massey (1995, 46) writes that “very often when we think of what we mean by a place, we picture a settled community, a locality with a distinct character – physical, economic and cultural”. She suggests that the “campanilismo” attitude of Sicilian immigrants is representative of the anachronistic place.²² In my own personal experience, the isolated outports of Newfoundland fit Massey’s description. She suggests, however, that “the simple relation between local place and local culture is not one that can be assumed” (Massey, 1995, 1). Anthony Giddens (1990, 18) points out that “in pre-modern societies, space and place largely coincided, dominated by ‘presence’ – by localized activity. [M]odernity increasingly tears space away from place by fostering relations between ‘absent’ others”. As Edward Said argues in his treatment of Jane Austen’s *Mansfield Park*, influences beyond a place have influence on a place (Said in Eagleton 1990). Massey (1994) also offers a feminist critique of the anachronistic place as a place of oppression and subjugation. Citing traditional nomadic societies, she questions whether place has ever necessarily been about “settledness, enclosure and home” (51).

an outcome of the culturally destabilizing processes of globalization.

²² Massey discusses this term in reference to Robert E. Foerster’s (1924) exploration of the Sicilian immigrant experience. Sicilian peasants, it is observed, hold tenaciously to a focus on family and clan. Their life place and space both end at the horizon.

Capitalist Place

I argue that capitalist places, including the places currently being constructed by neoliberal globalization, are places to which, for better or for worse, we are effectively and affectively attached. Capitalist place-making is predominantly an inauthentic,²³ exogenous process. Two distinct dimensions of this process are relevant to this discussion. The first is the concept of uneven development – a characteristic inherent in capitalism, whereby capitalist production creates the conditions (e.g., scarcity of resources, labour organizing) for its own demise and the necessity to move to the next best location for exploitation (Smith 1984). As it shifts, capital reshapes places to its own logic. As Massey points out, “[B]oth globalization and the reconstruction of meanings of places are happening within a world that is already unevenly developed both socially and geographically,” and where “unequal forces” prevail (1995, 2). Harvey (1996) argues that capital’s instrumental reorganization of places is really a disintegration of place in favour of rationalized spaces of capital. Miller (2000) draws the parallel between spaces of capital, Habermas’s colonization of the lifeworld, and Lefebvre’s notion of “colonization of social space.” Eric Swyngedouw (2003, 2003a, 2002) has chronicled neoliberal capitalist place-making at work in European and Latin American cities.

Massey (1995) discusses exogenous place-making in the imperial sense (Roman place-making in England) and the colonial sense (European colonization of much of the world). Historically, she points out, places have been disrupted and reshaped by the imperial and colonial interlopers, but over time, people make those places meaningful just the same. While this is a tribute to the fortitude of people in place, it does not diminish the historical injustice and hardship visited upon those who experienced the imperial and colonial invasions.

This historical glance brings us to the second dimension of capitalist place-making, a dimension that is considered a hallmark of the condition of postmodernity. Harvey (1990)

²³I take up the definition of authenticity in chapter 10 in my discussion of authentic sustainable community.

argues that time-space compression, which is driven by the logic of capital accumulation and technological innovation, makes the present situation a qualitatively different experience of capitalism than previous ones.²⁴ There are fewer anchors of identity in places, in our minds, or even in our biology. The pace, breadth, and depth of infiltration of globalization processes into our lifeworlds seem to have reached the threshold of “our capacity to grapple with the realities unfolding around us [as] it becomes harder and harder to react accurately to events” (Harvey 1989, 306). The technological and exogenous mediation of place-making overpowers the impulse toward individual and collective agency. As Massey (1995, 3) contends, “[I]f globalization does not, in fact, mean the end of place, it does pose serious questions about how we conceive of place, and how we explain how it is that places retain their uniqueness in a period of rapid and fundamental social change”.

In some accounts, globalization results in the homogenization of the world – every place comes to look and feel like every other (Korten 1995). What many theorists now argue, however, is that place still matters very much (Peck and Tickell 1994; Massey 1995; Appadurai 1996; Cox 1997). The issue, I think, is who gets to decide how places are different. If we accept the social creation of place, it follows that in a world where social relations are dominantly capitalistic, capital is the dominant place-maker. But contestation over places – “the clash of rival claims to their meaning, their character and their future” – continues (Massey 1995, 3). Some argue that one lesson to be drawn from globalization is that those who seek social justice in the world need to contest space and not just discrete places (Harvey 1996; Swyngedouw 1997). In the next section, I take up this issue in two contexts. In a cosmopolitan conception of place, place ranges widely over space rather than being place-bound: place can be “any part of the earth’s surface however large or small” (Massey 1995, 3). An ecological conception of place imagines a global tapestry of place-based communities, engaging capital in space-time in order to defend their right to define authentic place.

²⁴ The hegemonic penetration by “the system,” or capitalist ideology, into our lifeworld, our minds, and even the constitution of our biological bodies are some of the ways the present period is qualitatively different.

Cosmopolitan Place

The cosmopolitan conception of place is premised on an understanding that time-space compression has qualitatively altered our experience of the world. The fixity-fluidity balance of our experience has gravitated to the fluidity pole; the networks and complexities of social interaction and interconnection are so stretched out as to dissolve particular places (Massey 1995).²⁵ Flows and networks define human social relations to the degree that spaces of places have evaporated into a space of flows (Castells 1999).²⁶ While the cosmopolitan elite, or the “fast caste” (George 1999), freely circulate in these flows and networks, exclusion from them defines marginalization (Castells 1999; Hannerz 1992).²⁷ Massey accepts Castells’ flows and networks metaphor but asserts that place still matters. Place is no longer geographically bound but is constituted from a more complex cultural and social milieu. Massey proposes the notion of a “global sense of place,” or place as meeting-place, where “particular bundles of activity spaces, of connections and interrelations, of influences and movements” gather (1995, 58). Miller reminds us that these processes operate “at a variety of geographic scales” (2002, 33). Identity and culture are formed in relationship to these free-forming places.²⁸ Importantly, sense of place derives from both our experience and the structures, mechanisms, and forces beyond our immediate observation (Massey 1995). According to Massey, sense of place can be felt at many scales – from being at home in your body to being a global citizen. She claims that “culture does

²⁵ Still, it is important to recognize that through globalization some individuals’ activity spaces are shrinking (single mothers can’t afford to go to Banff with their children or to the Calgary Zoo on a Saturday afternoon) while others are stretching. What does the relationship between the shrinking and stretching look like? Is it a zero sum game?

²⁶ I would argue that the fluidity Castells speaks of always existed but the rate of flow is such that it is becoming a dominant sensory experience.

²⁷ The debate over cosmopolitanism is a rich and complex one in its own right. For some, it is the antidote to neoliberal globalization – an ethic of global citizenship. For others, it is yet another manifestation of colonial and imperial designs. For a good overview of this debate, see Held (1995); Nussbaum (1997); Hannerz (1997); Harvey (2000); Mignolo (2000); and Breckenridge et al. (2002).

²⁸ Massey defines identity as “the conjuncture of our past with the social, cultural and economic relations we live within” (1995, 88). I would add our imagination of the future to this definition. She defines culture as “the system of shared meanings which people who belong to the same community, group or nation use to help them interpret and make sense of the world” (176).

not require place – cultures can be sustained by peoples who do not live in the same place and who have never met” (181).

Anthropologists have waded decisively into the place debate.²⁹ The newly unbounded place and an unprecedented bundle of communication, travel, and migration associated with globalization require new cultural theorizations. Anthropologists argue that there are cultural cracks in the hegemony of economic globalization; cultures considered to be on the periphery nevertheless exert agency within the circumstances they find themselves. New cultural forms including cosmopolitanism (Ong 1999); transculturation (Hannerz 1992); translocality (Smart and Smart 2003); global cities (Soja 1996); and multi-culturalism, diasporas, cultural hybridization, and “cultural routes” (Massey 1995) all signal the non-linear, indeterminate, and multivalent trajectory of globalization. Appadurai describes “the unyoking of imagination from place” (1996, 58) via disjuncted flows of cultural material (ethnoscapes, financescapes, mediascapes, ideoscapes, technoscapes) that contribute to a vastly expanded set of available images, imaginaries, and imaginations from which to draw for our cultural blueprints (Appadurai 2001). What Appadurai describes, and what in large measure distinguishes cosmopolitan place from capitalist place, is the resolve to reassert agency and social justice into these globalized places.

In this global era, the individual and collective cultural, social, and ecological webs of relations spread around the globe in ungraspable complexity. There is no single grid upon which to map these dimensions of place-making. All manner of metaphors have been used describe this fluidity: Sheppard, for example, compares these cosmopolitan places of dense attractions of meaning to galactic “wormholes” (Castree 2003). These webs are constituted in space and in time at variable scales, densities, and extents. Place formation results from a kind of critical mass or threshold density of these webs in space.³⁰ While cosmopolitan place is an appealing concept, to my mind it retains only the slimmest of connections to the ecological foundations of human existence (see my discussion of key concept “Nature”).

²⁹ See Smart and Smart (2003) for a good review of the current literature.

³⁰ If we were to describe this mathematically, “places” would probably resemble a complex, chaotic, indeterminate systems of strange attractors.

Ecological Place

Castree has most recently waded into the discussion of place with a friendly critique of the positions of Harvey, Massey, and Michael Watts, exemplars of what he calls the shibboleths (beliefs that a set of like-minded people take to be axiomatic) of place in the discipline of geography. Castree (2004, 135n3) notes that “it seems, currently, *de rigueur* in critical social science to code translocal solidarities positively while seeing localisms that define themselves against putative ‘outsiders’ as either parochial, ill-conceived or downright reactionary”. The three shibboleths that Castree challenges are 1) that attempts to “put ‘strong’ boundaries around places” are misguided in a world where “the global is in the local”; 2) that the project for these strongly bounded places “typically engenders actions that are politically regressive”; and 3) that there is something inherently progressive about insisting that people actively work with inter-place connections. Using the example of the indigenous rights movement, Castree argues that none of these shibboleths is necessarily the case. In fact, it does not have to be an either-or situation – either you are defending a regressive bounded place or you defend a progressive unbounded place: in reality, places and the motives of people in those places are not so easily compartmentalized. Castree (2004, 163) argues that a “kind of situated pragmatism ... is a preferable alternative to viewing place through the sophisticated but nonetheless prescriptive schemas offered by Watts, Massey, Harvey and others”. His critique offers some support for my preference for ecological place, which maintains an allegiance to geographically bounded place and tackles neocolonialism head on.

Arturo Escobar’s (2001) version of place-based resistance is characterized by its insistence that geographic place still matters. Its intellectual currency comes from political ecology, bioregionalism, phenomenology, and the praxis of transnational social movements. Escobar describes this project of place-based resistance as “the defense of the constructions of place” (2001, 139). He claims that the resistance mounted from place-based communities is a response to the Eurocentric privileging of space over many contemporary cultures’ privileging of place. In interpreting anthropologist Michael Jackson, Escobar (2001, 150) goes so far as to propose that “the discursive suppression that accompanies globocentric

and logocentric frameworks amounts to political oppression". In part, what Escobar maps is a conceptualization of place that challenges the conflation of globalization with modernity.

Escobar (2001) works with the same complex raw theoretical material as the cosmopolitan place advocates but offers a novel mix of interpretations. He reframes the concepts of "network" and "glocality," what he calls "supra-place effects of place-based politics" (142), in service of his conception of place. He retains an "anti-essentialist notion of place" that remains open and porous (143). He envisions localities acting in concert on the global stage and imagines networks as "regions of places" (144),³¹ "manifold place-based practices," and a "multiplicity of place-based cultures" (142). These formations are compatible with Miller's (2002) imagined social movement formations that are capable of maintaining solidarity across space and with bioregionalists' conceptions of "constellations of places" in a "cosmopolitan bioregionalism" (McGinnis 1999). Escobar's image of a theoretical platform that privileges geographic place over global space also corresponds to bioregionalist theorizations of the fusion of science and place-based knowledge (Goldstein 1999); Haraway's (1991) situated knowledges; and social movement theory's challenge "not to find a grand unifying basis for mobilization, but an appeal to multiple articulating scale and place differentiated collectivities" (Miller 2002, 12).

Phenomenological inquiry also supports the ecological conception of place.

Phenomenology asserts that we understand the world first of all through direct embodied experience. We then venture out into the world through our direct sensory experience and finally move into conceptualization of the world beyond our senses. David Harvey (1996) argues that we are inevitably immersed in place, which has ontological priority over space. Miller's exploration of transnational social movements asserts the importance of the experiential realm in that "transnational social movements that hope to mobilize support beyond a core of committed activists must reach potential supporters by appealing to the experiences, identities and meanings that have shaped their lives" (2002, 19).

³¹ This image is drawn from Casey (1996), whom Escobar uses to suggest a place-based reading of networks in contrast to Castells' spaces of flows.

Key Concept: Scale

Until quite recently, scale has been more or less taken for granted as an unproblematic, static concept and tool of geographic analysis (Miller 2000). Over the past ten years, social scientists have been exposed to a concerted examination of the concept from geographers such as Smith (1984), Massey (1994), Harvey (1996), Cox (1998), Swyngedouw (2001), Lake (2002), and Miller (2002). The examination of scale parallels the challenge to nature mounted by geographers who posit the social creation of nature. Geographers have also begun to tease out the social construction of scale. As Harvey (1996) first emphasized, scale is a dialectic process manifest by variably stable configurations over time. At any point in time, particular scales adhere. Geographic analysis has demonstrated that any particular scalar configuration is neither “natural,” static, nor immutable. Scale is a process among a family of complex processes, including place, space, time, and nature, that are central to the field of geography. Scale, no less than other geographic phenomena, is constituted within a field of cultural, social, economic, and physical forces. The present interest in scale is in large part attributable to the efforts of radical geographers of the historical materialist tradition to map the contours of neoliberal globalization, and in particular to counter the claim of neoliberal globalization boosters that the scales that have been constructed – imposed – for their agenda are in no way natural.³² The scalar analysis of radical geographers also challenges the various manifestations of what Lake (2002) calls “the local trap” – communitarianism (e.g., Trainer 2000), bioregionalism (e.g., McGinnis 1999), and NIMBYitis. In this section, I discuss four aspects of scale that I consider particularly relevant to my research: scalar elasticity, scaling of geographical inquiry, space-time as a scalar concept, and scalar implications for sustainable development and sustainability.

Scalar Elasticity

In a recent volume, Herod and Wright draw upon Bruno Latour’s (2001, 11) actor network theory to caution that in all the talk of scale jumping, we must not essentialize scale as

³² An excellent exposé of the fallacy of naturalness in the current scalar order focusing in Canada is Linda McQuaig’s *The Cult of Impotence* (1996).

“already existing spatial resolutions ... between which, and among which, social actors simply relocate themselves”. Instead they invite readers to ponder Latour’s image of the world as being “networked together, as being “fibrous, thread-like, wiry, stringy, ropy, capillary”” (8). In this image, “social actors do not ‘jump’ from one scale to another but, rather, they actually constitute scale through their social praxis” (11). An example of the constitution of scale might be the project of bioregionalists to create and legitimize bioregional scales from the local to the global.

While I am sympathetic to the social construction of scale, I also want to leave open for debate the potential rigidities and malleabilities of scale. I want to put on the table the question of whether there are, in any given time and space, “natural” scales. The bioregionalists cited above would argue for such a distinction. I also would like to leave open the question of whether an extreme social constructivist argument might be insensitive to more “rigid” scales that we would be wise to recognize and work with rather than boisterously ignoring as we pursue the human enterprise. As an additional complexity to the question, I would agree to the notion of social construction of scale only if the definition of “social” included the rest of nature. In this sense, if the rest of nature felt strongly about a particular set of scalar relationships, humans had best be listening. As Sarah Whatmore (2002) warns, “the world kicks back” (5, quoting Barad), and “ ‘things’ can object to their social enrolment” (5, quoting Latour).

I suggested at the beginning of this section that the conceptualization of scale parallels the conceptualization of nature. I suggest that although nature and scale are in large measure social constructions and highly malleable to our interventions, there are likely ecological, physical, and processual rigidities in the universe.³³ I hypothesize that there are, at any given time, “natural” ecological, economic, technological, cultural, inter-subjective, and physiological scales, each with their own range of stability over space and time. Furthermore, I speculate that parameters that might define these scalar stabilities are

³³ Life might be more interesting and far less traumatic if we identified these rigidities and sought to live within their generous confines.

metabolism; malleability; and fields of influence, care, empathy, cognition, and concern. I take this issue up in more detail in chapter 10.

The Scale of My Geographical Inquiry

A comprehensive treatment of my research question obliges me to address multiple scales over time, space, and culture (or space-time, as I elaborate below) that affect community sustainability. At the same time, I am necessarily situated in time, space, and culture, so I must choose a vantage point from which to stand, observe, and participate. Figure 6.1 illustrates my vantage point for the purposes of this research.

In terms of time, practical human action can take place within the space of a few seconds. Typically humans plan for the next day, week, month, or year. Governments typically plan in four- or five-year cycles. Increasingly sustainability issues call for a generational or multi-generational perspective. Civilizations exist over centuries or millennia. The human species is considered in timeframes of hundreds of thousands of years; our planet and the emergence of life is a process that spans billions of years. Given the mysteries and unknowns of life as it unfolds, it seems realistic to focus on a generational time-scale for this research – a twenty-year planning period informed by the “seventh generation” ethic.

Turning from time to space, humans occupy many concentric spaces, and much of our effort focuses on maintaining our own personal space. The notion of place is felt most acutely in spaces of home, neighbourhood, community, city, or region. Although the modern world gives primary importance to nations and sub-national units (provinces, for example) the modern focus is increasingly global. Our place in relation to the cosmos is of concern in the arenas of science and spirituality. While local perspectives are of paramount importance in understanding the quality of people’s daily lives, global perspectives allow an examination of the impact of our way of life on other communities and on global ecological systems. This research focuses attention at the scale where

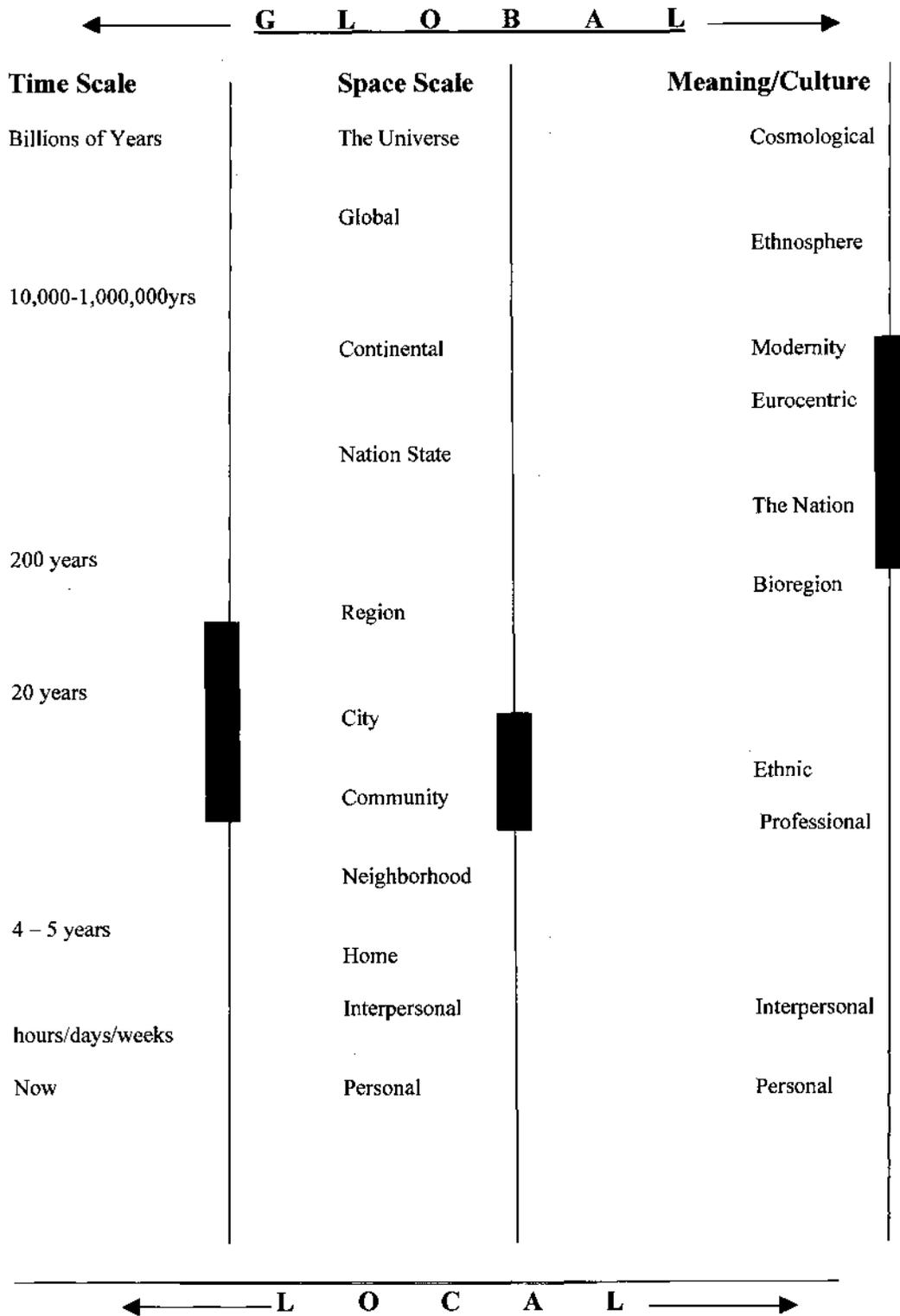


Figure 6-1: The Research Position in Space, Time and Culture

people can “make a difference” and feel a “sense of belonging, community, place or purpose.” In my estimation, this is the community-city scale.

What I call the cultural or meaning scale is perhaps the most novel. In the most radical postmodern sense, meaning-making is a personal endeavour; intersubjective meaning-making is something we do unconsciously on a daily basis. Although most of us participate in “cultures” oriented by ethnic allegiance or even professional allegiance, regional and national cultures are also central to our daily lives. Indeed, the national culture has been the preoccupation for sociology for most of the past one hundred years (Featherstone 1990). In the larger sphere, although the world is dominated by modernism and its inherent beliefs vis-à-vis progress, science, and technology, human culture encompasses much more than modernism. Traditional or indigenous cultures, for example, exist to greater or lesser degrees in communities throughout the earth. These cultures, along with philosophies such as deep ecology, expand culture to include the other animals as well. While most sustainability work focuses exclusively on the professional and modernist spheres, this research focuses on the regional-national/modernist cultural scale. However, addressing the sustainability challenge will also require significant effort to gain some perspective beyond our own Eurocentric, modernist, anthropocentric vantage point. I do not want to ignore what the experience and knowledge of diverse human communities – what anthropologist Wade Davis calls the ethnosphere – have to offer to the challenge of living sustainably on this planet.³⁴ It seems to me that it is ethically unjustifiable to ignore the still-present first cultures of this place we call Calgary.

The Scales of Time and Space

Speculatively, I situate culture in space-time. In doing so, I refer to recent essays by Edward Casey and Doreen Massey. As discussed in the previous section on place, Casey puts forward a relational notion of culture and place as a nexus or bringing together. He argues that “places gather bodies in their midst in deeply enculturated ways” (2001, 46) and

³⁴ An eloquent call to protect, celebrate, and learn from the cultural diversity, ways of knowing, and world views represented in the ethnosphere is a common thread throughout most of Wade Davis's work. This perspective is epitomized in his 2001 publication “Light at the Edge of The World.”

that “[p]laces also gather experiences and histories, even languages and thoughts” (24): a place, in other words, is “more an event than a thing” (26). This is consistent, I believe, with a view of culture and place as manifestations of space-time.

In a recent article, Doreen Massey (1999) takes on the task of finding common ground between physical and human geographers, positing that such common ground could be found in the notion of space-time. Her argument revolves around human geography’s ever more complex conceptualizations of space, place, and nature, and around the move by some physical geographers to historicize physical geography. In her essay, she draws together the arguments of phenomenological philosopher Henri Bergson and chemist Ilya Prigogine. Whereas most conventional science has been based on the discovery of universal fixed properties of nature that would make the world predictable, Prigogine (1997, 72) expresses an alternative view present in modern science that “[t]he results of non-equilibrium thermodynamics are close to the views expressed by Bergson and Whitehead. Nature is indeed related to the creation of unpredictable novelty, where the possible is richer than the real”. This is a widely held view within the field of complexity theory, where the same argument is posited from the vantage point of the biological sciences. Massey herself combines Bergson’s idea of indeterminism with the social sciences, stating that indeterminism “stands precisely for creativity and the possibility of ‘free will’ and, in more recent parlance, politics” (1999, 274). Massey concludes that in this new vision, both space and time can be conceived as part of a “becoming” rather than space being relegated to a static existence, as is usually the case. In her words, “the real result of this argument is that time needs space to get itself going, time and space are born together” (274). Or, as Casey might argue, time and space are born with place. Interestingly, Massey uses her new conception of space-time to argue against the modernist notion of progress in the general case in much the same way as I have argued in chapter three against Habermas’s developmentalist anthropology in the particular case. This understanding of space-time supports the general claim of this research that place (and in Casey’s arguments, landscape) is a rich, holistic manifestation of the human experience.

Scale and Sustainability

Sustainable development advocates have perhaps been guilty of naturalizing scale, particularly in the deployment of contestable ecological concepts to posit a scalar fix to problems of sustainability (Zimmerer 1984). Scalar theory challenges sustainable development advocates to think through issues of scale more clearly. Questions such as, are there natural human or ecological scales?³⁵ require more theoretical consideration through the synthesis of ecological, social constructionist, and phenomenological accounts of the human-nature relationship.

For the most part, efforts to operationalize sustainable development have been restricted to the confines of the conventional political scales. More sophisticated and adventurous scalar explorations and analyses might aid our understanding of the dynamics of sustainability. Two key variables in this dynamic are the interplay of stability and transformation. I would speculate that scale-shifting strategies – for example, from nation-state to bioregion as the locus of political community formation – may hold some promise for catalyzing a transformation toward sustainability. A more sophisticated understanding of the scalar dynamics of sustainable development would follow from a consideration of such geographical concepts as uneven development (Smith 1984), time-space compression (Harvey 1989), and geometries of power (Massey 1994). These concepts provide powerful tools for analyzing capitalism, the dominant economic system of our time. I believe that without access to such tools, efforts to achieve sustainability are handicapped severely.

Sustainable development is usually conceptualized in its social, ecological, and economic dimensions. A scalar analysis can improve understanding of the variable configurations, rigidities, and malleabilities in each of these dimensions. Each dimension manifests a unique web of relationships. The totality of all the webs of relationships, although constituted at different scales, itself constitutes a web of relationship. Transformation over time in each dimension creates variable tensile and compressive forces that help define the stability of the totality. Exploring how far these webs can be stretched before they break is

a vital area of inquiry for sustainability research. I suggest that sustainability would be enhanced by a scalar harmonization of social, ecological, and economic processes. Furthermore, a more sophisticated analysis of the “harmonics of scale” might include a greater number of scalar dimensions, including, for example, physiology, technology, and politics.

Key Concept: Nature

“Nonhuman nature is the outward and visible expression of the mystery which confronts us when we look into the depths of our own being.” (D. H. Lawrence, *Collected Stories*)

On weekend visits to my grandmother in a small Newfoundland outpost, my first activity upon arrival, even before going inside, was to go to the cove and watch the ocean, rain or shine. This was the first manifestation of my quest to understand where I was and why I was here, and of my wonder, enchantment, and awe toward the natural world around me. My current phase of exploration (research) is at least twenty years in the making – from pondering the possibility during my time as an engineering student of creating the one equation that would describe and predict everything to discovering the environmental philosophy of John Livingston and Neil Evernden, and delving into the weird and wonderful worlds of complexity theory, autopoiesis, poststructuralist imaginings of nature, and the imbrolios of actor network theory.

The dual meaning of “human nature” and “nature as the other” betrays our ambivalence toward the concept of nature. My intention in this section is to establish points of inquiry from which to address how the conceptualization of the human–nature relationship affects urban sustainability initiatives. I first discuss some largely complementary understandings of the human relationship to the rest of nature. My sample will include cosmological, indigenous, eco-philosophical, phenomenological, human ecological, anthropological, post-structural, and historical materialist conceptions of the nature–human relationship. These understandings support my position that nature is intimately entwined with the social world and should be afforded recognition in its own right – in fact, that a dualistic conception of

³⁵ An interesting use of language in this respect is the term “flexible accumulation.” The flexibility sought in

nature and society is a detrimental fiction. Finally, I point to some of the ethical implications of these various positions.

Cosmological Understandings

It would be quite legitimate to begin at the local-present and expand the context of human–nature relationships through time and space. I prefer to begin from the other direction, with cosmological narratives. As Peterson (2001) asserts, this naturally leads us into theological, spiritual, or religious views on the subject. In *The Universe Story* (1992), Thomas Berry and Brian Swimme’s project is to begin a new story, a modern creation story congruent with a wide array of current thought in the humanities, social theory, and the nature sciences.³⁶ For Berry and Swimme, “eventually there is only one story; the story of the universe. Every form of being is integral with this comprehensive story. Nothing is itself without everything else” (268). This story tells of the emergence of a universal intelligence through a seamless autopoietic evolutionary process.³⁷ The intelligence resides in a unified and differentiated universe that includes humans and all the diversity of life, and that is a “single, multiform, sequential, celebratory event in which “we belong and share in its spectacular self-expression” (264).³⁸ Berry and Swimme believe that without an “entrancement” toward the world that “comes from the immediate communion of the human with the natural world, a capacity to appreciate the ultimate subjectivity and spontaneities within every form of natural being ... it is unlikely that the human community

this phrase might limber up the circuits of capital while at the same time breaking the backs of workers.

³⁶ Berry and Swimme provide an extensive bibliography organized around the thirteen chapters of their story: Primordial Flaring Forth, Galaxies, Supernovas, Sun, Living Earth, Eukaryotes, Plants and Animals, Human Emergence, Neolithic Village, Classical Civilizations, Rise of Nations, The Modern Revelation, and The Ecozoic Era.

³⁷ This concept is most thoroughly explored in *The Tree of Knowledge: The Biological Roots of Human Understanding* by evolutionary biologists Maturana and Varela (1987). See “Key Concept: Complexity” for a more detailed treatment of autopoiesis.

³⁸ The language used by Berry is very evocative. Others use this same type of evocative language. For example, both Maturana and Varela in the *Tree of Knowledge* and Mathew Fox in *Creativity: Where The Divine and Human Meet* (2002) use the term “love” to describe the creative life-giving energy of the unfolding universe.

will have the psychic energy needed for the renewal of the Earth” (268).³⁹ While we must be cautious of any grand narratives, *The Universe Story* does highlight the appeal of the narrative and of a phenomenological and relational stance to the world – ideas we will return to later in this section.

Human Ecology

Paul Shepard has constructed a unique human ecological and evolutionary perspective on the human–nature relationship. Shepard claims that “evolutionary thinking gives me relatedness, continuity with the past, common ground with other life, a kind of celebration of diversity” (1996, 7). His philosophy derives from a self-professed biophilic relationship to nature,⁴⁰ and his vocation has been to demonstrate how animals (the Others) made us human. “Our species,” he writes, “... emerged in watching the Others, participating in their world by eating and being eaten by them, suffering them as parasites, wearing their feathers and skins, making tools of their bones and antlers, and communicating their significance by dancing, sculpting, performing, imagining, narrating and thinking them” (11).⁴¹ He identifies the Pleistocene era as a pivotal epoch when the essential features of human bodies and consciousness developed as we moved out of the forests onto the grasslands and became omnivorous. Shepard makes the case that our spatial abilities, our capacity for abstract thought, and our identities all came about in large measure as a result of our interrelationship with the others. He refers to this as “the ecological doorway to symbolic thought” (15). In a phrase reminiscent of the dialectics of Freire and Harvey, Shepard claims that “the mind emerges from encounters that matter” (41), arguing that the signs left by animals became signs in our language, transportable and communicable to others who had not seen the animal. Evoking an image similar to that of cultural evolution (see Massey

³⁹ The notion of an original psychic universe comes from Pierre Teilhard de Chardin’s *The Phenomenon of Man* (1959).

⁴⁰ The term “biophilia,” defined as “the inherent human affinity for life and lifelike processes,” was coined by E. O. Wilson in *Biophilia: The Human Bond with Other Species* (Kellert 1997, 1).

⁴¹ Ethnobotanist Wade Davis’s writing evokes the complexity of the relationship with the Others of the plant world. In *Light at the Edge of the World*, Davis writes, “To understand the role of the shaman, and to know anything of his genius in using plants, one must be prepared to accept the possibility that when he tells of moving into realms of the spirit, he is not speaking in metaphor” (2001, 69). “They say they learn in visions, that plants speak to them” (75).

1995), Shepard notes that “the human mind depends on a brain composed of the layers of an evolutionary past” (79), and thus “my identity is not simply human as opposed to animal. It is a series of nested categories” (85). He urges that our cultural evolution must be bounded in significant ways by these beginnings: “Earth history places us among the animals as one of them, in food chains and other symbioses which we do not invent, but inherit, and which set our limitations among the Others” (318).

Indigenous Ways of Knowing Nature

In *Person and Nature in Native American World Views* (2001), Anna Peterson surveys an extensive literature and identifies three common traits that make Native American world views different from European world views.⁴² 1) Native Americans “saw a world peopled by other than human persons” (119). For these cultures, kinship with non-humans is the norm. They share traits with animals, they recognize similar origins, and they accept others as part of the social domain. 2) “Amerindians’ view of their world was fundamentally relational.... The continuous, extensive and varied social interactions among humans and between humans and non-humans help define, even constitute, all parties involved” (120). 3) For indigenous people, knowledge is thoroughly grounded in experience of place, not in abstract rational thought. This knowledge is maintained through presence in place and maintained interaction with others.⁴³ For the Navajo, mountains are persons and kin. Thus, “Indian people created religious geographies in which specific sites were inhabited by sacred powers and persons” (123).

Social Construction of Nature

Geography has recently generated a great deal of interest in the social construction of nature. William Cronon (1996) caused a stir, challenging wilderness preservationists by

⁴² Peterson makes an interesting clarification to her discussion. She holds that we should imagine “native” as a cultural, not an ethnic descriptor, defining as native those groups with an attachment to geographic place. Peterson explores this issue in depth in two particular Native American cultures. Drawing on a diversity of material she explores the Navajo conceptions of person and nature. Relying mostly on Richard Nelson’s *Make Prayers To The Raven* (1983), Peterson explores the Koyukon world view.

⁴³ There are intimations of Heidegger’s thought in the idea of presence in place. David Abrams (1997) explores these ideas in *The Spell of the Sensuous*.

pointing to their neglect of the social construction of our concept of wilderness. The political ecology literature contributes to this analysis, using Foucauldian post-structuralism and postmodern feminism to argue that humans have already altered most of nature (Escobar 1996; Haraway 1985). Neo-Marxist analysis has detailed how capitalism produces “second nature” to conform to its own logic (Smith 1984; Watts 1996). For the purpose of clarifying Marxist theorizing, Noel Castree (2003b) has proposed a typology of nature and its commodifications employed by Marxist geographers. He finds that, except for Neil Smith, most of their literature maintains the nature-society dualism. Carolyn Merchant (1990) has chronicled the historical evolution of the social construction of nature through the Enlightenment, Renaissance, and modern eras with particular attention to its collusion with the oppression of women. In *Social Nature: Theory, Practice and Politics* (2001), Castree argues that post-structuralism has given us the conceptual tools to realize that no conception of nature is human-value free. While stopping short of the extreme post-structuralists, who propose that nature is nothing but what humans make it, he does adhere to the idea that we can never know existing nature except through our positioned conceptual filters. Castree challenges the notion that nature can be known “in itself” or that there are intrinsic laws in nature that can govern ethical behaviour.

Phenomenological Nature

In *The Social Creation of Nature* (1992), Neil Evernden describes how the Greeks found a word for nature and it came to be. But it remained for Descartes to describe a vital reasoning mind detached from the body, after which domination over nature and “the removal of kinship” with nature came to pass (89). Evernden makes the case that phenomenological inquiry is a way out of the impasse of dualism created by the Renaissance and the Enlightenment. Evernden argues that unlike socially constructed nature, where a thing does not exist unless we name it, in phenomenological nature the thing exists only if we do not name it. Phenomenological inquiry seeks to allow us to experience the world as it is. Critics of extreme variants of social constructionism argue that ordering our world through the manipulation of concepts with the assumption of mind-body dualism leads us to a dead end where reality is only in our heads and reasons to act to save anything are hard to come by. Phenomenologists argue that there are options other

than constructing best guesses to approximate an inanimate reality that we can never really know. The phenomenological experience seeks to be pre-knowledge, pre-conceptual, before we objectify and make order out of our experience. According to Evernden, if we endeavour to abandon, or more precisely, set aside the culturally constructed object-concept-based natural attitude and “return to things themselves to observe them before they were ‘nature’, that is, before they were captured and explained,” even periodically, we can experience the world, and nature, as it is, and we can experience ourselves as an integral part of it (110).⁴⁴ To understand how we achieve this integral experience, Merleau-Ponty (1962) imagines “intersubjectivity,” a sensual relation with the rest of the world whereby reality creation is a co-operative venture, and “embodiment,” the idea that all experience is embodied, or mediated by our bodily senses. Evernden describes the sensuous experience associated with phenomenology as an abandonment and openness to perception, a truly radical empiricism, where, as Jung wrote, “the object is neither cognized abstractly nor empathized, but exerts an effect by its very nature and existence” (114). For Evernden, wildness is related to this sensuous experience and naming projects control onto a being, objectifies it, denies it sensuality, and is the first step to domestication, wherein wildness ends. The phenomenological encounter is then an encounter with wildness.⁴⁵

Hybrids, Actor Networks, and Relational Thinking

Castree notes that “geography has been generally unwilling to think about nature ‘in itself’ . In a cognitive and political sense, the ‘otherness’ of the non-human has barely featured in the research of contemporary geographers.” While there is concern for the fate of nature, it is afforded little if any agency (2003b, 207). For the most part, the social-construction-of-nature adherents, as well as the eco-centrists, maintain a dualistic notion of nature and society. Castree does, however, recognize an emerging discussion that attempts to

⁴⁴ In *Justice, Nature and the Geography of Difference* (1996), David Harvey alludes to this experienced processual world when he writes that “process, flux, and flow should be given a certain ontological priority in understanding the world” (8).

⁴⁵ For Evernden, this is the significance of Thoreau’s statement, “In wildness is the preservation of the world.” William Cronon (1996) seems to have missed the subtle difference between wildness and wilderness (an already domesticated, named entity). In a completely different sense, Thoreau’s statement is also a challenge

overcome this dualism, even suggesting that we retire the concept of nature. This discussion imagines hybrids, actor networks, and a relational way of thinking.

The critique of the fictional separation of nature and society is given force by the proliferation of hybrid forms of being via bio-technology, cross-species transplantation, artificial limbs and organs, and so on, with Haraway being the most recognized theorist of hybridization. Haraway's ideas of hybridity are taken up by perhaps the most well-known advocate of the non-dualist perspective, philosopher and anthropologist Bruno Latour. Latour is critical of the dualism that he says is still to be found in modernism, postmodernism, phenomenology, and Marxism. He finds that each of these maintains the "modernist" fiction of the ontological separation of nature and society (2002). He proposes the concept of actor network to illuminate the profound relational nature of the world and the impossibility of a pure representation of single actors. Actors in an actor network can be human, non-human, and, most controversially, non-living entities. Latour uses the term "imbroglio" to describe the relations among these network actors. He is sympathetic to indigenous cultures' relational cosmology, which he says does not recognize a category of nature as something separate from society, asserting that we need a dialogue among all actors in order to create an enduring politics and ethics. The form of the dialogue is discussed in a later work (Latour 1999). Sarah Whatmore, inspired by Bruno Latour's actor network theory and Haraway's cyborgs, critiques what she interprets as the dualism clinging to the radical proposals from eco-centrists, bioregionalists, and deep ecologists, and in its place, she also champions relational thinking.⁴⁶

The Ethics of It All

All of this theorizing about the status of nature has been grist for the ethics mill. James Proctor (2001) proposes a détente between constructionists and realists who see value in nature and feel an ethical imperative to protect it. He invites both sides to "live in tension"

to the idea that "wilderness can be saved," an issue taken up by John Livingston in *The Fallacy of Wilderness Conservation* (1981) and *The Rogue Primate* (1994).

⁴⁶ The dualism Whatmore refers to has to do with the penchant for bioregionalists and deep ecologists to separate, seek to preserve untouched and privilege nature.

with the paradox, to be resolved, not in theory or concept, but in practice, suggesting an application of Habermas's ideal speech situation as an ethical framework for resolving the paradox. In a similar vein, in searching for a way to invoke the ethic of social justice, Piers Blaikie (2001) claims that "weak constructivism" could allow the partial positionalities of multiple actors to be heard on issues pertaining to nature. Blaikie asks us to consider "that different truths about nature may be mutually and democratically constructed", that "these truths can be acknowledged to be provisional and political, and that contending social constructions of nature can be negotiated in a playing field" that approaches evenness (146). This approach could incorporate different knowledge systems and resolve the problem of including nature in the conversation. However, Habermas's insistence that rational beings capable of communication participate in the dialogue presents a potential stumbling block to what might well be an insistence of some that nature have a seat at the table. We can test the limits to this solution by imagining indigenous people at the table. Indigenous people are rational beings. They could also conceivably bring nature to the table if, as Peterson (2001) asserts, they are kin to and able to converse with nature. So the problem of the inclusion of nature could be resolved if the knowledge system of indigenous peoples were respected for what it is and not subject to approval by the knowledge of reason. With the *détente*, we seem to have a solution with at least a reasonable chance of mediating the competing claims of social constructionists and realists – one capable of including radically different views, such as Native world views, and of providing non-humans with political standing "in themselves." However, Peterson's discussion of Native and feminist world views points to the fact that both realists and constructionists maintain the problematic duality of humans and nature. Shepard (1996) and Berry and Swimme (1992) all imagine a non-dualistic universe. So, what do phenomenologists have to say about the ethical question?

Evernden (1992) appeals to Heidegger's concept of the "field of care," whereby we regard ourselves as a field of care rather than a discreet visual object. Evernden suggests that we replace Descartes's "I think, therefore I am," with "I care, therefore I am." Caring involves

attending to our multi-sensory experience rather than to vision alone.⁴⁷ According to Peterson (2001), feminist writers have taken up this notion. An ethics of care “accounts for humans as social, connected and relational beings” and “focuses on an experience of and relationship with, nature in the place of the abstractions, universals, and disconnects associated with traditional (masculine) ethics” (Plumwood 1993, 288).

What about the non-dualists? In light of what Castree calls postdualist, postanalytical, and relational theorizing, “Whatmore, Thrift, Hinchcliffe and others [argue] that we need to abandon the traditional idea that political rights, entitlements and deserts only apply to people; confront the very real problem of defining political subjects in a world where the boundaries between humans and non-humans are hard to discern; and expand political reasoning to include non-humans, yet without resorting to the idea that the latter exist ‘in themselves’” (2003c, 207). Taking a cue from Heidegger’s notion of dwelling in the world, Thrift and Hinchcliffe have “advocated a ‘non-representational’ focus on ‘dwelling’ ... [or] ‘inhabitation’” (207). Taken together, the non-dualist and nature-in-itself perspectives suggest a contingent rather than universal ethics in a world where “the relationally constituted, and situationally variable, members of any ethical constituency cannot be ontologically fixed once and for all” (10).

Key Concept: Transformational Learning

The process of change is central to a transformation to sustainability. In this section, I hope to establish transformational cultural learning as a theoretical and practical key to Sustainable Calgary’s strategy for change through education. For each individual, the objective of learning may simply be improved technique, learning to replicate current social, cultural, and economic norms, or it may be the transformation of those norms. I argue that the transition to sustainability requires a process of transformational learning more than mastery of technique. In comparing liberatory education and transformational learning, I discuss the legacy of Paulo Freire in some detail, including key contributors to

⁴⁷ Evernden discusses the idea of territoriality to expand this concept of field of care. One can imagine an individual’s field beyond the visually conceived body if one thinks of what our sense of smell alone would provide as an image of another being we are in the presence of.

his work. While most of the transformational learning literature addresses formal education, my interest is to advance transformational cultural learning from within social movements. Thus, I include in this section one of the most animated current debates – the debate about transformational education and social movements – drawing on recent theoretical work across a radical pluralist to socialist spectrum of the transformational learning literature. Finally, I identify what I regard as the ontological foundations of transformational cultural learning, key contributions to principles of transformational cultural learning, and points of engagement for advancing transformational cultural learning in the Calgary context.

Transformational Learning's Theoretical Landscape

The transformational learning literature has been inspired and informed by Marxian and neo-Marxian Frankfurt School metasocial theory. Antonio Gramsci and Jürgen Habermas are the two dominant figures, with the writing of Eric Fromm also exerting some influence. Without doing too much damage to the transformational learning landscape, it is useful to arrange the theory and practice of transformational learning according to two main currents: the Marx/Gramsci/Freire current (liberatory education) and the Habermas/Mezirow current (transformational learning). While recognizing that many theorists have filled out, rearranged, critiqued, and advanced transformational learning over the past quarter century and that the boundaries of these categories are artificial and permeable, I believe that these two currents of practice are the foundation for theoretical debate and practice. The most important contrasts between liberatory education and transformational learning is the emphasis placed on reflection versus action and on collective learning versus autonomous learning, and the amount of attention to relations of power. An action orientation toward the goal of social transformation and a theorizing of power relations is more integral to the Freirian current. The Mezirow current is more reflective and oriented toward personal transformation. The temperament of both currents is curiously consistent with their respective Latin American and European roots.⁴⁸

⁴⁸ From this point forward I use the more general, and in North America, recognized and accepted term 'transformation' in my description and elaboration of Freire's version of transformational learning.

Paulo Freire has arguably been the most influential adult educator of the twentieth century. Even thirty years after the English-language publication of *Pedagogy of The Oppressed* (1996), he remains the touchstone for contemplation, theorizing, and action for liberatory education. Freire's prominence is a testament to the power of his achievements but also a sign that educators still struggle to interpret and adapt Freire's work in the First World context. Nevertheless, I believe the principles of liberatory education are relevant for application to Calgary and for how we move from sustainability indicators to action on sustainability.

Freire's work and influence have been truly international. Theorizing from the perspective of his literacy work in Brazil in the 1960s, Freire drew upon the work of Marx, Gramsci, and Eric Fromm in the mapping of his dialogic liberatory education. His model of transformational learning is a synthesis of Marxism and the liberation theology of the popular church in Latin America. Both Marxism and liberation theology were prominent features of Latin American liberation struggles from the 1960s through the 1980s. Paulo Freire was intimately connected with many of these struggles through his literacy work in Brazil, Chile, and, particularly, Nicaragua.⁴⁹ Freire recognized that education was a political activity that could be used for indoctrination or emancipation. The emancipatory goal of education was social transformation to a more just society. He described knowledge as the act of knowing and creating a world (Gadotti 1994). He popularized the concept of conscientization – learning to “perceive social, political and economic contradictions and to take action against the oppressive elements of reality” (Freire 1996, 17n). Conscientization is a dialectical process between the learner's consciousness of the world and actions based on that consciousness – the popularized action-reflection-action spiral of learning. Transformational learning presumes a subject who acts in the world rather than an object who is acted upon by the world. It is, then, a dialectical process of coming to consciousness (subjective transformation) through analysis of the contradictions of material reality and

⁴⁹ I am drawn to the work of Paulo Freire in large part because of my direct observation of the impact of his methods and philosophy in Nicaragua during three visits to the country, including a four-month period while working on my masters research.

acting to overcome oppression through the transformation of that material reality (objective transformation).

Freire was motivated by the desire to understand what it is to be human and to liberate the humanity of the oppressed, as well as the oppressors. In *Pedagogy of the Oppressed*, he writes, “I am more and more convinced that true revolutionaries must perceive the revolution, because of its creative and liberating nature, as an act of love” (1968, 70). Two of the most prolific critical pedagogists, Henry Giroux and Peter McLaren, take Freire as their inspiration; both are well known for their work interpreting Freire (Giroux 1988; McLaren and Lankshear 1994) and for their critical cultural studies (Giroux 1992; McLaren 1995). McLaren is among a growing number of writers who, in light of the ravages of neoliberal globalization, have been convinced to re-examine classic Marxist analysis, interpreting the lessons for liberatory education in the writing of Gramsci (Mayo 1999; Holst 2002), Marx (Allman 2002), and even Che Guevara (McLaren 2000). This new thread of inquiry is particularly concerned with liberatory education within social movements (Holst 2002; McLaren 2000). Three themes that I think define the liberatory current of transformational learning and are exemplified in the writing of Freire, Giroux, and McLaren are creativity, hope, and love. Freire himself believed these to be central to understanding what it is to be human and to the promise of liberation (McLaren 2000).

Freire cautions readers not to lose sight of the dialectic nature of the problem of liberation in that “the freedom of the rich resides in the non-liberty or the lack of freedom of the poor,” and thus “every attempt at liberation of the poor is seen by the rich as a restriction of their own freedom” (Evans et al. 1987, 219). Freire also elaborates on the difficulty for the non-poor to transcend their relative material comfort and overcome the hegemonic ideology imposed by those who wield power in society.⁵⁰ It is a temptation, he writes, “to understand freedom, liberation and transformation as strictly subjective. The dominant ideology needs that to continue ... [but] you need eventually to challenge the system” (Freire in Evans et al 1987, 231).

⁵⁰ Evans et al. draw upon the distinction between utopian versus hegemonic ideology as elaborated by Douglas Kellner (1978).

Jack Mezirow's theory of transformational learning is derived from an interpretation of Jürgen Habermas's theory of communicative action, including the concepts of the lifeworld; and instrumental and communicative rationality; and discourse. Like Freire, Mezirow is also motivated by a desire to understand what it is to be human: "A defining condition of being human is that we have to understand the meaning of our experience" (Mezirow 1997, 5). Mezirow's work leans heavily toward a personal cognitive theory of learning in support of social transformation. The goal of Mezirow's theory is the development of autonomous, socially responsible thinking in adults. Autonomous thinking allows adults to establish, elaborate, and transform "points of view" and even deeply embedded "habits of mind ... that define our lifeworld" (Mezirow 1994, 5).

Transformational learning occurs in objective and subjective realms and involves a reframing that establishes, elaborates, and transforms points of view or habits of mind. In Mezirow's theory, the concept of critical thinking, most notably associated with the work of Stephen Brookfield (1989), is integral to autonomous thinking. Like Mezirow, Michael Welton has also drawn heavily upon Habermas's concept of the lifeworld to theorize adult learning. His approach leans more toward the action pole of the learning and action continuum than does Mezirow's. For Welton, the goal of transformative learning is to assist adults to recognize the colonization of the lifeworld and to act to reassert communicative discourse as a political force (Welton 1995, 2001). He is critical of the isolationist student-centred learning that is rampant in adult and continuing education, and he calls for the re-engagement of adult education with the "vast school" of society, particularly with social movements.

Still another strand of transformational learning has emerged from the environmental movement. Proponents of this strand have in common a call to place our common existence with the rest of life at the centre of our pedagogies. They wish to extend the possibility for intersubjective communicative action within our lifeworlds to other lifeforms. Chet Bowers is critical of the project of modernization, not from a postmodern perspective but from an ecological perspective. Drawing upon the philosophy of ecologists such as Wendell Berry (2000), he charges that the critical pedagogists ignore the ecological grounding of our

social lives (Bowers 1996). David Orr (1991) goes a step further and calls for the explicit introduction of a spiritual dimension into ecological education, also drawing upon writers such as Wendell Berry and Thomas Berry (Berry and Swimme 1992). Approaches like those of Orr and Bowers require humans to find their place alongside other lifeforms within the family of living things. Edmund O'Sullivan, Bud Hall, and Darlene Clover all attempt to bring humans as part of the natural world into the picture through their work at the Ontario Institute for Studies in Education (O'Sullivan 1999). These authors all challenge the anthropocentric focus of liberatory education and transformational learning. As I have argued in the extension of Habermas's work, so too I contend here that the Freirean approach to transformational learning can be extended to include the rest of nature (Keough 1997).

Social Movements and Transformational Learning

Over the past decade there has been a dynamic evolution of thinking in the North American adult education literature. The initial exploration of Freire's work in a North American context engaged the critical theory of Jürgen Habermas (see, for example, Henry Giroux, (1983)) and took a postmodern turn in the 1990s to engage questions of difference and culture (see, for example, Henry Giroux, (1991)). Most recently, a questioning of the postmodern path, in light of what radical educators see as its ambivalence to the ravages of the "multi-scalar, multi-sited, and market driven globalization process" (Maclaren, cited in Holst 2002, xvi), has led to the re-emergence of traditional Marxist analysis (see, for example, Mayo 1999, McLaren 2000, and Allman 1994). Marxist analysis is evident, for example, in both the *Critical Studies in Education and Culture Series* edited by Henry Giroux and the *Global Perspectives on Adult Education and Training Series* edited by Budd Hall. Others continue applying the critical theory of Jürgen Habermas to the question of transformational education and social movements, exemplified in Michael Welton's *In Defense of the Life World* (1995). Both the Marxist and critical theoretical work is explicit in its criticism of the proliferation of inauthentic, method-focused adaptations of Freire's

original thesis,⁵¹ whereby “conscientization becomes coopted into the existing system and thus is unable to bring about major structural changes in society” (Zachariah 1987, 100). Foley recognizes the method-focused adaptations as the “instrumental and ‘soft humanist’ character of the received body of adult education theory” (1994, 132), a critique directed largely toward the trendy lifelong learning and continuing education corporate adaptation of a Freirian method. Allman cautions against inauthentic adaptations of Freire, declaring that “we cannot take hints from Freire or use bits of Freire; we must embrace the philosophy as an integral whole” (1997, page no.).

In *Social Movements, Civil Society, and Radical Adult Education* (2002),⁵² John Holst challenges radical adult educators to clarify the theoretical understanding of the relationship between transformative education, old and new social movements, civil society, the state, and capitalism. He approaches the subject by depicting a radical pluralist-to-socialist spectrum within radical adult education. On the radical pluralist side of the spectrum are those working in defense of the “lifeworld.” These educators seek, or are resigned to, an accommodation with the capitalist system. For radical pluralists, civil society – imagined as an autonomous realm between the state and the private sector, and roughly congruent with the lifeworld – must be strengthened against encroachment from the system.⁵³ They reject the central place of the old social movements (working class, labour unions, the proletariat) in favour of a diversity of new social movements (environment, feminist, gay and lesbian, people of colour, etc.). Holst singles out Michael Welton as representative of the radical pluralists, citing Welton’s statement that “critical adult educators have as their mandate the initiation of political learning processes [toward] a politics of inclusion, a politics of influence and a politics of reform” of the current capitalist system (Welton 1995, 155).

⁵¹ I have been able to find this type of critical assessment dating from Kidd and Kumar (1981), cited in *Revolution through Reform: A Comparison of Sarvodaya and Conscientization* (Zachariah 1986). Both Peter McLaren and Paula Allman are forceful on this point in their writing (for example, McLaren 2000 and Allman 1994).

⁵² The book is one of the *Critical Studies in Education and Culture* series.

⁵³ *Civil Society and Political Theory* by Cohen and Arato (1992) is generally recognized as an authoritative reference to this definition of civil society.

On the socialist end of the spectrum, where Holst situates himself, are those who still imagine their ultimate goal in terms of classical Marxism – wresting control of the state and means of production from capital. The socialist vision reserves the central role for social transformation for the working class, although depending on the individual theorists, there is room for coalition-building with the new social movements. Revisiting Antonio Gramsci's writing on the subject, Holst argues that radical pluralists misread the nature of civil society.⁵⁴ According to Holst, Gramsci theorized civil society as that part of the apparatus of the state charged with maintaining hegemony. The governance structure of the state (elected representatives, bureaucracy, judiciary, the military) is the coercive apparatus, and civil society (professional associations, religious organizations, educational institutions, etc.) is the ideological apparatus. State power is maintained jointly by the coercive state and the ideological apparatus. Holst then argues that it is fruitless to imagine, as he claims new social movements do, transformation through the activities of an independent civil society "while leaving the state apparatuses largely untouched" (2002, xxi). Following a reading of Gramsci, Holst argues that transformative educators should prepare social movements to unite as an historic bloc and go on the offensive to contest for political power, rather than simply defend the lifeworld.

At a more strategic level, Evans et al. (1987) ponder the question of how to translate Freire for social movements among the non-poor of North America. They identify two key characteristics of Freire's Latin America-based transformational learning model: "Marxist analysis of class difference" in the context of "literacy education." They recognize that these characteristics tend not to resonate with the North American reality. Marxist and class analysis are taboo in North America, and literacy rates are relatively high. Evans et al. identify sexism and racism, for example, as more culturally resonant in North America. They also see political literacy as more relevant, given the sophisticated hegemonic control of media and information in North America. However, in the post-Fordist era of globalization, the authors point out that in both Latin America and North America, economic decline is a common catalyst for transformational learning. In addition, they

⁵⁴The writing of Gramsci, particularly with respect to knowledge and ideology, has become a focal point of debate within radical adult education.

claim that in both geographic contexts, a common genesis of transformational learning in counter-cultural small group movements is occurring in an attempt to capitalize on what they call “free spaces” within the hegemonic ideological matrix.

Social Phenomenological and Historical Materialist Learning in Social Action

In *Learning in Social Action: A Contribution to Understanding Informal Education* (1999), Australian Griff Foley explores the lived experience of social movements as sites for emancipatory learning in case studies drawn from both the “majority world” and the “minority world.” He describes processes of emancipatory learning and action as complex, contradictory, ambiguous, and contested. For Foley, “some of the most interesting and significant learning occurs informally and incidentally, in people’s everyday lives. And some of the most powerful learning occurs as people struggle against oppression, as they struggle to make sense of what is happening to them and to work out ways of doing something about it” (1). Foley is interested in exploring the lived experience of the learning in the social action process. His chosen tools for the task are what he calls social phenomenology of the lived experience of struggle and the contradictory and complex learning that takes place there, and an historical materialist critique of the capitalist system. He observes that learning in social movements is often “incidental – tacit and embedded in action and often not recognized for what it is” (3). He believes that historical materialist critique and phenomenological inquiry – or theoretical distance and personal experience – can make explicit the learning that takes place in social movements. One variant of learning-in-social-movements emerged from a distinctively North American experience of social change. This is typified in Canada by the workers’ rights movement (recall the Winnipeg Strike) and the adult education and community development movement, of which Moses Coady and the Antigonish Movement are exemplars.

Ontological Foundations, Principles of Practice, and Points of Engagement

In the opening paragraphs of this section, I defined transformational learning as a dialectical process of coming to consciousness through analysis of the contradictions of material reality and acting to transform that material reality. I suggest that this definition

includes three essential ontological foundations of transformational learning: dialectical process, recognition of subjectivity or human agency in that process (consciousness), and social justice (the trajectory of human agency). Social justice, while acceptable in theory, is the most contentious foundation of transformational learning.⁵⁵

How does the material reviewed in this section help us with principles of transformational learning? The work of Holst and Welton is indicative of the range of theoretical debate with respect to the relationship between transformational learning and social movements. A key issue in this debate is the competing (or complementary?) strategies of reform of the capitalist system versus gaining control of and transforming the system. Foley's work, on the other hand, counsels against too much rarified theorizing among radical adult educators. He suggests that in order to advance social transformation, radical educators need to support learning-in-action of those engaged in social struggle through a critical reading of their own lived experience. Narrative and historical materialist analyses are two methods he recommends.

Evans et al. (1987) attempt to define a transformational education practice for the non-poor of North America from a vantage point within organized religion. They describe transformation as "a visible socio-political economic restructuring of relations" in society (page no.). The three criteria by which to judge success are sufficiency (redistribution of wealth), solidarity (repositioning oneself in relation to the oppressed), and emancipation (from the controlling ideology). Evans et al define individual, organizational, and societal components for each of these criteria. Evans identifies five elements of the dynamic of transformation: facing the problem, maintaining the restlessness, sustaining the vision, countering controlling ideology, and reinventing power. He goes on to identify six pedagogical components of transformation: encounter with the poor; experiential immersion; openness to vulnerability; community of support and accountability; vision and values; cycle of critical socio-economic analysis; commitment, involvement and leadership; and symbol, ritual and liturgy.

⁵⁵ I note this as the most contentious, not from a theoretical perspective but with respect to North American society, and particularly in the conservative political climate of Calgary.

In *Gramsci, Freire and Adult Education: Possibilities for Transformative Action* (1999), Peter Mayo derives a practical analytic for liberatory education design and practice. Mayo highlights three important dimensions of liberatory education: content, social relations, and sites of practice. With respect to content, liberatory education demystifies and critiques the dominant language and culture, politicizes what is taken for granted in the world of learners, and legitimates and critiques the learner's culture. Social relations, he argues, should be non-hierarchical and non-coercive. Sites of practice are the sites of material, social, and cultural production, including the place of work, school, civil society, community, and social movements. Mayo also identifies several characteristics of and strategies for liberatory education including the following: commit to the oppressed, build alliances, work in and against the system, contest taken-for-granted notions, model democratic social relations, and use inclusive methods and language. In chapter 9 I will define a set of principles of transformational learning adapted from the work of the writers and practitioners introduced in this section.

Key Concept: Complexity

Complexity has its roots in the natural sciences and is increasingly being explored by theorists in the social sciences. Complexity is a key concept for this research because it offers important insights to our understanding of natural and human systems. As I bring complexity theory into the conceptual mix, I want to be sensitive to what Massey (1999) has suggested is a compulsion of social scientists to justify themselves with reference to the hard sciences, especially physics. Consistent with "rich praxis," therefore, I bring these ideas into the conversation not as a final arbiter, but as another participant in the conversation – a challenge to and mutual support for the philosophical foundations and key concepts already discussed. In what follows, I briefly discuss the evolution of complexity theory, illustrate the diversity of disciplines and theorists who have contributed to its advance, identify what I consider to be its key characteristics, and outline how it supports the place-based, sustaining ecological community thesis I propose in chapter 10.

Complexity theory emerged through the evolution of systems theory. Ludwig von Bertalanffy first described systems theory in the 1940s (Capra 1996; von Bertalanffy 1968). Subsequently, Norbert Wiener outlined the basics of a related field he called cybernetics (1948),⁵⁶ John von Neumann developed the first cellular automata (Capra 1996), McCollough developed the first neural network models (1965), and Kenneth Boulding (1956) used systems theory to analyze path dependency in economics.⁵⁷ Systems theory developed within dynamic interdisciplinary projects at the Massachusetts Institute of Technology, the Institute for Advanced Studies at Princeton University, and the Society of General Systems Research founded by von Bertalanffy in 1954. Systems theory may have reached its apex with the publication of *The Limits to Growth* (Meadows et al., 1974), a book inspired by the work of well-known systems theorist Jay Forrester. System thinking is the nominal approach in much of the current sustainability work, particularly that which involves sustainability indicators (Atkisson 1999; Hallsmith 2003).

The key contemporary figures in complexity theory are wide-ranging. Mathematician John Holland was one of the first theorists to describe the concept of emergence and the idea of a “hidden order” in the workings of natural systems. Biologist Stuart Kauffman experimented with von Neumann’s ideas of simple cellular automata⁵⁸ in the mid-1960s, advanced the ideas of “order for free” and the “edge of chaos,” and is keenly interested in the origins of life and self-organization as an adjunct to the theory of natural selection. Brian Arthur advanced economic theory with his exploration of complexity. All three men were associated with the Santa Fe Institute, which became a home for the leading-edge complexity researchers. Humberto Maturana, a student of McCollough, and Francisco Varela, working independently in Chile in the 1960s, advanced the concept of autopoiesis. More recently, C. S. Holling, Gunderson, Folke, and colleagues in the Resilience Alliance have advanced a theory of complex adaptive systems in the field of socio-ecological

⁵⁶ Cybernetics was defined by Norbert Wiener as “[t]he science and control and communication in the animal and in the machine” (1947)

⁵⁷ A recommended early introduction to systems theory is Ross Ashby’s *Introduction to Systems Theory* (1957). This volume is available in full on-line at the Harvard Systems Theory Web site.

⁵⁸ Cellular automata – simplified mathematical models of spatial interactions, in which sites or cells on a landscape are assigned a particular state, which changes according to specific rules conditioned on the state of neighbouring cells.

systems research, formulating models and making practical resource management interventions based on the concepts of nested hierarchies, variable system change rates, and adaptive cycles. Zimmerer (2000) describes the implications of the “new ecology” on the disciplines of physical and human geography. More recently still, Alexander (2003) and Salingaros (1999) have extended the application of complexity science to architecture and urban design. Stacey (2001) and Adelman (2000) have taken complexity theory into the realm of human social relations, organizational behaviour, psychoanalysis, and political theory, opening up a discourse between social theory and complexity theory.

I contend that several orientational shifts have occurred as complexity theory has emerged out of and alongside systems theory. Both bodies of theory have advanced in a milieu of interdisciplinary research. Over time, there has been a distinct shift from the hard sciences (physics and chemistry) to the life sciences (biology, neuroscience, ecology) as research points of entry. From the Santa Fe Institute to the Resilience Alliance, researchers have moved from computer modeling and basic research to the empirical study of socio-ecological systems and the application to real-life problems of resource management and sustainability (Gunderson and Holling 2002). While systems theory was driven by a desire for control, complexity theory is driven at least in part by the desire to adapt. Systems theory focused on action based on prediction; complexity theory focuses on action based on the inherent indeterminacy of the world. Whereas systems theory evolved from an inquiry into how the world works, complexity theory has been inspired in equal measure by the question of why the world works the way it does. Systems theory has generally presumed the dominance of equilibrium system states, whereas complexity theory presumes non-equilibrium in living systems as the norm. Systems theory was concerned with the workings of an inanimate world; complexity theory is concerned with the meaning of life. Complexity also shifts the focus from object-oriented inquiry to relations-oriented inquiry. In other words, systems theory foregrounds objects and backgrounds relations, while complexity theory tends to foreground relations and background objects. In my observations, complexity theory mirrors to some extent the wider shift from modern to postmodern sensibilities and has much in common with a dialectical approach to understanding phenomena (more on this in chapter 9). My intention here is to introduce

several key inter-related concepts in complexity theory: emergence, order for free, edge of chaos, self-organization, autopoiesis, autonomous agent, indeterminacy, diversity, nested hierarchy, and resilience.

Emergence has been described as *the* key concept in complexity theory (Lewin 1999). Emergence describes how systems evolve together to produce new systems that exhibit entirely different properties, not reducible to the original components of the new system. Emergence challenges the reductionist scientific method of breaking down systems into their component parts in order to understand the whole. Instead, researchers are led to the study of whole systems in their natural environment. Kauffman has studied emergence in the origins of life, which he postulates are to be found in sufficiently diverse molecular “autocatalytic processes” where “self-reproducing chemical reaction networks emerge spontaneously” (2000, 16). The sugar molecule and the salt molecule are two simple examples of emergence in non-living systems. Consciousness might be described as the holy grail of emergence studies (Capra 2002).

Order for free describes (in a sense) why emergence happens. For Kauffman, complexity suggests that “woven into the very fabric of nature is a deep undeniable creative order” (quoted in Inayatullah 1994, 686). The concept of self-organization defines the process of order for free as being internal to living systems. Order for free is in distinct contrast to the previously presumed universality of the third law of thermodynamics: that in the absence of continual material and energy input, systems break down, or become entropic, and evolve toward their lowest most dispersed energy state. The third law presented a conundrum for many years as scientists tried to explain the fact that living systems do the opposite of the third law: they create order and complexity over time. Ilya Prigogine is credited with having opened the doors to this riddle by demonstrating that in open and far-from-equilibrium, non-linear physical systems (what he called dissipative structures), ordered patterns and structures do emerge (1996). Capra (2001) proposes that these dissipative processes provide evidence for a kind of proto-evolution. Order for free describes this pattern- and structure-making in living systems. According to Kauffman, living systems achieve order for free by locating themselves at the “edge of chaos,” a generative realm

between static, constrained matter and chaotic over-exuberance. Kauffman hypothesizes that the edge of chaos is a creative state that generates diversity, the raw material for transformation and evolution. “Persistent creativity” is how he characterizes the apparent attraction of this life process to the edge of chaos. I might describe this life process as the will of the universe to gather and create thick relations and material structures, or place.

In *The Tree of Knowledge* (1987), Maturana and Varela propose “that the mechanism that makes living beings autonomous systems is autopoiesis” (1987, 48). Autopoiesis is the process by which organizationally closed but materially and energetically open living systems display autonomy through reproduction (replication and transformation). The organization (i.e., internal relations) of an organism persists in the face of continual structural (i.e., material) change. Maturana and Varela mapped this process by studying cell, nervous system, immune system, and organism level biology. They describe the act of self-production as a cognitive act; as Capra has interpreted, “[T]he interaction of living organisms – plant, animal and human – with its environment are cognitive interactions” and “cognition is the very process of life” (2002, 34). Maturana and Varela begin with one of the most basic of self-producing unities, the cell, and describe the “interdependence between [metabolic process] and cellular structure [membrane]” (48). The cell is structurally a unique entity but shares the same metabolic process with all other cells. In descriptions that call to mind dialectical thinking, Maturana and Varela argue that “the being and the doing of autopoietic unity are inseparable” (49). They posit that knowledge is a unified creation of humans and their interaction with the environment, and that “there is no inside and outside” for living systems, including humans. In other words the human nervous system is “neither representational nor solipsistic” (169). They designate “structural coupling” as the mechanism by which humans, in communication with other living entities, “bring forth a world” (169). Highlighting the process nature of life, Maturana and Varela propose that “cognition does not concern objects, for cognition is effective action” (244). In a similar vein, Kauffman reflects that at the edge of chaos, “organisms must know their world” (2000, 232). Maturana and Varela’s theory has become known as the Santiago Theory of Cognition. Varela has extended his conception of cognition into neuro-phenomenology, applying direct experience, neurobiology, and non-

linear dynamics to the study of consciousness (1999). He posits that consciousness is an emergent property of the human organism brought on via resonant cell assemblies dispersed throughout the body's neural networks.

Not only are complex systems usually non-linear, but their paths are often indeterminate. As Ilya Prigogine writes in *The End of Certainty* (1996, 132), “[P]robability is no longer a state of mind due to our ignorance, but the result of the laws of nature.” As a living system interacts with its environment, simple, autopoetically induced changes can trigger change that is unpredictable. The most well-known example of this indeterminacy is the butterfly effect observed in the weather modeling research of Edward Lorenz, which led to the elaboration of chaos theory (Gleick 1987).⁵⁹ The point at which non-linearity can lead to indeterminate change is called “bifurcation.” At this point, there are fields of potential paths for any process. Kauffman calls this other side of bifurcation the “adjacent possible” or the “configuration space of possibilities.” As the process unfolds into the future, a system “commits to one of multiple potential paths based on minor changes in initial conditions”. In Kauffman’s assessment, the “persistent creativity” of living systems is a pursuit of novelty. What emerges from that pursuit is unknowable, and thus he postulates that “it is likely impossible to prestate the configuration space of possibilities” (2000, ix). In a review of the implications of complex system indeterminacy for anthropology, Scoones (Wynne in Scoones 1996, 77) suggests that complexity theory obliges us to entertain “the wider epistemic negotiability of reliable knowledge of nature” (1999, 495).

Complexity theory is underwritten by the concept of autonomous agents. According to Maturana and Varela (1987), autopoietic systems – systems capable of self-organized reproduction and evolutionary transformation – presume the existence of autonomous agents. Autonomy suggests the ability to “choose.” Exploring the Santiago Theory of Cognition, Capra explains that “a living system maintains the freedom to decide what to notice and what will disturb it” by the specification of its own structure and “cognitive

⁵⁹ Chaos is defined by Levin (1999) as complex dynamic behaviour characterized by lack of dominant periodicity and by great sensitivity to initial conditions. Chaos theory is generally considered a particular instance of the more general field of complexity theory.

domain” (2002, 36). Order for free, so complexity theory postulates, is achieved only when there are such “thinking” and “choosing” agents. In *Investigations*, Kauffman argues that an “autonomous agent exists, by definition, in non-equilibrium” (2000, 42.) Furthermore, the cognitive and communicative process among components of a living system occurs locally between those components in contact with each other. Without the communicative process made possible by autonomous agents, transformation of living systems does not occur. I call this process of communication and choice-making “dispersed intelligence.” In applying complexity theory to human systems, I interpret autonomy as freedom. Any constraint on the freedom of the autonomous agents (individuals) that make up a human system impinges on the ability of the system to self-organize and evolve.⁶⁰

Just as complex systems require, or are constituted by, autonomous agents, so too complex systems are thought to require, and exhibit a tendency toward, heterogeneity and diversity. Diversity and heterogeneity increase the creative potential of a living system. This is analogous to a carpenter attempting to build a house with only nails at her disposal: no wood, or re-bar, or glass – no house. So too a living system requires a diversity of components for its creative process. The widely accepted hypothesis of complexity theory is that living systems inherently seek diversification and that diversification begets diversification. Kauffman, reflecting on this impulse toward diversity, speculates on the possibility of a fourth law of thermodynamics: that “biospheres expand their own dimensionality” (2000, ix).

To take up the final complexity concept, nested hierarchy and holons, let me move from modeling and speculation on the origins of life to theory and practice in contemporary socio-ecological systems, resource management, and sustainability. C. S. Holling and colleagues describe nature as consisting of a nested hierarchy of holonic unities (2001). Each holon exhibits the characteristics of a living system. Nested sets of holons make up larger and larger ecosystems, all the way up to the planetary biosphere. Holling and colleagues theorize that dynamic change happens at the most basic of organizational units

⁶⁰ Such an interpretation calls to mind the work of Amartya Sen, as displayed in *Development As Freedom* (1999).

and diffuses into larger units of these nested hierarchies. There are no global control mechanisms: higher order systems take their cues from the lower order systems. The mechanism of change is coordinative rather than command and control. As Levin argues, “The biosphere is a complex adaptive system whose essential structure has emerged in large part from adaptive changes that were mediated at local levels rather than at the level of whole systems” (1999, 15). The work of Per Bak, examining periods of catastrophic extinctions in geologic time, is used to demonstrate and argue for such mechanisms of coordination in socio-ecological systems. Bak (Levin, 1999) theorizes that living systems tend toward what he calls self-organized criticality, at which point catastrophic breakdown and system reorganization occurs. Accepting this characteristic of living systems, Levin argues that the high levels of communication and low levels of structural coupling observed in nature could be interpreted as a strategy to contain self-organized criticality. Folke and colleagues describe these nested hierarchical systems as exhibiting a property of resilience. “Resilient systems,” they argue, “are forgiving of external shocks and surprises. They have the capacity to buffer perturbations, to renew and reorganize after change and to learn and adapt in a dynamic world” (2002, 3).

Folke et al. (2002, 3) underline that “natural and social systems behave in non-linear ways, exhibit[ing] marked thresholds in their dynamics[,] and that social-ecological systems act as strongly coupled, integrated systems”. The authors present their adaptive cycling model of eco-system behaviour, contending that all ecosystems go through a process of growth, decay, renewal, and regeneration, and that the structural changes ecosystems go through during these cycles are indeterminate. They warn that “natural-resource systems can be transformed by human action into less productive or otherwise less desirable [and highly irreversible] states with consequences for human livelihoods, vulnerability, security and conflicts” (3). On the basis of their understanding of ecosystem non-linearity, indeterminacy, nested hierarchy, locally generated coordination, and resilience, Holling and colleagues have formulated adaptive management intervention strategies in support of sustainable resource management. They argue that command and control management oriented toward optimal productive capacity erodes resilience, making socio-ecological systems vulnerable to shocks and perturbations. They propose that the preferred tool for

systems facing uncertainty is adaptive and dispersed management strategies oriented toward optimal adaptive (and I would add creative) capacity.

The Resilience Alliance researchers have been keen to apply their understanding of complex adaptive systems to social systems. Folke et al (2002, 23) counsel that “in social systems the existence of institutions and networks that learn and store knowledge and experience, create flexibility in problem solving and balance power among interest groups play an important role in adaptive capacity”. They suggest that adaptive capacity can be sustained and enhanced by learning to live with change and uncertainty, nurturing diversity for resilience, combining knowledge systems, and creating opportunities for self-organization. “Resilience-building management needs to be flexible and open to learning. It attends to slowly-changing, fundamental variables such as experience, memory, and diversity in both social and ecological systems” (23).

In *Complexity and Urban Coherence*, Nikos Salingaros decries that “[t]oday’s disconnected cities fail as an environment for a large portion of the healthy population: children, teenagers, mothers with babies, and older people; as well as handicapped persons of all ages” (2000, 23). Salingaros proposes that urban coherence can be derived from a theory of complex interacting systems. He demonstrates the coherence between 1) geometric principles derived from complexity science; 2) the intuitive and aesthetically derived urban design prescriptions of Jane Jacobs and Christopher Alexander; and 3) the organic form of traditional towns and cities, and third world *favelas*. “[U]rban coherence,” says Salingaros, “is founded on the small scale, where contemporary urban design is most deficient” (2000, 5). He identifies a set of generic principles for urban coherence.⁶¹ These principles imply that well-functioning cities are composed of tightly, strongly, and densely coupled communities or neighbourhoods (what he calls modules), while the larger urban scale is characterized by looser, weaker, and dispersed coupling. Salingaros’s prescription requires local coherence as a prerequisite for urban-scale coherence. Assembly of urban areas, in other words, must proceed from the small scale to the large scale, with each module or

⁶¹ Rules of urban coherence include coupling, diversity, boundaries, forces, organization, hierarchy, interdependence, and composition.

locality within the urban system being an elemental, diverse, mixed-use, multi-functional unit. Salingaros also calls attention to the need for well-designed module boundaries : “simple juxtaposition” of elements does not constitute coupling. Boundaries require elements capable of communicating with each other. Salingaros calls attention to the self-organizing potential and impulse of cities: “Chasing away street vendors instead of building kiosks ignores a clue that there is a need for prepared food at that spot. Contemporary urban design aspires to maintain its appearance against urban forces. That is an ultimately futile quest, because it attempts to block the natural processes of self-organization. Those forces will forever work against any imposed form, and an enormous amount of energy is going to be expended to maintain the original design, preventing the emergence of connections” (27). Christopher Alexander (2003) writes about the intersections of his architectural theories of “beautiful” structures and the ideas of complexity theorists such as Kauffman and Brian Goodwin. Alexander, much like Goodwin, theorizes that there are structural attractors that order nature. Both Goodwin (Edge, 2005) and Alexander (2003) speculate that these structures have a mathematical coherence and that the nature of order is such that living beings can agree on whether human-made structures honour that order by recourse to innate human capacities to judge order through qualitative assessments of, for example, beauty. As Alexander (2003, 9) writes, “The relative coherence of more complex entities – the relative beauty of one column in a building versus another, uglier column – is susceptible to precise observation and can be made a part of science by new kinds of experiment, using the human observer as a measuring instrument”. Goodwin explains it this way: “Instead of the traditional science of control we are involved in the science of participation, which is where complexity leads us, involving sensitive participation with nature. This requires cultivation of intuitive ways of knowing about wholes as well as analytical ways of knowing about parts, which takes us into what may be called a science of qualities” (Edge 2005).

In *Complexity and Group Processes: A Radically Social Understanding of Individuals*, Ralph Stacey’s main concern is “making sense, in general, of the phenomenon of human relating” (2003, 1). In this quest, Stacey (2003, 5) explores the “dialectical process thinking” and the “individual and society” theories of Norbert Elias and George Herbert

Mead. Stacey argues that the theories of Elias and Mead are captured within a wider net of the natural sciences of complexity. He contrasts dialectical process thinking to systems thinking. Systems thinking posits that “human interaction produces systems we call groups, organizations, cultures and societies in which individuals are parts of systems they form” (5). In contrast, self-organization implies that “local interaction between entities can pattern itself into local and widespread coherence without any causal agency above or below it” (5). Stacey claims that as “interacting humans pattern further interaction between them,” that interaction is its own reflexive, self-referential cause. In his model, there is only process – there is no system at all. In fact, there is no “internal world” and there is no [outside] social system.” Stacey (2003, 330) provocatively states that ultimately, through process thinking, we find that “individuals on their own ... cannot even have minds in the absence of relationships with others”.

Stacey’s (2003, 325) radically social understanding of individuals is consistent with embodiment phenomenology. He “understand[s] human groups as processes of communicative interaction between bodies”. He supports his claim that “humans are inevitably social at a fundamental physiological level” with current evidence that “human physiology is such that an individual body cannot regulate itself on its own because the biochemical mechanisms of calming and arousal are inextricably linked to actions of attachment to, and separation from, other bodies” (324). Complementing Varela’s notion of resonant cell assemblies, Stacey (2003, 326) finds that human emotions are “individually experienced as variations in body rhythms”. Interpreting complex adaptive system theory, Stacey (2003, 327) argues that in human interactions, “the potential for transformation arises because iterative nonlinear interaction has the capacity to amplify small differences,” and “[t]ransformation is possible, then, only when interaction is characterized by difference”.

In conclusion to this section, let me highlight some implications of complexity theory for community sustainability.⁶² Firstly, the concept of self-organization makes strong claims

⁶² In *Fragile Dominion* (1999), Simon Levin proposes eight commandments of environmental management based on his understanding of complex adaptive systems: reduce uncertainty through research, expect

that natural systems organize in the absence of hierarchical control mechanisms. Self-organization, metaphorically extended into the realm of human relations,⁶³ implies a shift toward more participatory forms of democracy; this is consistent with what complexity theorists suggest is the *modus operandi* of the rest of nature. Secondly, the indeterminacy of complex systems makes Holling and colleagues' suggestion to build adaptive capacity and resilience eminently sensible. Thirdly, the recognition of the importance of heterogeneity in systems suggests that to be sustainable, communities must maintain and enhance economic, social, and ecological diversity. Fourthly, the concept of order for free suggests that an enlightened strategy for human sustainability would be to seek to tune human development to the rhythms of the biosphere rather than attempt to make the rest of nature conform to our designs. But there is a challenging paradox in order for free. Systems based on a desire for control, stability, and predictability are entropy-laden systems. Sardar and Ravitz (1994, 563) observe that "the recognition of self-organization in complex systems teaches us humility" in that "[i]t appears that short term stability (and economic benefit) is bought at the expense of infrequent but catastrophic events". Fifth, the twin observations that natural systems operate in nested hierarchies with transformation emanating from local levels and that they evolve toward periodic self-organized criticality suggest that to harmonize with the rest of nature and to avoid catastrophic large scale events, human systems should be modularized to retain a high degree of integrity. This modularity should exhibit fluid communication throughout the system, along with strong structural coupling at lower levels and weaker structural coupling at higher levels. The embodied phenomenology suggested by Stacey's analysis is also supportive of the prescription for local control. If, as he claims, human interaction is radically social, it might be argued that sustainable communities need to maintain the integrity of the communicative process. It could be argued further that the sustaining ecological community is the largest group where autopoietic self-organization holds. In larger human organizations, there is

surprise, maintain heterogeneity, sustain modularity, preserve redundancy, tighten feedback loops, build trust, do unto others as you would have them do unto you.

⁶³ Given the metaphoric nature of the transfers across disciplines, which is so evident in complexity theorizing, I would suggest the need to apply some criteria of what I would call metaphoric plausibility to complexity discourse.

necessarily a significant element of non-organic technological mediation of relations, reducing the integrity of the intersubjective communicative process.⁶⁴

A Synthesis of Key Concepts

In very general terms the concepts introduced in this chapter imply some interesting avenues of inquiry in evaluating or planning a sustainability initiative.

- Does the initiative support ecological place-making?
- Does the initiative problematize scale?
- Does the initiative support a relational understanding of nature?
- Does the initiative clarify the indeterminate nature of change and the subsequent need for decentralized, creative, adaptive and resilient rather than centralized, command and control, city form and governance?

In the final section of this chapter I present a synthesis of the preceding five concepts. My objective in doing so is two-fold. Firstly, I want to identify some common threads that make these concepts theoretically and practically compatible. Secondly, I want to demonstrate how geographical concepts can add specificity and practicality to transformational learning processes in an urban setting. In doing so I propose geographically informed approaches of scalar analysis, place-making and relational thinking that might be employed to support a transformational learning process.

Common Characteristics

The following chart situates each of the concepts along a continuum of ontological assumptions. For each of the concepts I have argued that our world is currently dominated by an individualistic ontology embodied in capitalism. I have also argued that in each case there is a significant and persuasive anthropocentric challenge to this dominant ontology. Finally, in each case I have argued in favour of a deployment of these concepts based on a more radical eco-centric ontology.

⁶⁴ Perhaps cyborgs can be admitted into the equation if we act on Latour's observation that we are not separate from our technologies.

Ontology	Capitalist	Anthropocentric	Eco-Centric
Learning	Knowledge Transmission	Personal/Social Transformation	Eco-Cultural Transformation
Place	Capitalist	Cosmopolitan	Ecological
Scale	Fixed and natural	Socially-constructed	Co-created
Nature	Resource	Intrinsically Valued	Relational
Approach to Complexity	Reductive	Systems Theoretic	Complexity Theory

The most general common characteristic of each of the concepts presented in this chapter is their dialectical nature. Specifically, each concept relies on a dynamic, processual and relational understanding of the world. A second significant characteristic of each concept is the importance of agency. A consideration of the implications of agency by a brief regression to the work of Merleau-Ponty, Habermas and Harvey will illuminate my preference for an interpretation of these concepts grounded in an eco-centric ontology.

As discussed in chapter two both Merleau-Ponty and Habermas identify the concept of lifeworld as a central component of their respective philosophies and theories. Recall that Merleau-Ponty's embodied phenomenology posits a pre-conceptual, or in Evernden's interpretation, a pre-technological understanding of the world where technology can be conceptualization, organizational technique or tool. Habermas contrasts the lifeworld with the system, and suggests that the central *problematique* of late modernity is the colonization of the lifeworld by the system. I would argue that the system is able to colonize the lifeworld in large part through the application of technology – whether it be universalizing conceptualizations, management (control and coordination techniques) or artifacts. These technologies allow the constitution of larger scales of activity and organization (i.e. systems) and conversely, those systems require technology in order to function. At these larger scales human agency is restricted in favour of the objectifying needs of the system. Habermas argues that in order to counter the colonization of the lifeworld by the system we must insist on the primacy of the lifeworld over the system. I would argue that recognizing our embodied and spatial realities, the lifeworld and agency flourishes in place-based community where systemic technological mediation is minimized and regulated by the needs of the lifeworld.

Harvey's concept of time and space compression reinforces this line of argument. In Harvey's postmodern world time and space are compressed by the application of technologies of production, transportation and communication. I interpret Harvey's argument to say that as we use technology to assimilate our experiences more rapidly and over greater distances we sacrifice agency to the demands of systematization. We lose our ability to be conscious of change, and to act ethically in support of social justice, as our ability to make sense of technologically mediated experience diminishes. Once again we arrive at the conclusion that place-based community minimally mediated by technology enhances agency and freedom. It does so by facilitating the ongoing and consistent practice of communicative action. This is not to say that no benefits accrue from technology and technosystems but that their dominant effect has been lifeworld colonization and ethical disorientation.

So how can we use geographical concepts to add specificity and practicality to transformational learning processes in an urban setting? In my discussion of transformational learning I identified two key ideas in my definition of conscientization. Conscientization involves a dialectic process of critical reflection on subjective reality and, action aimed at changing our material or objective reality. I further defined three ontological principles of transformational learning to be dialectical process, consciousness or agency and social justice or ethics. Dialecticians posit that change occurs through the tension between internal contradictions within the relations that embody a given reality. A change strategy then, would identify and exploit those internal contradictions. The strategies for inducing conscientization employed by Freire in Latin America focused on class-based analysis. That would be a hard sell in Canada and especially in Calgary, but spatial contradictions might be exploitable given the historical rhetorical and real identification with place (i.e. sub-city) communities in Calgary. I suggest that a more appropriate and productive strategy in Calgary would be strategies that focus on place, scale and nature. I argue that scalar analysis can be employed to make conscious the spatial contradictions in an urban setting, that place-making strategies can contribute to transformation of material reality and that calling attention to cities as a manifestation of

dualism invites people to reconsider our relationship with the rest of nature (man and environment in the traditional geographic parlance).

Scalar Analysis

Saskia Sassen's globalization research has demonstrated the inequities arising from processes of globalization even within global cities, for example in the determination of which localities within a city get access to high-speed internet services and the practical exclusion of some people from the nerve centres of globalization in their own city (Sassen, 2002). A scalar analysis would begin by drilling down from the city scale to the sub-city geographic scale to illuminate some of these spatial dynamics. There are at least two significant sub-city scalar divisions in Calgary. The first is typical of auto-dependent North American cities. This is the concentric development of inner city, established and suburban communities. The second is a city-quadrant-based segregation that is characterized by economic and ethnic difference. In Calgary the South East and North East quadrants tend to be home to new immigrant populations and poor and working-class households. A scalar analysis would examine and problematize the different life experiences of communities in each of these scalar divisions. Another scalar strategy would be to recognize community's within each of these sub-city scalar configurations. For example, the Sunrise communities of the South East and North East of Calgary recognize themselves as a geographic unit greater than a community but smaller than the city. As Herod and Wright (2001) argue scales are not discreet and natural but are constituted by practice and power. While sub-city divisions are not conventionally considered within scalar dynamics, I would argue that if geographically defined communities (the one hundred and sixty plus communities of Calgary), or clusters of communities were to claim a right to aspects of governance currently under municipal or provincial jurisdiction that would constitute a re-scaling strategy by not merely advocating for a reallocation of power within existing scales of governance but by constituting a new scale of governance and claiming power for it.

Scalar analysis could also be employed to destabilize taken for granted scalar constructions. For example imagining a regional political organization or a bioregional political organization might sensitize people to the constructed nature of scalar configurations. The

Inner City Schools Coalition, for example, in its fight to save inner city schools in Calgary, unsuccessfully attempted to redefine school board districts by calling for the creation of an inner city school district.

Place-Making

How do we begin to prioritize local community? “I regard the generality, the ambiguity, and the multiple layers of meanings [of place] as advantageous. It suggests some underlying unity (or process of internalization) which, if we can approach it right, will reveal a great deal about social, political, and spatial practices in interrelation with each other over time” (Harvey, 1996, 208). How do we come to understand these multiple meanings of place in an urban setting? The Sense of Community survey instrument initiative is a beginning for Calgary. The initial survey instrument is anthropocentric in nature in that it does not explore Calgarians relationship with the natural world, but modifications and additions to the instrument could create a sense of place instrument. Such a tool might inquire about the ecological knowledge of community members, or the length of time an individual has lived in place or might explore an individual’s attachment to the natural world around them.

Thus far in this essay I have described what I call capitalist place. In the neo-liberally globalized world, capitalist place provides a structure of social relations amenable to competition between localities. Sustainable Calgary has documented a set of 36 social, ecological and economic indicators and analysis of Calgary which demonstrates the ‘strip-mining’ of social and environmental resources in Calgary’s capitalist place (Sustainable Calgary, 2004). Low et al, have discussed how the formation of capitalist place obliges cities to become “consumers of the world’s environment” (Low, et al, 2000, 1) and that globally cities are in desperate need of “a renewed public sphere with an enlarged conception of global, national and local citizenship” (Low et al, 2000, 304)⁶⁵.

⁶⁵ The final issue of *Antipode*, 2002 is devoted to an analysis of how Neoliberalism has in fact facilitated strip-mining of localities. Articles report analysis of Toronto, Glasgow and a host of European cities.

I believe attachments to place can discourage or reverse the tendencies we see in capitalist places in proportion to our ability to detach from inauthentic capitalist places and engage in authentic place-making. Authenticity is a complex phenomenon. In chapter 10 I propose five criteria by which we can identify authentic experience in place. These criteria imply that authenticity is a qualitative experience that can only be approximated by objective quantitative proxy indicators. It would also be correct to say that authenticity of experience in community would be consistent with communicative rather than strategic or instrumental action, aimed at understanding rather than coercion or goal attainment.

Strategically we can do four things to engage in authentic place-making. We begin by engaging people in local, personal experiences of unmediated place-making. We engage in 'glocal' networks of resistance. We engage in the flows, networks and circuits of capital with the view of reclaiming the space they occupy. And we tell our story. Through this strategy we gradually expand the field of authentic place-making and contract the field of inauthentic occupation of place.

In Calgary there are abundant opportunities for authentic place-making. Calgary Dollars (2003) the Neighbourhood Grants Program of the Calgary Foundation (2003) and co-housing (Prairie Sky, 2003) are examples of initiatives, that while small, have proliferated over the past decade. And of course, there are formal community associations in each of the more than 160 Calgary communities (Federation of Calgary Communities, 2005).

Escobar (2001 and 1999) provides an intriguing case study of the type of multi-dimensional dialectical, 'glocally'-networked, social movement Miller (2002) suggests needs nurturing. Miller provides a good survey of the character of transnational social movements. Loose coalitions now account for the plurality of transnational social movements and may be best suited to the present communications technology landscape. He also alerts us to the challenge to create 'glocal' network strategies for message framing that resonate with the

target audiences.⁶⁶ Miller cautions about overstating the capabilities of network-facilitating technologies. In light of my earlier caution against mediated communications, while I think participation in these networks is certainly a strategic social movement activity, in a post-capitalist world the role of technology has to be much better theorized and operationalized. (see Davison, 2001) for criteria of sustainable technology)

Global space is currently dominated by capital. Reclaiming that space will require careful entry into the global capital ‘matrix’⁶⁷. Perhaps one of the most successful missions into the matrix was the defeat of the Multi-lateral Agreement on Investment (Walter, 2001). Vandana Shiva (1997) and Arturo Escobar (2001, 2000) offer two other examples of interventions from the south into the global capital matrix, both focus on the proliferation of biotechnology and the preservation of biodiversity. Global finance control campaigns advocating the ‘Tobin Tax’ are another example of an attempt to wrest global space from capital (McQuaig, 1999)⁶⁸. Many of these interventions begin with or are limited to discursive excursions where control of discourse is the main ground of contestation. Regulation of global capital is another prominent thrust of these discursive interventions (see for example Low et al, 2000). Well-honed scale-jumping skills would be a valuable asset in these excursions.

Authentic place-making requires that each locality has to begin to honour its own authentic ‘story’ or create an alternative to the dominant story of capitalist place.⁶⁹ Nicholas Entrikin (1991) presents the thesis that we need to treat the duality of place and placelessness,

⁶⁶ According to Miller, messages resonate when they achieve empirical credibility (fit with events), experiential commensurability (fit with experiences of target audience and narrative fidelity (resonance with cultural narratives and myths)

⁶⁷ Have you seen *Matrix Reloaded* yet? The reference is actually informative as mass media plays such an important role in image making today. I think the ability of film to produce compelling images of the sort found in *The Matrix Re-Loaded* has significant cross-over into our imaginaries of elusive processes like globalization.

⁶⁸ While the ‘Tobin Tax’ has not been implemented, the campaign has inspired efforts in Chile and Brazil to introduce currency speculation control legislation.

⁶⁹ As Thomas Berry (1988) has pointed out, at the root of our inability to live harmoniously with the planet is a bad story – the story of ‘progress’. The trouble is we do not have an alternative story. To that end Berry wrote *The Universe Story* (Berry and Swimme, 1992)

subjectivity and objectivity, dialectically through narrative synthesis (or emplotment)⁷⁰ – a point of view less detached than that of the theoretical scientist and more detached than that evident in the accounts of the travel writer” (Entrikin, p. 3). Narrative is a means of inscribing meaning into place and culture. “It is a useful concept for the location of diverse (including scientific) interpretive versions of phenomena, seemingly governed by ‘natural’, thus ‘objective’ and fixed ‘laws’”, (Papagaroufali, 1996, p. 253n) and for exposing the morality-based nature of all truth claims (Descola, et al, 1996). Given what we have seen as the amorphous complexity of place, the ambiguity and multiplicity of narrative might be the best way to capture the feel of a place. Berry (1988) maintains that meaning expressed in the story of who we are is at the centre of the human project. The story or narrative is also at the heart of the human ecological (Shepard, 1996); feminist (Peterson, 2001); native (Peterson, 2001) and phenomenological (Evernden, 1992) dimensions of nature human relations. At a practical level, the stories of cities have always been exclusively human stories. The new stories of cities, while attending to contextualization and honouring continuity with the past, have to tell the story of humans and nature. As Berry and Swimme (1992) demonstrate in *The Universe Story*, our story encompasses the vastness of the origins of the cosmos as well as now we live locally with other humans and the rest of nature.⁷¹ Naming and defining the boundaries of the Bow Chinook bioregion is a nascent attempt at a new story for Calgary. A good example of storytelling that attempts to reclaim community is the Blackfeet exhibit, *Niitsitapiisimi*, housed in the Glenbow Museum in Calgary (Glenbow, 2005).

⁷⁰ Entrikin quotes Paul Ricoeur who describes emplotment thus: “Plot, in effect, ‘comprehends’ in one intelligible whole, circumstances, goals, interactions, and unintended results”. Emplotment “draws together agents and structures, intentions and circumstances, the general and the particular, and at the same time seeks to explain causally.” (Entrikin, p. 25) In Entrikin’s interpretation emplotment combines the need for objective facts with concern for the intentional connection between actor and environment.

⁷¹ The new story for our cities is a vision of a sustaining way of living together in urban environments in ethical relations with all other communities. The old story is predominantly one of unsustainable lifestyles and unethical and hidden relations with other communities via our ecological footprint, commodity chains and so on.

The City as Manifestation of Dualism

In large measure cities are the ultimate representation, in physical form of the nature – human dualism we have created. They are also the energetic centre of human cultural evolution. Taking a cue from David Harvey’s ‘utopianism of process’, (Harvey, 1996, 435) how can we proceed to tackle sustainability from our given reality, without presupposing a utopia without the city or a utopian city? This of course is a vast question not to be answered definitively, but to be engaged in a useful manner. The recognition of the problematic nature of dualism, calls us to re-examine human urban settlements. If we imagine them as a physical manifestation of our dualistic mode of thought, then we can ask whether they can survive the conceptual demolition of dualism. We can wonder what an urban human settlement as a manifestation of unitary thought might look like.

Cities attract us because they comfort the dualism of modernity and our estrangement from nature. Cities provide the desired products of that dualism that substitute for authentic experience of our place in the natural order of things. In a non-dualist world, where we are at home with the notion of being a part of nature, would we still desire city life? Would city form change radically to follow function in a non-dualist world? Would non-dualist cities be more sustainable and sustaining?

Paul Shepard’s story of how animals made us human evokes the search for the wild within ourselves and the natural world we are an integral part of. The challenge posed by this conception of human nature is how, in metaphorically walled cities, we reestablish and maintain that connection. The lack of sensuous connection at its worst allows us to objectify and use nature. At its best, it limits us to a well-meaning domestication of wildness as wilderness. In *Topophilia*, Yi Fu Tuan characterized the prevailing human-nature relation as one of ‘dominance and affection’ (1974, p. xi). In practical terms, as long as we have cities we can create ways to make the walls more permeable. One way the make the walls more permeable would be through participatory ‘bioregional restoration’ projects (McGinnis, 1999)⁷². In Calgary, the concept of wildness could potentially inform open

⁷² Wolch and Emel (1998), *Animal Geographies: Place, Politics, and Identity in the Nature-Culture Borderlands* contains several essays relevant to this topic.

space and park design, and even the programming of The Calgary Zoo. Presently we define our cities based on the human built environment and human political boundaries. We might redefine city boundaries to include the 'Others' (McGinnis, 1999).

Conclusion

This chapter concludes my presentation of the major theoretical and conceptual tools I employ in this dissertation. As will be evident in chapter 10 the concept of ecological place will be central to my response to the question what do we want to sustain? I hope I have demonstrated in this chapter that while scale is to a large extent socially constructed, scale must also be considered with respect to our relationship with the rest of nature. It is not only humans who actively construct scale. We may not even be the dominant scale constructors, in which case the fluidities and rigidities of any given or desired scales need to be understood and scalar interventions need to be carefully examined. In responding to the question what do we want to sustain, the concepts of complexity and transformational learning will provide largely complementary responses to those of place, scale and nature.

In Chapter 9 I formulate the Sustainable Calgary indicators to action strategy drawing upon a body of work inspired by Harbermas's theory of communicative action. The concepts of transformational learning and complexity theory, also inform the strategy. It is in the service of the indicators to action strategy that I employ the findings of chapter 7 (outcomes of the Sustainable Calgary indicator initiative and chapter eight (city indicator initiative comparisons) (see figure 1.1).

The intention of chapter 7 is to report on the outcomes of the Sustainable Calgary indicator initiative based on interviews with thirty-two former participants. This participatory action research inquiry takes a phenomenological approach in that what I seek to achieve is a shared understanding of the personal and community outcomes of the indicator initiative.

Chapter 7: Outcomes of the Sustainable Calgary Indicators Initiative

From its beginnings, one of the foundations of Sustainable Calgary's work has been citizen engagement. Over two thousand Calgarians participated in the Community Sustainability Indicator project, and many more have contributed to other Sustainable Calgary initiatives. In order to move forward to the next stage of the work, from indicators to action, Sustainable Calgary decided to assess the outcomes of the indicator project by talking with a number of participants in the process. We wanted to incorporate into our planning process participants' knowledge and insights into four questions:

1. What was your experience of the indicator project?
2. What personal and community outcomes have resulted from the project?
3. What are the most important sustainability issues in Calgary?
4. How should Sustainable Calgary move from indicators to action?

Notes on Methodology

A qualitative research methodology using face-to-face interviews was chosen for the study. The interviews were more appropriate than a more quantitative on-line survey for several reasons. Surveys are notorious for low response rates, and it was felt that an on-line survey might be ignored or approached as a chore for those who did respond. It had been some time since anyone from Sustainable Calgary had been in communication with most former participants. Interviews would give me, representing Sustainable Calgary, an opportunity to reconnect with former participants and have meaningful, open-ended discussions about their experience with the initiative and their thoughts on how to move from indicators to action.

An initial invitation on the Sustainable Calgary website was unsuccessful in recruiting former participants to the research. From the database of former participants, I contacted thirty-four individuals by phone and invited them to participate in the research at their convenience. Only two individuals declined to participate. Further details of the selection process can be found in chapter 4. The thirty-two interviews, conducted in April and May

2004, were wide-ranging discussions averaging seventy-five to ninety minutes. Interviews were taped for later reference so that the conversations would not be distracted by note-taking. Appendix 2 contains a copy of the original thirty-three interview questions. I did not follow the questions dogmatically but used them as a guide for the discussions. I noted emerging themes and trends after each interview.

Once the interviews were completed, I undertook a six-stage analysis involving the following tasks:

1. Crafting a narrative overview of the research findings;
2. Writing summary responses to each question;
3. Identifying a preliminary list of project outcomes;
4. Conducting a workshop to validate, adjust, and elaborate on the preliminary project outcomes;
5. Revising the research findings based on the workshop discussion; and
6. Circulating the final draft research report to all interviewees for final comment.

Demographic Profile

Though the interview sample was not meant to be statistically valid, interviewees were asked to provide some basic demographic information so that a profile of the interviewees could be conveyed. The analysis of the demographic information revealed that there were an equal number of male and female interviewees. The average age of interviewees was 44 years and the average period of residence in Calgary was 25 years. On average, interviewees held between one and two post-secondary degrees. Twenty-eight of the 32 interviewees were Caucasian. The map in figure 7.1 shows the community of residence of each of the interviewees. Twenty percent of the interviewees live in new communities, 44 percent live in established communities, and 36 percent live in the inner city. Fifteen percent of interviewees live on the city's east side, and 85 percent live on the west side. The intensity of involvement of interviewees in the indicator initiative ranged from one individual who was a co-founder of Sustainable Calgary to one individual who attended

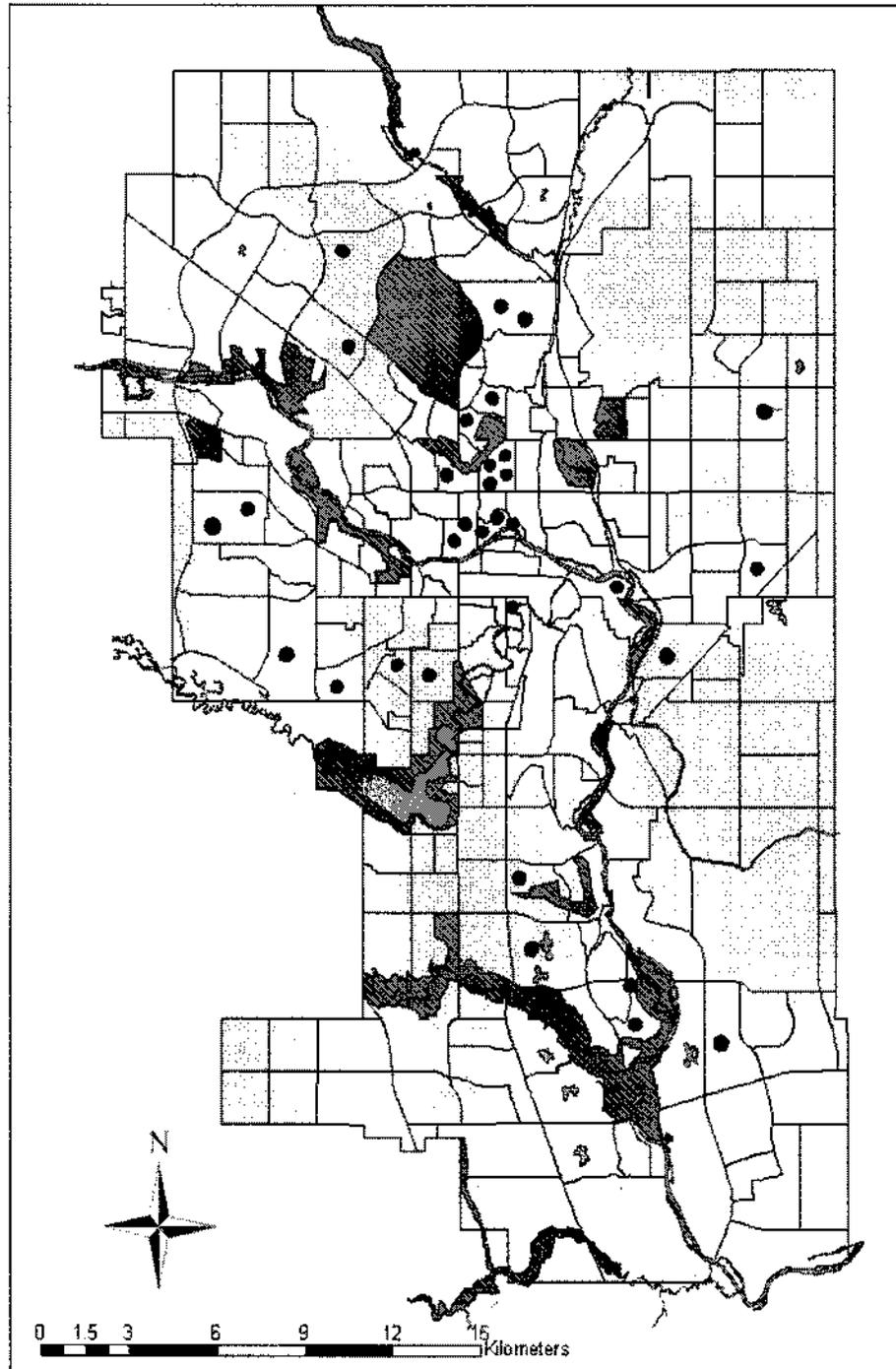


Figure 7.1: Geographic Dispersion of Interviewees

one workshop during the 2001 process.⁷³

Analysis and Interpretation

As I wrote in chapter 4, my presentation, interpretation, and analysis should satisfy myself, interviewees, and external reviewers that this research is in fact rigorous and that the findings are plausible and worthy of attention. I identified several strategies to accomplish this. To honour the methodology that underpins my research, I have chosen to present the analysis using extensive quotations from the interviews. In this way, I allow the voices of interviewees to be heard as fully as possible. For the most part, my interpretation has been limited to the organization and naming of research findings and the selection of quotations to represent these findings. Multiple quotations are used for several of the findings in order to satisfy readers that the findings are consistent with a number of interviewees and not just one individual. Quotations are associated with individuals through aliases so that the reader can follow a thread of an individual's thoughts through the chapter. I have purposefully used long quotations to provide a sense of the rhythm of the interviewees' discourse, and to provide some conversational context for the particular points I illustrate with the quotations. Wherever possible, I have also attempted to limit my interpretation by using descriptors used by interviewees themselves when representing the key themes. Via this strategy, I hope the reader will have some capacity to judge the faithfulness and finesse of my interpretations. Still, at the conclusion to this chapter I do present a short overview of the research findings and connect those findings to the the relevant literature.

Section A: Interviewees' Motivations and Their Impressions of Who Was Involved

Participants were asked to talk about how they got involved with the Sustainable Calgary Indicators Project (SCIP) and why. Clearly the responses suggest that the project had a limited reach. The interviewees who were long-time residents of Calgary heard about the project by word of mouth within their social, affinity, and work/study networks. A first tier networking through social and affinity networks was strongly associated with the project's sponsoring organization, the Arusha Centre. This first tier included groupings of

⁷³ Chapter 2 contains details on the way participants were incorporated into the process.

individuals with a thematic interest – in this case community development, social justice, and environment. A second tier of networking encompassed local government, the University of Calgary, and to a lesser extent, the business community. Three interviewees, newcomers to the city, heard about the project as a result of personal searches to find opportunities to get involved in the city – for example, on the Internet. Figure 6.2 is an impressionistic schematic of interviewee recruitment over time.

“That Caring Citizen Thing”

There were a variety of reasons cited for getting involved in the SCIP, including curiosity about the project, the desire to learn, the desire to contribute, and the belief that the project was leading edge and could make a difference.

Some interviewees were intrigued by the project itself: “it was interesting,” raised their “curiosity,” “piqued my interest,” or was able to “catch the imagination.” Bridgit said, “I was always curious about how you could accomplish such a big task.” Janet said, “I was curious and always interested in process personally and professionally.” For Conrad, the curiosity had to do with “the actual individuals involved. Everyone I talked to had some kind of an interesting take. It just brought together an interesting group of people.”

Beyond curiosity, some interviewees specifically identified the opportunity to learn as a motivating factor in their involvement. For instance, Bruce “got involved to learn more and to reflect all of the work Sustainable Calgary was doing against the city’s efforts for long-range planning.” Bill was excited about “the creation of local knowledge and the de-centering of expert knowledge. The involvement of community and citizens.” For Louise, “it was a great way to learn about sustainability and participatory grassroots initiatives.”

Other interviewees got involved out of a desire “to contribute” or to “help out” with the project. John felt that it was “the right thing to do.... I thought I could contribute.... I had what I thought would be a different background than a lot of people involved, coming from an engineering background.” Reesa had previously been involved with the now dormant Calgary Eco-Centre: “We had stopped doing the [bioregional] calendar because it was too

much to carry. But I was still looking for ways that the Eco-Centre could be out there. And I was really keen on pushing forward any kind of sustainability project.” For Kevin, “part of being in a sustainable community is being involved. You’ve gotta create that. Participation is the key to that kind of change. And at the time I was working on some relevant concepts that weren’t well known, storm water management type things, and I had a keen interest in that. At that time it wasn’t happening, and this was an opportunity for me to get involved.”

Many of the interviewees were excited about the potential for the project to make a difference. Ron offered the opinion that “it struck me that this was very much an initiative to make change for the better ... pushing the envelope. It was asking some tough questions that had never been asked before.” Rachel was interested in “the potential of not just preaching to the converted.... How do you create that cross-sectoral dialogue – a complexity of understanding ... reaching across silos?” Emily got involved because she had “heard a lot about the first State of Our City report,” and had seen the report “and thought it was really well done.” Marlino was attracted to the project because “it is very important to have an alternative.” One city employee commented, “I was sort of assigned to do this but when I got there, there was a lot of personal interest as well.”

In the end, pride in place and a sense of the obligation of citizenship contributed greatly to interviewees’ motivations for participation in the SCIP. John saw it as “the right thing to do.” Joy stated, “I’m a native Calgarian and I have a lot of pride in the city.” Kevin talked about how “Calgary should be a great city.” Mahmoud said in a matter of fact way that “the answer was simple. It’s part of our life.” Maya summarized this sentiment succinctly when she commented that she participated because of “that caring citizen thing.”

Who Was There and Who Wasn’?

“From people who didn’t know a single thing about sustainability to people who were experts in water management to experts in organic food production. Just a complete range of expertise and knowledge.... In my group, people who had just graduated from high school starting first-year university in liberal arts and science to people with masters degrees in water resource management, engineering. From people of nineteen years of age to upwards of fifty-some years of age. People that had been in Calgary for one year to all their life. Inner city

representation to suburban representation. Ethnicity-wise – in the groups that I was exposed to, there might have been a lot of ethnicity.” Jake

“A lot of people from different organizations, different ethnic groups, communities, all get together ... young kids, women, seniors. A mix of people from different ages, organizations, immigrants, Canadians, people born here. Different age, colour, background, and experience. It was balanced. It wasn’t only people from the university.” Mahmoud

“I think the people that were missing were all of the people who neither know about nor truly care about the consequences of their actions towards the world as a whole. In other words – most Calgarians. The attitude of the rich is that they may be willing to throw money at something but don’t ever try to get them to modify their behaviour by making them not buy or do something they want. The attitude of the middle class is that there is only so much money to go around so don’t ever ask them to do a more expensive option. But also if they can scrape the money together to buy a luxury, then they deserve it. The attitude of the overworked is that they don’t have time for anything that takes more time out of their day. It’s go, go, go, at work and at play. In other words, it’s always someone else’s job to get this world sorted out and we can always hope that technology will solve the problem in the future.” Louise

The interviewees were asked to offer a general profile and characterization of the project participants and to suggest who was missing in the process. Overall interviewees felt the indicators project participants were a relatively diverse group within a sub-group that might be characterized as civic-minded, middle-class, professional, thirty, forty, and fifty-something’s for whom sustainability was not a totally foreign concept. In Conrad’s opinion, “We attracted a minority of Calgarians but within that minority they were not easily characterized.”

Opinion was mixed with respect to the ethnic and cultural diversity of participants. Some interviewees felt “there was limited visible minorities” or that participants were “predominantly white, representing a lot of what Calgary has been.” Other interviewees “seem to remember there was quite an ... ethnic diversity as compared to the normal Calgary cross-section” or “more diversity than I anticipated.”

Generally considered to have been under-represented were aboriginals, seniors, and to a lesser extent youth; people living in poverty and the upper economic demographic; and people from the city’s northeast quadrant and business. It was also remarked that “decision-makers” and “a municipal champion” were missing.

The perceived civic-mindedness of the participants was reflected in comments like those of John, “I think people were interested in and cared for the future,” or Kevin, who characterized participants as “self-selectors” and “idealistic.” For Krista, those who participated were “people who felt like they really had something to say about their community.” Other descriptors of participants included “constructive,” “passionate,” “pleasant,” and “enthusiastic.” Bill offered an interesting insight in that the process engaged people for whom “the term ‘sustainability’ has been an attractor.” In Armbruster’s estimation, the project participants had “a strong predisposition to ecological preservation and social justice.”

Without contradicting the civic-mindedness of participants, Louise remarked, “I think it was a lot of people as usual preaching to the converted. So especially if you are going to get people involved for the next step, it would be nice if you could get the more typical, industry, downtown, drive-to-work people and their opinions”. Or in Conrad’s words, “It excluded the complacent and the ignorant and the care-less people. And unfortunately, I would contend [they are] the majority of Calgarians.”

Although “preaching to the converted” is a characterization with some validity, Joy expressed other sentiments:

I hope that I contributed, everyone brings their own opinions, but I think too a lot of time when people get together and talk about things they are already the converted, so I hope by being involved I was able to bring in a few others into the project who weren’t necessarily converted but kind of exploring. So being able to bring employees from an oil and gas company hopefully gave a little bit of that. Also maybe a bit of balance. I don’t live in the inner city.... The idea of getting up and walking to work is limited especially the way the city is structured, so where I’m at right now, there were some options ... maybe new views from living a little bit outside and having to commute.

Marlino commented that “it would be interesting to have indicators through the prism of the youth.... They will be the next generation of stewards,” or “Seniors, what would sustainability be in their minds?” Bruce wondered, “Do we reflect people with poverty?” Reesa summarized who she felt was missing with the following statement:

There weren't a lot of young people eighteen to twenty-four, let's say. Different ethnic groups? There just wasn't enough representation of the various ethnic groups that are in the city. Maybe lower economic groups. And maybe higher economic groups. And people with less education. Most people were probably mostly white-collar. Not a lot of people doing blue-collar jobs. Maybe those people don't even feel comfortable in these kinds of projects.

Bill offered that he'd "like to see more of the corporate patch." Mark echoed that sentiment:

I don't know what word I would use to describe [it].... I think if you look at [it], I didn't think the participants were representative of the business community. I thought some of the not-for-profit side of the world were well represented.... SC did a good job of getting the folks out that are looking at the areas impacted by high growth, but I don't think they were able to get out the folks who actually create the growth. What that says is it's a real challenge that Sustainable Calgary and other groups face. How do you get both sides of the equation at the same time talking the same language?

Pat expressed the view that perhaps there might have been more mainstream groups involved in the process:

I felt it was very focused on the left-wing social justice kind of organizations. I didn't think there was enough focus on people who may be at the far end – the radical thinking on the right side or industry or groups like Scouts and Guides, Big Sisters and other mainstream NGOs. You would get more robust discussions if you had a better mix of people.

Rachel offered a perspective on the challenge of broader representation in commenting that "the people that you really want to have an impact on who might be interested in what our core is, but they have never had the chance to be involved, and it wouldn't occur to them to be involved. But all that is about more effort and way more work without necessarily a better outcome."

Section B: Significant Individual Outcomes

Interviewees spoke about personal changes they had experienced as a result of their involvement in the project. These related to a more holistic and grounded understanding of sustainability, personal growth, behaviour change, increased capacity for sustainability advocacy, professional development, career development, and inspiration.

1. A More Holistic and Grounded Understanding of Sustainability: "Something Real and Lasting"

An important and certainly unanticipated outcome of the indicator project is the role it played in highlighting the social dimension of sustainability, or what one interviewee called "the third leg of sustainability." The majority of interviewees came to the process with some understanding of sustainability; however, that understanding focused predominantly on the environmental dimension and to a lesser extent, the economic dimension. Bringing into relief the social dimension of sustainability provided interviewees with a more holistic framework. For many interviewees, the concept of sustainability was appealing but somewhat abstract. Interestingly, though most had heard of and were to varying degrees familiar with the concept of sustainability, most reported that the SCIP was the first "formal sustainability initiative" or "initiative to make something happen" that they had been involved in. The Sustainable Calgary Indicator Project provided participants with an answer to the question, "What does sustainability look like on the ground?"

Interviewees reported a wide range of understandings of the sustainability concept prior to their involvement in the SCIP. Those understandings ranged from "that's the first time I heard of the word" through "poor to nil," "fairly basic," and "reasonably high... I had read quite a bit," to a "pretty high level knowledge."

Four or five of the interviewees felt that they came into the project with a holistic concept of sustainability. Marlino and his wife "were working on a number of initiatives in the Philippines before we came [to Calgary], mainly around ecological sustainability and the sustainability of certain kinds of livelihood programs. So my framework was mainly around social and ecological sustainability of the livelihoods base and life base of communities." Rachel had developed a broad understanding of sustainability through her "core interest in international development" and her undergraduate "attempts to bring sustainable agriculture onto the curriculum of Canada's largest agricultural college" through "education and outreach."

However, approximately twenty-two of the interviewees spoke of having an ecological, and to a lesser extent, an economic understanding of sustainability. Their involvement in the project provided them with insight into the social dimensions of the concept. Karen “had some knowledge in some areas but it was pretty confined to more science-based issues and definitely in terms of the community ones ... hadn’t even thought of those ones before.”

Prior to becoming involved in the Dover indicator project, Krista

thought it was another one of those trendy phrases ... and we actually, we kind of made fun of it. I said, ‘Guys, this is what we have to do,’ and everybody is laughing at me. And I said, ‘ok, ok.’ But I really feel like I have a respect for that phrase now. Because when I look back at the report it kind of helps me to look at the things that are real and lasting, and that’s I guess what I learned, is that it is something that is real and lasting, for me.

Joy spoke of how the project had introduced “more the social context, but I think initially my own thinking was more ecology.” For Bill, the project became “a very powerful border between ecological justice work and social justice work.” For Ron, sustainability

was a fundamental background to the work that I was doing in the corporate world and many of the very young and evolving principles of sustainability were just coming to the forefront as I got started in 1975. An even more fundamental sets of roots came from my mother who was a school teacher all her life ... very much a naturalist ... of being connected to nature and having an appreciation for natural phenomena ... not like an academic’s knowledge but a lay person’s intellectual sense of everything we do is connected to everything nature does. [The project] revealed more for me on the social and the human side of sustainability. Wouldn’t claim that it was a revelation, that something had never been apparent or occurred to me before, but it sharpened the focus on various aspects of ... homelessness, poverty, and hunger, pieces of the puzzle that got more prominence in this work than I’ve seen in a lot of others, so yes, very powerful.

Harvey, a city employee working in the transportation sector talked about how the project

probably contributed to increasing my attitude toward sustainability. How much did I know about sustainability before I went in? I thought 7 out of 10. I was probably wrong.... Now after the process, 9 to 10 out of 10.... Some of these initiatives I never knew were sustainable initiatives. For example, things like childhood asthma or daycare workers’ salaries and turnover. Now I know, so my awareness has gone up quite a bit.

For Conrad, consideration of the social dimension of sustainability entailed a shift from working on environmental protection to a focus on the sustainability of urban human environments:

I think it is amazing the impact it did have on me because at that point in time, up to then, I'd been volunteering with CPAWS and ... my main focus had been on environmental protection, and I think that I was starting to see some kind of problem with ... focusing too much on the symptoms of the problems and not on some of the deeper causes. It is at that point that I really radically changed a lot of what my interests were.... Let's look at what's happening in our cities, especially our consumer habits our resource use habits and how those are then impacting the so-called environment out there and causing our troubles and pressures on those resources and wilderness areas ... just seeing how all of these are interrelated.

“Holistic approach” was a phrase frequently used to describe the model introduced by the indicator project. Barb recognized that the project “filled a unique gap. No one else is doing that. We are all sitting in our stovepipes, but no one was trying to pull it together.”

Armbruster felt that the project was “pulling together information on themes that cut across traditionally somewhat siloed areas of interest – across the ecological social development divide and economic development and cultural development divide.” Bill remarked that “it didn't allow things to stay in separate little boxes.” Bruce spoke of the value of the holistic approach from the perspective of working at City Hall:

It was always something that kind of stays with me as a positive experience. That was probably my first experience looking at a really integrated holistic understanding of a community's health. That feels fairly significant ... for me. As a community development worker, I'd spent time in community development working on various kinds of small projects, but this was a way of wrapping up a lot of projects into one and saying, this is a document that reflects where we are as a healthy community.

Reesa communicated her renewed understanding of the holistic nature of the indicator project by reflecting upon the connections among the indicators:

I think that it did kind of open my mind to considering things like, for example, if a large segment of the population cannot read and you're in a society or economy where people are expected to be literate. What are the implications if you have large numbers of people who can't participate and what is the actual cost to the health of our community? So looking at a large number of these things or even when people are disconnected from the community, what is the end result of that? Do we end up then having to treat more people for mental illness? The holistic kind of view of our community that it is not just about recycling paper and composting. There are other things that make a community sustainable.

Cathy voiced a cautionary note to the complex picture painted by other interviewees. While not negating the complexity of the issues, she related how “at one time I was into all the complexity. Now I'm moving toward, let's find simplicity in this.”

Beyond broadening the concept, the hands-on nature of the project was also instrumental in grounding the concept of sustainability. Three passages from the interviews of Deborah, Maya, and Emily illustrate this point:

I had an intuitive understanding of it, but I was able to put it in words and it's helped me, and a lot of people, that we are not just economically driven. Because sometimes in Calgary the dollar is so important.... So this enabled many people to put in words that you have to look at the social side and the environmental side. And the word sustainability started to have a meaning.... So it's not just about roads and buildings. – Deborah

Even taking that complex situation and bringing it down to indicators, that was a big aha! initially. Obviously we can measure landfills – but the other indicators? It's an interesting process.... What is sense of community? There are actual ways to gauge whether we are progressing in the areas that we are choosing to in society. And I've seen how those indicators are made. – Maya

Practical application of my understanding of sustainability. Looking at how simple some of the indicators could be. That's valuable. It's not that complicated. It shouldn't be that difficult. – Emily

2. Personal Growth

When asked about the influence of the project with respect to improved understanding, attitude change, or personal change, interviewees talked of how they had “learned and grown substantially.” That growth occurred in seven distinct ways. Interviewees talked about an increased appreciation of the complexity of sustainability issues; expanded horizons; increased awareness, learning, and capacity for critical thinking; a heightened mindfulness of sustainability; skill development; satisfaction with the exercise of citizenship; and empowerment.

Appreciation of the Complexity of Sustainability

More and more, sustainability is perceived as a complex phenomenon. Reesa spoke of being “already one of the converted. But certainly it made me more aware of the complexity. A sustainable community is not just one that's got its blue boxes out on the curb.” Other interviewees did not use the term “complexity,” but their comments were a reflection on trying to live sustainably in a complex world. For Ron the project “has been a constant ... reminder of the balancing act that goes on all the time between personal behaviour and sustainable behaviour.” Mark recognized the complexity of dealing with

sustainability in real life in that “as much as I say it’s really clear in terms of what sustainability means to me, not everyone has the same idea of what that is.”

Cathy’s awareness of the complexity of sustainability pointed her along a different path:

[Sustainability] is a hugely complex thing to be thinking about. One of the directions I’ve been going in my life is to not be so formulaic about what it is I have to do in order to live my life in a way that is congruent with my values and to be more open ... in terms of sustainability ... The science isn’t there and life is too complex to figure out what it is you are supposed to do. Stop worrying about stuff like that and make some choices that work for me in my lifestyle and be consistent with them. That’s a bit freeing.

Expanded Horizons

Joy reflected that the project “certainly helped me expand my own horizons.” Similarly for Marlino: “I think people who do a lot of community development work tend to focus more on community indicators, but with this project you look at a variety of different areas. What does bird count have to do with the state of our economy, for instance? My interest is more in the interstices between those indicators.”

Barb also spoke about an expansion of her horizons in terms of possible personal futures, but also city futures:

I was thinking, what would be one of the things in my life work I would like to do? When I get through being the 24/7 health person, where would I like to put my volunteer efforts? One of the areas I was thinking about was the community. I hadn’t thought of that previously. I haven’t acted on it yet in terms of committing time to it, but it has certainly raised my level of awareness and concern. I think I pay attention to articles in the paper. I believe I have been more sensitized to those perspectives. I think the other aspect is ... I am really quite intrigued about learning and understanding more about what our city could be like. What is the art of the possible for us now?

Increased Mindfulness, Awareness, Learning, and Capacity for Critical Thinking

Many interviewees, like Janet, talked about having “a lot more awareness and understanding of what sustainability was.” In response to the question of whether the project had shifted attitudes, Jake said, “Absolutely. I’m so much more critical of Calgary decision-makers and the way Calgary is growing. My attitudes have gone from optimistic

to a little more pessimistic. Which is good as part of keeping a critical eye on things and raising your voice when you think things aren't going great."

For other interviewees, the awareness encompassed specific issues and new learning. For Marlino, the learning came "especially in one of the offshoots of the project – ecological footprint. It brings together those indicators more dynamically to show how different kinds of consumption affect someone else." For Rob, learning was in terms of the "depth of understanding of an issue.... Since [the project], if I hear about something that may be an issue, I don't look at that and go – the answer to this issue is this. Well, if it is an issue, then it warrants more investigation." Emily spoke about how "any kind of public participation or awareness building is personally rewarding. I'm a learner. I take every opportunity I can to learn." Maya captured the awareness, learning, and critical thinking in a simple phrase: "Now there are all these little lights going off."

For many interviewees, sustainability is more constant or present in their lives. Kevin spoke of being more "mindful of the principles of sustainability." For Diane, mindfulness was related through an anecdote:

I was listening to CBC Radio and a tri-athlete who won down in Australia. They were interviewing him.... His girlfriend had pointed him to the Mountain Equipment Co-op Web site where they have a footprint measure. So I did that for myself as well. So I don't know.... I think just participating sensitized me – you listen in a different way."

Skill Development

While most interviewees spoke of professional skill development, some talked about personal skill development. Krista, for example, said, "Personally, I felt like I learned how to work with an organization I'd never heard of before and apply for grants. That is something I had limited experience with and that ended up being quite a positive thing.... It helped me see how much goes into one small grant."

The Good Citizenship High

Several interviewees spoke in terms that were evocative of a feeling of satisfaction with having contributed to the common good as a citizen. Bridgit reflected, “Personally, it is an ethical consideration. As a good citizen, I feel like I should participate or at least be aware of alternative ways of living in the city within sustainable means.” Krista “felt really good about ... as a group we worked really hard to reach as many people in the community as we can.”

For Harry, it was satisfaction with being able to bring to the table an issue he was particularly passionate about: “Personal benefits certainly were I got to bring to attention ... the one issue that galls me the most in this city – the [recycling] of plastics. I don’t know how many blue juice jugs or windshield washer fluid [containers] get thrown in the landfill in the city in a year. And there’s no process to recycle them. I’m glad I got to be able to bring that forward to the issues committee.”

Mahmoud was emphatic that his participation was motivated by the common good. “In the beginning I said this is not for individuals. When I decided to get involved in it, it wasn’t an intention to benefit myself. It was my intention to benefit more than myself. So the benefit will come tomorrow or next week or next month or next year. ... Is it only commercial? We are not making a Pizza Hut or KFC!”

Empowerment

Many of the above passages that exemplify personal growth could legitimately be interpreted as evidence of empowerment. Fred spoke in terms evocative of citizenship, but even more so, his words demonstrate that his participation in the project was an occasion for personal empowerment. This passage demonstrates how Fred connected the exercise of his rights and responsibilities as a citizen in the project with his wider world:

Getting involved. Putting my input into it. Just learning a lot of stuff about the community and what I could achieve out of it and what I could benefit and what some other people could benefit from me seeing what I go through. What I gotta overcome.... My disability is a hurdle from time to time.

I wanted to see what the city needed for not just the disabled but for everybody, to see what the city would look like in the future. Trying to get to know more people and people getting to know me when they see me out in the community. They might say to me, oh, you were on that committee and I say, yeah. Some people might remember that. They say, how's it going? What are you up to? You can't just say this is what they need. Everybody has to put in their input.

I talked to doctors at the university about why we don't have a medical textbook for people with disabilities. I find it very difficult when you go into the doctor's office. Like when the doctor just comes out of the university ... and they have a sophisticated language. They need to know how to treat a person with a disability so he can understand what they are saying to you and what I'm saying to them. They talk to their guardian or their sister but don't talk to the person directly. I know that's happened to me quite a few times.... I'm the patient, and the doctor should be talking to the patient.

Of course, not every participant experienced personal growth as a result of participation in the project. Asked whether he would say he gained greater understanding or attitudinal change as a result of the project, George replied "No, I wouldn't. My awareness has come from a number of other sources.... If there was an aha! moment, it would have been one of [the Federation of Canadian Municipalities] conferences.... One workshop in particular was sponsored by the Sierra Club ... and for me it was like a light bulb went on as I sat and listened to this presentation."

3. Behaviour Change

Interviewees spoke about a broad range of behavioural changes they had made in recent years. However, there were a significant number of interviewees who reported that their behaviour "hasn't changed greatly"; the project "might have contributed a little" but mostly "that comes from my kids"; or "it renewed any commitment I had already." The following quotation from John is indicative of the ambivalence of interviewees with respect to the project's effect on behaviour change:

I don't particularly think so because we both try to be as sustainable as we can.... I don't think this has changed our day-to-day activity... on its own; however it did ... (pause) ... there probably are some ... did the indicators influence me? Perhaps. I can't count it out because there probably have been.... We have also looked at things like the program *Your Money or Your Life*. Which came first and how do they interrelate? It's hard to unravel the threads from that. So once you learn something or once you know something, then how does that carry through and how do you say ... so it may have."

Bruce talked of how “I’d always been trying to learn about green initiatives and ways that I could make my own eco-footprint less on the planet. So I had a susceptibility to doing those things round my house and in my personal life,” but he was non-committal about whether the project had done more than “perked me up a little bit to know that there was lots more to do.”

For Don, the project may have had a temporary impact and “a minor contribution to my own personal behaviour. It was a good reinforcement ... [but] no. It worked for a while but I’ve fallen off the wagon again.” For Rachel, the project caused a dilemma in that “on the personal behaviour change level, it means I am aware of all the things I should be doing but I’m not doing. That’s all about where I’m at in life and what I can manage.”

Interviewees were hard-pressed to unequivocally attribute behaviour change solely to the project. As Karen said, “It definitely contributed. As for attributing specific changes, I would hope that there have been but I can’t quantify or point to any.” Still, a range of behavioural changes were discussed in the interviews, as well as various characterizations of the relationship between those changes and the project, including “very direct influence,” “this project helped us,” “reinforced ... choices,” “was a catalyst,” and “it hit home with me.”

What kinds of specific behavioural changes did interviewees discuss? In the following passage, Ron talks about sustainable home renovations undertaken over the past few years.

My wife and I, we took on an old military house in Garrison Woods and we built into it features as a reflection of sustainability ... trying to minimize the footprint and maximize the resource value. There are all sorts of pressures on that that are economic ... the ethical issues, moral issues, or those who don’t have. Sustainable Calgary has had a very direct influence on the way we thought about this house ... the thinking that went into the design of the house.

Karen talked about connecting with the community more by “[finding] out about my community association, or just thinking more about knowing your neighbours.” Kevin spoke at length about how the project, in concert with other influences, informed his choice of community and consumer habits:

Personal behaviour? Yeah I think it did. That and my master degree in EVDS led to recognizing that I guess ... I really couldn't see us living in downtown Calgary to walk to work. But it is important to look at a community, a suburb, looking for one to be more sustainable. Where does the pragmatism kick in? To be close in and have the home that I have is one hundred thousand dollars difference at least. That's one hundred thousand I don't have. So how do I get the best approximation of an inner city in a new development – MacKenzie Towne is the only place in Calgary It reflects in choices like vehicles. I had a pickup truck four-wheel drive and a travel trailer and now a small, much more fuel-efficient vehicle and no RVs.

Marlino spoke about behavioural changes related to recycling, supporting the local economy, and native landscaping:

When you come in as a newcomer, you don't think of those things. You think of things like employment and where your children go to school, but underneath that would be this pattern of consumption – and the pattern of where to throw your refuse. So I think behaviourally this project helped us. We recycle more and we are not using pesticides. It made us more conscious about the impact of certain products on the ecology but also on the local economy.... One of the things we were thinking about this year was to put in more native grasses ... wild flowers.

Cheryl talked about changes she had introduced around her home, including water conservation, recycling, consumption choices, and transportation:

I think that some of my awareness of specific indicators ... I've taken to heart because especially now that I have a child, you think long term about sustainability in a very different way. I'm very conscientious of the products I buy, things like packaging, recycling, reducing, the three Rs – that's become very important to me. Planting indigenous plants in my garden or choosing not to require a lot of extra water for my garden. Even the bird count – I put birdseed out in the winter, but I don't put it out in the summer because I want them to have their natural diet. Choosing to walk. I walk every day to get my groceries with the baby stroller instead of taking my car.

Armbruster talked about undertaking a volunteer commitment some time after his participation in the project. While he did not attribute the decision to his participation, he acknowledged that “it wasn't an in-your-face link, but it was probably a factor.” He continued:

I came away [from the food bank usage research] with a sharper sense of how you don't have to be unemployed to be hungry. People trying to earn a living with one or two jobs still need to use the food bank. That personally made me very angry I've been volunteering a little bit with the Inn from the Cold program – families that are earning incomes ... through

employment but have no permanent place to live. Again that reinforces the injustice of our provincial economy.

Conrad talked about his conscious decisions to begin to live a simpler lifestyle in the context of his participation in the project:

I think that it was a catalyst for me to change my attitudes. I may not have learned something specifically from that work but it opened my mind as I said to look at these things in much more detail. It led me to start questioning my own habits and that led into my thesis itself, where I really started questioning my own consumption habits and made some major radical changes in my life. Don't have a TV anymore. Don't have a car anymore. Living really simply.

4. Advocacy

As was the case in considering behavioural change, interviewees had difficulty attributing their advocacy activities to the influence of the project. In the words of one interviewee, "It's contributed, but there have been many other things in my life that have contributed." Some interviewees were uncomfortable characterizing themselves as advocates. One said, "I see myself as a neutral person." Another said, "I am not comfortable as a proselytizer," while another interviewee said that "advocacy is too strong a word" for what she does. Reesa reported that she had not engaged in advocacy work, not because she did not want to, but because "when I was really more actively involved in the environmental group I had more opportunities.... I don't know that when I am talking with people it is something that I can easily bring into the conversation. [At work] maybe once or twice a year." One City Hall employee commented, "I don't know if I'm [a strong advocate]. In terms of my own priorities, there are other things I have a stronger passion for. Government accountability – that's my thing."

Nevertheless, interviewees talked about a wide range of advocacy activities. Some interviewees felt they were more effective advocates because of the "confidence," "knowledge," and "sharpened" skills they had gained through the project. Maya talked of how the project "definitely reinforced things that were already starting and made new connections. As an advocate, I'm a little tougher now. I won't back down." Emily described herself as an "advocate for the environment within the voluntary sector. I

volunteer on a lot of boards and committees where I bring in an environmental perspective”; she added that the project “reinforced ... not to be too narrow in my focus.” For some, the advocacy was restricted to promotion of the State of Our City reports. Others interpreted advocacy as leading by example through their own sustainable behaviours. Other advocacy activities were directed toward family and friends, an individual’s geographic or ethnocultural community, the workplace, or City Hall, or were incorporated into teaching activities or social conversation.

Marlino talked about advocacy activities within the ethnocultural community where there is little focus on

the whole ecological discussion.... So I think one of the things we have been trying to do is bring that discussion within that context as well. We’ve not been quite successful. We talk about consumption levels among immigrants. On the one hand you want to have diversity of foods but on the other hand you want to support the local production. So how do you balance those two – the whole notion about diversity. If you have 100 percent consumption of rice, you don’t grow rice here so you are tied to this importing economy.”

Krista described herself as “a strong advocate for our community, period.” She continued,

I think that now when I think about things, you know, I think about what that means to me and is this something that is sustainable for our community. We had two little parks that were redeveloped and again, do we want to keep these plots? I said yeah, because those things make our community sustainable. They make it so that people want to live here. Like it’s a good place to live. And one was near a lot of subsidized housing and if any one needed to be fixed, it was that one. And the booster club donated a lot of money. We just did a sod turning at that and we are really excited to see the finished product.

Ron described himself as “a bit of a promoter [of the report] ... where there were people who I thought were receptive, where there was a readiness for this,” including at “the City of Calgary, yes, without doubt.... I helped the city at the very start design their environmental system.... The second area has been the Environmental Advisory Committee to Council. [And] at the provincial level, modestly but only modestly.” Janet also saw herself as an advocate for the report at City Hall “in setting up some briefing sessions trying to get aldermen on side.” Likewise, Don “did try to sell it here at the City. I brought [it] up to the committee. I tried to push getting you in front of the Chief commissioner. I tried to put you on the radar screen of the higher level people at the City.”

Cathy was uncomfortable speaking of her work at the City as an advocate, and she did not draw a strong link between the project and her “advocacy,” but she did speak passionately about the desire for a walkable city:

Advocacy is too strong, but what I try and do is make sure that when you are making decisions about how we build the city from a planning point of view they are really sound. One of the things we haven't done well in this city is make it more walkable ... especially design it to be more walkable in the suburbs. You read all of our policy documents and we talk about pedestrian-oriented, blah, blah, blah. Yet you go up to Crowfoot [Mall] ... and these are the very places we said we were going to be pedestrian supportive and transit-oriented, and you go out there and they are not like that at all. ... If I am advocating anything these days, it's the walkability of the city.

Jake also talked about his advocacy efforts as a Sustainable Calgary representative on the Environmental Advisory Committee:

[The EAC is] a committee that reviews environmental policy before it goes to the standing policy committee and on to Council for approval. Representing Sustainable Calgary on that, I try to bring a voice that does talk about sustainable values and the fact that there are three sides to sustainability, while a lot of other people who are coming to the committee are focused solely on environment. Now the City is promoting triple bottom line approaches to decision-making, so it is difficult to not look at the social and economic side when you are talking about environmental policy. Particularly where the city doesn't currently have a process is where they review the cumulative effects of policies and projects they are implementing. So they are not looking at the overall effect of an interchange development on the other two sides [environmental and economic]. So that is one of the recommendations I made last year – to develop a cumulative impact assessment of every decision Council makes; they should have a database for looking at that.

Several interviewees talked about advocacy through social conversation or “shooting the breeze with people over a cuppa java.” For example, Barb talked about how her “conversation had changed”:

People would say, oh, for gosh sakes, I like my three-car garage. Leave me alone. But I would say, we are creating ghettos, suburban ghettos. Children and seniors are held hostage. I was quite taken by these communities who had put limits to growth and densities and mixing of neighbourhoods.... I find I read some of those articles now, and think about them and talk about them in my social circles. And work circles around coffee break. And I can't say I really did that before.

Two interviewees see their advocacy activities mostly in relation to their post-secondary teaching. Conrad, for example, spoke of how he was able to bring sustainability themes into all his classes,

whether it is a class on Canadian geography, or political geography, where I brought in ideas of sustainability and their relationship to global security and peace. In Geography 321 has probably been my greatest contribution yet. I had great feedback from my students and we involved ourselves in a really exciting project where students took on an initiative at one of the ten Suzuki Foundation's priority actions ... and then they wrote up a report on what made that action challenge personal barriers [and] societal barriers. The feedback I got from that project was great.

5. Professional Development

A wide variety of professionals participated in the SCIP, including teachers, social workers, engineers, environmental consultants, planners, and local politicians. In each of these professions, interviewees reported significant professional development as a result of their participation in the project. The development came in the form of new knowledge, introduction to participatory process, new skills, networking opportunities, and the acquisition of a new concept, framework, and language to apply in their work. Of course, there were interviewees who did not feel they derived a professional benefit.

For Ron, an environmental consultant, "the project adds a new dimension [to] my consultancy work." Karen, a consulting engineer, was able to apply the project experience to APEGGA professional development hours. Joy shared her experience with the sustainability network within the international oil and gas corporation she works for. Janet works as a facilitator with the City of Calgary: for her, the project was "career development because it helped me understand a bit more about sustainability. That's good for my business. ... Even this TBL project I have, I see a little bit differently. The City is struggling with the global reporting initiative and I think, well, I have a small taste of what that might be." For Jake, the project "gave me an opportunity to be a facilitator. ... [It] was great, learning new skills and practicing skills." Jake works as a growth management consultant with small communities. He commented, "Absolutely, the learnings from this experience I try to use in my professional life." For John, it was the new inclusive sustainability framework that opened new doors for his consultancy in community economic development:

If I go back to before 1997, I would probably never have been interested in this project – working with the fellow out at Siksika [Reserve] who wanted to start a market garden. He didn't know anything about business. So I actually did some consulting and helped him set up an organic market garden on the Siksika reserve. He hired youth who were almost unemployable, who would normally get a job at A and W. It improved the diet of the people in Siksika. They were excited about it because [the food] was grown locally.

Armbruster works as a consultant in the social development field. He spoke of how he

appreciated more and more over the last three to four years the importance of research in moving forward social agendas. I've seen the power of sound, well-gathered, well-packaged research in bringing issues to a head ..., creating stronger public profile for issues. I've been disabused of any feelings I might have had before that research was mostly academic.

Through his participation in the project, Bruce, a City alderman, “strengthened [his] connection with some people in the community.” He talked about how the project “got me to reflect and think about the long term ... by being able to have a language ... that I could then bring to my regular work world.... Language like ecological footprint, ideas about sprawl and development, were relatively new to me at that time.”

Another alderman, Deborah, used the “broad framework” of sustainability as a tool to improve her “local consultations.” Participation in the SCIP “pushed [her] toward being much more outcomes focused.” She reported that “the dialogue helped me be more inclusive ..., because when you ... start really, truly listening and trying to understand what the other one is saying ..., I think that helped me even building up my skill level.... I went into negotiation training shortly after that.”

For Cathy, a city planner, “the key thing that was interesting for me was the process itself. Grassroots discussing what the indicators would look like and how you would determine them. Just to see how it unfolded over time and resulted in the reports themselves.” Kevin, an employee of a public utility regulator, remarked how the indicator project “was probably the first experience I had with [public consultation] and it opened the door to a professional involvement [at work] and being willing to step up and say yeah, I'll sit on that committee.”

The project also offered valuable networking opportunities. Emily, who works with a local funder, reflected that “the more we know about the organizations we fund and what they are trying to do and the outcomes they are trying to achieve, the better we are at raising money to enable groups to do that ... [and to] encourage collaboration.”

A special case with respect to professional development was Rachel, one of the co-founders of Sustainable Calgary. For her, the professional benefit of the project, and more generally, of working with a not-for-profit, has been “massive”:

Trying to take theoretical thinking to an applied context, we got to define public processes, to think about communications, outreach to people. We got to do popular theatre. We got to dream up what we thought this little world should look like, that’s unbelievable. I think I’m only [now] fully appreciating.... On [my current work] project I have to deal with communications people.... I am also dealing with our [public] engagement folks... Well, [at Sustainable Calgary] we were doing community development. We have that framework. It is one thing to understand the terminology and it’s another thing to actually try some of it in the various contexts. The task forces, the think tanks, creating a look for our reports, proposal writing ..., the opportunity to present at conferences and tell the story, volunteer management, mentoring....

This is great! I ... get paid to do what I have been doing volunteer for a long time. That is to think about how to make sustainability happen and to create programs that are about trying to move in that direction.

6. New Career Paths

Several of the participants in the SCIP were in their twenties and were either contemplating or in the midst of, or had recently completed graduate and post-graduate degrees. Three of these interviewees spoke about the impact their participation in the project had had on their career choices.

Rob was a newcomer to Calgary when he found out about Sustainable Calgary through the Internet and got involved in the SCIP. Shortly after his involvement, he decided to go back to school and study geography. The project was a “really positive” influence on his career choices:

[The indicator project] focused on urban sustainability, which was not necessarily my focus in my [undergraduate work]. I guess the best thing that I can say about Sustainable Calgary is, now that I have completed my undergrad – and so much of it has focused on sustainability

outside the urban environment – my experience with SC got me thinking that that’s not necessarily where I think the most important type of sustainability is. The urban environment is really the one that people can manage the best and quite possibly have the biggest influence on the environment outside of the urban setting and inside. If we can manage that within these big centres, where there’s a million people or more, then that can have possibly a bigger impact than trying to do these piecemeal grizzly bear habitat studies in a corner of Alberta. [My] experience with [Sustainable Calgary] has really shifted my focus from sustainability outside of cities to sustainability in the urban environment.... So it has affected the choice of what I am going to do for my masters project in a fairly substantial way.

Maya worked with the indicator project over a couple of years on the project team and as a Board member. She talked about her return to school and her goal to become a teacher. When asked if the Sustainable Calgary work had influenced her decision to do education, she replied, “Yeah. I’m thinking that there’s a whole bunch of young people who can benefit from thinking about the world. If I can be a vehicle for that, that’s good, a good path.”

Jake had just completed his masters degree at the University of Calgary in the Faculty of Environmental Design when he found out about the indicator project. He was thrilled to learn of a project in the community where he could apply his skills. He attributes his ongoing interest in sustainability in his career to his work with Sustainable Calgary:

I find that a lot of my peers have learned a lot about these concepts but have moved on in their careers. Gradually they dropped that sense of wanting to infuse sustainability in the work they do. The work that I do is not necessarily based on sustainability. But having gone through this project and having then stayed tied to Sustainable Calgary through the work on the Environmental Advisory Committee, it stays on the radar so you can promote this level of work in whatever career you are in. From a personal and professional level ..., using Sustainable Calgary as one of the avenues to lifelong learning has fueled my work – my sustainability work – for the last five years.

7. Inspiration

As the interviews proceeded, it became apparent that the indicator project and Sustainable Calgary were doing something that was not only unique but was a beacon in what people perceived as a rather conservative political climate – one not particularly welcoming to the concept of sustainability. Interviewees spoke of how the project opened doors, provided a reason to be optimistic and hopeful, and presented an alternative model and an initiative with some staying power.

Conrad talked of how the project had “opened so many doors for me. It got me thinking about things like, how do we measure [sustainability]. [It] led me to thinking about what do we mean about the GPI. How do we go beyond these simple quantitative measures like the GDP? It led me into looking at Rees and Wackernagel’s ecological footprint.” Maya spoke about how she “had an idea that politicians didn’t care that much, or very few of them did, and that big business didn’t care. I was surprised to see how it is people who are making change and not these entities that are untouchable. That was a good lesson for me.... I was exposed to a lot of special people that conduct themselves toward sustainability in a really professional way, and that was amazing to me.... A lot of mentors. I found that inspiring ’cause they are a little wiser and older than me and they’re really constructive individuals.... I’m more optimistic.”

Three of the interviewees were co-founders of Sustainable Calgary. Bill said the project “made me much more hopeful about living in Calgary.” Louise commented that the most remarkable thing about her involvement was “that the project interested me enough to stay with it that long.” Rachel reflected that she thought the project “made a lot of people happy that it exists, that there is an expression of this thinking in our city, and almost a pride by association.” The following passage from Cheryl exemplifies that pride by association:

It is nice to see a tangible little booklet in your hand that shows a commitment to being a steward for our environment at a local level. It is a symbol of the commitment of the community because it is community driven, which I think is key. It shows a commitment to being aware of the impacts on our environment as a collective society. It shows an interest in learning more about it and educating others and it shows a dedication to continuing to keep that awareness of environmental sustainability. I look at [the Report] and I refer to it and I show it to people when they visit. I think that’s very remarkable. How many other documents do you actually refer to time and time again? It shows immense dedication.

Section C: Community Outcomes

Interviewees discussed influences at a city-wide level. The State of Our City Report has become a living document in the city with a wide variety of users. The project has had a significant influence on municipal public policy influence and has made a significant contribution to creating an enabling environment for the advancement of sustainability

work. The State of Our City reports have become a benchmark for indicator reporting. The project has also been the catalyst for the emergence of a progressive sustainability network in the city and has demonstrated the capacity for citizens to design and carry out a sophisticated initiative. The reports and the process used to create them have become valuable research tools. Finally, the project has contributed to the growing web of provincial, national, and international local sustainability efforts.

1. Catalyst for New Research and Projects

Clearly, the indicators project has catalyzed new community research. The most noteworthy example of this is the Sense of Community initiative, which identified a data gap and insufficient understanding of sense of community. On the strength of the 1998 report, Sustainable Calgary convened a group of agencies to develop a survey tool to assess sense of community in Calgary. The City of Calgary, the United Way of Calgary and Area, the Calgary Foundation and the Calgary Health Region all participated in the project. The Sense of Community indicator project continues to function under the leadership of City of Calgary staff. After the 1998 State of Our City Report, Sustainable Calgary took a lead role in undertaking independent research on what we had designated as “Indicators in Progress: Sense of Community, Valuing Cultural Diversity and Economic Diversification. Many of these initiatives were discussed during the thirty-two participant interviews. The commentaries of interviewees on three of these research initiatives – Dover, Sense of Community, and Safer Cities – was particularly engaging and illustrative of the spin-off effects of the original indicator project.

Mary, of the Calgary Volunteer Centre, was involved in the sense of community survey instrument development, which is still a work in progress. Mary pointed out that “[Volunteer Calgary] doesn’t do research about that. We don’t have the capacity.” Her comments demonstrate the kind of dialogue and debate that this initiative has fostered. She talked about how “two pieces have come out of that sense of community ... that have stuck with me like glue”: looking at intervention in communities with low rates of voluntarism and increasing the participation of the trades in volunteer activities.

It was a very good survey and the data was there and interesting. You look at it very carefully and could say, Gee! It's really very interesting that we've got a number of communities here with really, really low rates of volunteerism. And these are communities that are high-needs communities. Does that mean there is a lack of connectivity in that community? And maybe we need to be doing something in those four communities to encourage people to be more engaged in their community. We tried to look at it this morning in terms of how do you do that... It has to be something that inspires those communities to take on their own issues... None of us are as skilled in true blue community development as we probably need to be. And so that was an interesting result of that survey.

It was identified in the sense of community survey that the industry group that volunteers least is the trades. Well, we just finished sitting on a big committee for a world skills international [bid] that was driven by SAIT. I was thrilled to be there because I went right back to what I learned in sense of community. What a great opportunity for Volunteer Calgary. Every single major event in this community has volunteers involved, but we never, ever leave a legacy for volunteerism. If there is some legacy where we could involve ... trades students, technology students in world trade international, so they get a few jollies from volunteering... We can look at that strategically so those young people [have] the leadership building piece integrated into some of the work. How great is that?

There are, of course, questions about how to measure sense of community. Also, once it is measured, what does one do in a community that scores a low sense of community? This also raises issues about our capacity to quantify qualitative aspects of our lives, such as values and volunteerism. Again, in Mary's words:

[A lot of trades actually volunteer a lot of time] so that makes you even think about, in terms of sense of community, what questions are you asking. We fussed and fumed around whether we should even ask any questions about volunteerism because again it's the formalized "going some place to do something" that is probably outlined for you versus all that other [informal volunteerism] we don't have any input on. I don't want to call what my plumber neighbour does to help me volunteerism. I mean he is being a good neighbour and good friend. That's why the measuring piece in terms of the State of Our City at a neighbourhood level, it offends me, 'cause if we have to measure everything we are not going in the right direction. We get so immersed in credibility and measurability based on the private sector... We don't have any matrices. We don't know how to measure that other stuff. And we stay away from it 'cause we don't. We don't stand up for it. When I do a presentation on putting economic value on volunteers, I always say to people, I always ask them a lot of questions ... generally focused on values. Do you put an economic measure on those? And people don't. They are all what we tend to call soft.

Krista was the key driver behind the Dover Community Indicator Project, funded by the Neighbourhood Grants project of the Calgary Foundation. The Dover project was adapted from the city-wide SCIP. Sustainable Calgary was approached to assist the Dover Community Association with a land-use dispute with the City of Calgary. Eventually the Dover Community Association agreed to broaden their perspective to look at the

sustainability of the community and not just the land-use issue. The indicator project led to two new community initiatives and at least a partial resolution of the land-use issue. In Krista's words,

I came into [the sustainability study] with this specific thing that we were going to address this land-use thing. And decided that report was going to say we need to have more of a ... we call it move-up housing ... that's what we call it in our community. And what's come out of that sustainability study is that we've gone forward with the whole multi-cultural, cultural diversity piece – which has been very surprising to me.... Now we have a cultural diversity member on our board. They have been meeting with different groups in the community. We are trying to look at making ourselves more culturally friendly, translating some sports forms, in terms of having interpreters available.

And then the trees. One of the [Dover] indicators was the number of trees, and today in the park they are planting three hundred more trees.... Somehow there was some extra money so [Calgary Parks and Recreation] phoned us and said, do you want some trees? We said yes. Yesterday they started.... And as a community we are getting three dozen trees to be planted around our Hall and we are doing that on June 16th. And again, part of the thinking about trees came from that report. Those two things were things I never thought would go and they did.

...

The land use issues are still a struggle, although we are making really good progress. Carma needed some land in the south and the city had some land, so they swapped. Carma was interested in the sustainability report. They wanted to look at what the people in the community say they wanted. So [Carma is] really excited about doing some high-end developments. At the other end of the park, some townhouses are going in. Habitat for Humanity is putting in a development. We were asked to support that and we said we support anything that is owner-occupied, based on our sustainability report.... We do need a mix of housing in our community although one of the things we talked about [in the report] was the need for more affordable housing. We feel we have done our contribution with the Habitat for Humanity development.

A third project is the Safer City initiative, a multi-stakeholder initiative instigated through the City of Calgary. Through the Safer City initiative, Calgary has become the first Canadian city to be designated by the World Health Organization as a Safer City. Cheryl coordinated the initiative during the creation of its indicator report. In her interview, she talked about the influence the SCIP had on her work.

When I was working with the Safer City project ... there was a very keen interest in looking at how to measure the success of the Safer City project, and the first thing that came to my mind was the [Sustainable Calgary] indicator project. It was a really nice fit.... On a personal level, the lesson [from the Sustainable Calgary indicator project] for me was that you can make it easy to understand how to measure something and put it into a language that others can understand and buy into and maybe contribute to. So that learning for me I took to the Safer City project when we did the background indicator work for it.... It's become a real example to me how to lay out an indicator. If the staff can understand it, they can say, yeah,

that's measurable, and you can put it on a piece of paper and check it for progress throughout the year and say yes or no to it at the end of the year.... [The Sustainable Calgary indicator project] became a significant piece of foundational work that I've used time and time again as a reference when I'm working with people at the City.

2. The Indicator Report as a Living Document

Interview questions were designed to explore the extent to which the State of Our City report was being used. Consideration of the interview results suggests that to a modest extent, the report is a living document in the sense that it is not merely sitting on shelves. It was designed to be a reference, a planning and policy tool, and an education tool. To some extent, it is being put to those ends. One area where it is clear the document does not have a profile is the business community. John works in the private sector and commented that "definitely at the corporate level, I haven't seen it." Reesa confirmed that observation: "When I was involved in the private sector, nobody talked about it."

But in the public and not-for-profit sectors, there is evidence that the report is an accessible, living document that has some purchase as a planning and education tool. Karen said that she feels "people can learn from it.... It's accessible ... [and] it's really readable."

According to Barb, "I know when I am out in the community I hear people talking about it. They refer to it. So it isn't a dead document that went on the shelf and no one ever heard about." Mahmoud spoke of "us[ing] it personally" and said that it was "something to communicate with other new immigrants, or with Canadians." Jackie, on the other hand, reported, "To my knowledge, it is not really being use in United Way. I think that there might have been a few staff initially in focus groups [who] had been aware of it and had reports in their offices." Cathy, a city planner, felt that it "was an excellent product [and] a good source book" and that she had "made reference to the report in some of [her] work." But she tempered that assessment with the statement that "it's starting to get dated ... [and] to be honest, it's been a while since I referred to it."

Some interviewees were very specific about how they had used the report. Marlino, for example, said, "Yes, I use the report a lot, especially, for instance, the indicator on valuing cultural diversity. It is very good because you have the statistics and the indicator to use to

actually talk about something that you know is happening ..., to say that we need more interventions ..., [and for] policy and planning and project identification.”

Maya took it upon herself to disseminate the report through her organic produce delivery business. “I definitely spoke with a lot of people who had a little bit of interest, a few hundred people. There are a few copies at the warehouse. Our customers, some of them phoned and said ‘this is great! I had no idea that this is going on.’ It was a good role for our business to play in the city.”

Emily works for a provincial funding agency and has “given this book or referred this book to probably thirty people in the last few years. Even people in Fort McMurray and in Lethbridge – people who work for other municipalities and really specifically sustainable development. I do send people to your Web site because we don’t have copies any more.”

3. Policy Influence

Before beginning an analysis of the interviews with respect to policy influence, it is instructive to note the description offered by Don, a key policy analyst in the City administration, that policy “is a very messy thing.... At the end of the day you roll over a lot of things in your head and you make a call.” On a more hopeful note, Ron, with extensive experience as an environmental management systems consultant to the City, offered the opinion that “this sustainability project in Calgary [is] a very effective tool in getting focused on where public policy is either missing or weak, or maybe is strong but needs to be maintained.”

Not surprisingly, the interviews did not reveal any policy influence in the private sector. According to Janet, who has worked extensively for oil companies, “I haven’t seen or even heard reference to Sustainable Calgary, to be honest.” Likewise, Barb concluded that for the Calgary Health Region, Sustainable Calgary is not really on the radar screen.

In the not-for-profit sector, there was some evidence of policy influence. Ron sits on Environment Canada’s Eco-Action Advisory Board for western Canada. While he hasn’t

seen “any reference to Sustainable Calgary’s work in any particular application,” he believes “the dialogue to some extent has changed about what these projects can produce because of what Sustainable Calgary’s indicators have revealed for people.... The context has changed. You need shower heads, but you have to do other things.”

When asked whether participation had influenced policy at her funding agency, Emily replied,

Yes. It’s probably ... where I started to look outside the environmental sector and started to think that we really needed to include in any of our outreach about funding, or about the environment, the entire community. That in other words, we shouldn’t focus just on environmental groups. And right around that time there was a lot of other sustainability stuff going on. I remember sitting with a couple of women who worked at the Y. We had this discussion that it isn’t about the environment, it is about where you live, and [that was] the whole genesis of “It’s Because It’s Our Home” [the funder’s slogan]. I can’t pin that directly on your workshop, but being there and talking to people who didn’t have an environmental background but cared about their quality of life started me down that road. It’s an easy sell. Yesterday was our funding round and we gave dollars to Big Brother and Big Sisters of Edmonton for a program to get these urban kids, mostly aboriginal, out to their discovery centre for environmental programming. These kids don’t get that from anywhere else and are very receptive to it. So for us, that’s a good example of integrating environment into society.

By far Sustainable Calgary’s strongest policy influence has been within the municipal government. Remembering that policy is messy and diffuse, how can we characterize Sustainable Calgary’s influence? A simplistic model of policy diffusion, depicting actors, structures, and instruments, is helpful to organize the insights of the interviewees. First, let’s look at the actors. Many City employees with a hand in policy participated in the indicator projects, as project team members, sector workshop participants, researchers, or data providers. Most of these people form part of what one interviewee called a “sustainability subculture” internal to the municipal government, beyond which, the interviewee maintained, influence of Sustainable Calgary has not diffused. According to other interviewees familiar with City government, a handful of senior and mid-level managers, and at least six aldermen, have been “engaged” by, are “paying attention” to, or are “talking about” the SCIP. One alderman acknowledged that her participation in the indicator project “certainly helped me understand the triple bottom line a lot quicker.” Another alderman recounted how through his involvement with the indicator project, “I guess in a way I was trying to understand if all of that sustainability indicator stuff could be

brought into a fairly large organization that wasn't talking that way so much." The alderman went on to explain that

the city just signed on to a network [ImagineCalgary] to plan for long-term urban sustainability. Maybe four years ago ... there were pieces of it ..., people in parts of the organization who were very keen on it, but they weren't united, they weren't connected, and in a little while they have kind of legitimized it in the organization. I don't know if I had a part to play in all of that. I'm not suggesting I have, in any formal sense, but I kind of understand sustainability and I'm supportive of people who want to see if our organization can actually come up with a meaningful strategy ... of reflecting back to sustainability principles.

Undoubtedly, one of the focal actors in the policy arena at City Hall is an environmental policy analyst and co-founder of Sustainable Calgary. Her influence throughout City government is widely acknowledged by interviewees. In one alderman's assessment, "Rachel influences people in the city. So you hear the conversation, you hear some of the speakers who have been brought to the city from other parts of the world and Rachel's name will be mentioned."

The actors influence policy through various structures of policy design. Sustainable Calgary has had some interaction with several such structures. Chronologically, the first one was the Standing Policy Committee on Community and Protective Services. In 1999 Sustainable Calgary presented its recently released first report to this committee, which endorsed the report and recommended that Sustainable Calgary be invited to participate in any sustainability initiatives of the City. Another increasingly important policy structure is the Environmental Advisory Committee (EAC), whose role is to comment on all environmental policy before it goes to the Environment Standing Policy Committee. Sustainable Calgary was invited to join the EAC as an observer in 2002, and in 2004 it became a full member of the committee. Another policy structure with which Sustainable Calgary has had some interaction indirectly is the executive offices, where, according to Cheryl, "how to measure, and indicators, is all we talked about for a year and a half and is still very much the focus of Council and the administration." Cheryl's commentary emphasizes the value of the indicator report itself as "a significant piece of foundational work," particularly in that it serves as a structural model of how to report on performance

measurement. Her thoughts help illuminate how the model can have influence in the policy arena:

If administration can understand what the indicator is that you are trying to create and measure, then it is easier to communicate to Council. And Council represents the people. If we are going to change behaviours and activities and even public support for where tax money goes, it has to be in a language that everyone can understand, at an administration level, a Council level, and a public level. So for me, that's where this project can become a very serious model and foundational effort.

When I went to [executive] meetings and we discussed how to put the Council priority document together, how to lay out what our indicators were, how we would measure outcomes, [the indicator project] was an effort in my mind that I kept referring back to, and [that] I kept referring to in group discussions.

Policy is implemented within the municipal government through policy instruments, which are administered by actors. Interviewees identified three policy instruments over which Sustainable Calgary continues to have some influence: the Environmental Management System, and in particular, the ISO 14001 certification process; the Triple Bottom Line reporting initiative; and ImagineCalgary. The ISO 14001 process influence was very localized. Harvey talked about how shortly after his involvement with the indicator project, Calgary Transit established an environmental management committee with the goal of getting Calgary Transit ISO 14001 certified. He related how “we were one of the first business units in the city to [achieve certification]. A lot of the discussions we had here and the projects we took on, I remember back to the [indicator project], and I got to lend some of my learnings there into the committee to get things done properly.”

Performance measurement generally, and the Triple Bottom Line (TBL) reporting initiative in particular, represents the policy instrument where the indicator report has been most relevant. Performance measurement was the foot in the door for the indicator project. Don explains how the indicator report got noticed and how that initial interest continues to influence the TBL initiative:

Certainly we had an interest in the indicator report. We were totally on a ... parallel process at the time. We were in the process of developing performance measures for the City of Calgary. We broke that up and said we need them on a corporate level [and] it would also be useful to have something on a community-based level. So when we found out what Sustainable Calgary was doing, it was like a very nice fit. It was very supportive of what we were trying to do. At

that time we even had some ideas about beefing up what we had done by piggy-backing or using this community-based process. Unfortunately, a lot of that got put on hold just because of the organizational review. I think today I'd probably have a lot more awareness of the sustainability part of that, the need to preserve this for generations to come and that kind of thing. And the only reason I'm saying that is because of one of the projects I got involved in late last year ..., a triple bottom line initiative, and I've been heading that up. I don't know if we are solving the sustainability issue, but at least we are trying to bring in social, environmental, and economic issues much more formally into decision-making. So Council reports now require social, economic, and environmental implications of any recommendation that administration puts before council. Looking at it strictly from an indicators point of view to more of a policy framework ..., we have a direction from City Council to recast what they call Council performance measures and make them more relevant. We have much better ones than we had five years ago, thanks to [Sustainable Calgary] and the stuff that Rachel is doing and a few others.

The most current manifestation of the policy influence of the Sustainable Calgary indicator initiative is ImagineCalgary, which represents an unprecedented opportunity for Sustainable Calgary to exert significant influence over policy. ImagineCalgary is the first attempt by the City administration at a systemic, integrated, and community-owned approach to create a long-term vision that will inform Calgary's transportation plan, municipal development plan, and social development plan. Rachel has been one of the key architects of the ImagineCalgary initiative, and Sustainable Calgary has been invited to the table at the beginning of the process. It remains to be seen what role Sustainable Calgary will play and how important ImagineCalgary will be.

Given the potential for Sustainable Calgary to exert a greater influence on policy, it is important to step back and do a reality check on the influence of Sustainable Calgary to date. The above commentary attests to the fact that Sustainable Calgary has established a presence in the policy actor network, the policy structures, and the policy instruments of the municipal government. But the overall assessment of interviewees is that the influence has been modest.

According to one alderman, despite "a lot of interest and a lot of enthusiasm," somehow the indicator report "didn't get the traction ..., didn't quite take hold." Despite acknowledging that the indicator project had the attention of the Chief Commissioner in 1998, Don offered the following comment: "To what extent it permeated upper management? I don't think so. That's my gut feel. I would say if you went to the executive level and mentioned the word

‘Sustainable Calgary,’ my guess [is that] most of them wouldn’t have a clue.” Has the report diffused throughout the city? According to Cathy, “I wouldn’t say a lot at this point.” In reflecting on the report’s influence, Alderman Deborah replied, “I couldn’t tell you exactly. I don’t think I’ve seen anything specific that I could allude to where it’s ‘quote’ made a difference. Even as a Council member, though the knowledge that I gain from a whole variety of places does impact and influence the decisions I make. It’s diffuse.”

Alderman George’s response to the question of influence was, “I couldn’t point to something and say, here’s where the indicators have been incorporated into the way the City does business.” While he perceives that “concerns about the environment are more prominent than they were six or seven years ago,” the extent to which that awareness is “attributable to the work of [Sustainable Calgary], I couldn’t say, because it is coming at us now from so many other directions.” The following passages from George’s interview were insightful in terms of the dilemma Sustainable Calgary faces in achieving, and even recognizing, significant policy influence. “[The report] has to grab the attention of a municipal government champion, it has to resonate with the priorities of the municipal government, and there must be some sense that it is doable.

Maybe [it’s] the nature of my job – it’s both responsive and reactive in a sense. People come and they say they’ve got this idea and present it.... Or they have an issue or a problem or something that needs attending to, so you try to respond to that and as long as that pressure is there, you continue to respond. The other part of it is sort of around a leadership or initiative-taking role, and that’s where you feel there’s something here that needs attending to. [So] of your own personal priorities, you take it on as an issue to champion. So I guess in the case of this particular project, Sustainable Calgary was not hounding us or advocating or promoting this on an ongoing basis and keeping it in view. If no one is making it an issue, there are lots of other people over here making noise about other issues that kind of distracts your attention. I could see where it fits ... [but] being a champion for it somehow didn’t resonate with whatever were priorities for me at the time. I forgot about it.

There hasn’t been a strong sense of urgency around here about the importance of performance measures. People aren’t sure of the relevance of it – is it an add-on to what they are doing? ... I really do see the value and merit of performance measurement, [but] you also need a critical mass of people who think it is important. If you are the only member of Council who seems to be asking questions about it and nobody in administration really seems to be a champion of it either, it withers.

The other problem with community measures is what piece of it is the city responsible for and what piece is somebody else responsible for. It is hard enough aligning efforts within one complicated bureaucracy like the City of Calgary, [but] to then add to that the coordination, co-operation and alignment with the Health Region and the City, the Calgary Board of Education

and the City, other institutions and community groups – it seemed like a monumental task. When you don't have time for other tasks, a monumental task seems too remote to take on.

The last word on policy influence goes to Ron. During his interview, he asked rhetorically, “Has [the indicator project] changed activities, thinking and commitment [at City Hall]?” He answered, “I believe it has.”

4. A Benchmark for Indicators and Performance Measurement

Interviewee comments recorded in the previous section allude to the foundational model the Sustainable Calgary indicator project provides. Throughout the interviews, the most common descriptor of the status of the indicator report was “benchmark.”

Bruce talked about how the “document, at the end of the day, was really useful.... To be able to say this is a snapshot of where we are today and kind of look at progress or lack of progress years down the road. A benchmark was being drawn and we were on a journey together to say, in a while we'll do this again and see if we have improved or not.” He continued, “I can remember some discussions around the Council table and the report being brought up.... In a way it led thinking around outcome measures. Logic model stuff.” Barb, from the Calgary Health Region, spoke about the indicator report as something “tangible that could put some substance to what we were talking about. It is a very ambitious initiative because it is tough to get indicators or systems that aggregate – and collect [the data]. I think you have raised an awareness and benchmark for the community.” Cheryl acknowledged that “it's become a real example to me how to lay out an indicator.... If the staff can understand it, they can say, yeah, that's measurable and you can put it on a piece of paper and check it for progress throughout the year and say ‘Yes’ or ‘No’ to it at the end of the year.... [It's a] significant foundational piece.”

Janet described the pioneering and unique ‘philosophy’ of the reports in that “It is more important to find a good area to measure even if it's really difficult to measure. I remember that as a strong thing: we're not just going to go for easy measures.” She also reflected on the significance of the report in her facilitation work and for the wider community. “It has been part of my own development and ability to ask better questions [of] groups that are

struggling around the same issues. We shouldn't underestimate that actually, because there is a time when there is a desire to do something, but could anyone even do it? I guess in my mind Sustainable Calgary is one of the first who did it. It is possible. An aha! A pioneer."

From the point of view of municipal government, Rachel put the continued benchmark value of the indicator report in perspective. "The City of Calgary has yet to get indicators right – to do it well. In that context [the] indicators report stands up as a good example. On the City side, it is still a big mess. We have a corporate goal of creating a corporate reporting framework. [City officials] have a sense of, here's a way of doing this stuff. Especially on the community side, you could argue, why would the City think of other [indicator sets] when that's been done [by Sustainable Calgary]?"

5. Contributes to an Enabling Environment for Achieving Sustainability

Outcome four concerned the influence of the indicator report in the specific context of policy design and implementation within the municipal government. In a wider context, the project has played a significant role in contributing to an enabling environment for accelerated movement toward sustainability, including in the policy arena.

Ron believed that the indicator initiative "has actually created a change of mind at City Hall within the staff administration and also senior management." Rachel expressed the same sentiment in terms of the indicator report "contributing to a culture shift." Joy couldn't "point to precise things that were done," but she felt "really comfortable that it planted seeds and got people thinking" and that, in fact, she has seen "more movement and more discussion on the topic at all levels of government and industry." Karen thought that it "gives you more credibility if you can talk about something and say oh! There is an interesting report out...."

Krista talked about the way the Dover Sustainability Report had influenced activities in her community:

In the newsletter, we talk about our multi-cultural program. It was a direct result of our study.... It came out of the sustainability study as a need and we went to a meeting of Our Communities, Our Voices that Diane Danielson puts on once a year. It came out that a lot of the communities in the area felt like they weren't really reaching the cultural groups. So we decided we wanted to get a person on our board. We want to [ask], is our information that we put out culturally friendly and sensitive? Do we use culturally sensitive drawings in our newsletter? We have a lot of Sudanese people move into our community. We had to develop a knowledge and understanding of the people who are our neighbours.

Harvey described how the report was helpful for him during Calgary Transit discussions of the kinds of success stories to post to its Web site. "I did mention more than once at the table, 'Look, we've got the Sustainable Calgary group out there and these are the kinds of things they're looking for and these are some of the indicators.' So it ties in nice to our success stories." Deborah identified the importance of learning a new language. "People are just starting to realize what sustainability means, and part of that is the influence from the report. Just having the word 'sustainability' up there. People are starting to talk about it. Building the capacity of people. Over time it becomes part of the language and there is a common understanding of it." George talked about how in "politics ... you create a climate."

You do things and you don't know what impact it is going to have, and it is intangible sometimes. You create a climate that gives people permission to do things that people weren't thinking they would do, or sure they should do, or didn't know if they wanted to take the risk of doing. And by golly, here's this group of citizens doing something, and it creates a climate of acceptance.... When I think of what the City of Calgary has done in the environment – we have gotten a lot of cudos in the last couple of years and I'm thinking it is all part of building a climate of acceptance. Even though those indicators themselves may have fallen by the wayside. It may not have been executed well on the advocacy side, but it has planted a seed, planted ideas, given people permission, and [the] impacts, we can't really measure.

6. Reinforces a Progressive Sustainability Network

In 1996 Sustainable Calgary was fairly unique in its focus on urban sustainability. As such, it was a meeting place for people interested in working on urban sustainability. The process of citizen engagement and dialogue facilitated network building; many participants remarked on how the process had allowed them to create new relationships with fellow participants and connected them with new organizations and networks.

George commented that in his opinion, “the value of [the indicator report] is the network of people who came around the work as opposed to the work itself, the indicators themselves.” In responding to the question of project outcomes at a personal level, Karen commented,

I have actually met some people through volunteering for the indicators.... I don't see them on a regular basis, but when we do see each other, we have so much in common that it's really nice. So it actually introduced different people – to be able to build a larger network.... So you know when you are all depressed about all the stuff going on in the city and you read those great quotes from the mayor, you can think of those people and realize they're out there. You know that there are people who do care and are interested in the same issues.

Similarly, John mused that “I think some people that are in my life now, I probably met during that process. So just the association with those people – and that's nice.” Maya reflected that “often when you are not acting from the status quo or you don't think you are, you feel isolated. So personally, it was just good to connect with other people that are working toward similar goals.”

7. Provides an Educational Tool

For several interviewees, a significant benefit of participation in the indicator project has been the opportunity to use their experience of the process and the report as teaching tools. For some, the report and the sustainability conceptual framework provided the content for teaching activities, while for others, the process provided the opportunity to reflect upon their role as formal and informal adult educators. Some reported that the act of teaching obligated them to challenge and deepen their own understanding of sustainability. The teaching venues where these interviewees practiced ranged from the workplace, to social movements, to formal post-secondary educational institutions.

Emily used her participation in the project as an opportunity to reflect on her role as an informal educator. Her contact with participants from other sectors reinforced her sense of the “responsibility” you carry when “you become the educator.”

It's a bit of a responsibility because you don't want to alienate people. You don't want to ram [the environment] down their throat. It's a chance for you to figure out how much you know

and how rational you can be about an idea or an issue and clearly understand how others, who don't have the same set of experiences, feel. For me it creates ... opportunities to direct education or direct communication towards filling those kinds of gaps.... I've found over the last eight years or so that there is a lot of stigma attached to environmental language. I don't use the word environment. [I] use, for example, quality of life – people are much more eager to talk about that. When you use the word environment ..., I don't know if they think about what that might mean. But it might be bad, might be contentious.

Jake talked about his role as a teacher in his workplace and how he has “gone on to try to teach some of the things I've learned. In my own office, I've given a presentation on this sustainability indicator project. Some people that have moved to Calgary can learn a little bit more about their city and eventually come and take on projects with Sustainable Calgary. I know three people in the office who have done so.... I continue to read up on sustainability, infuse it in my daily practice and projects that I work on ..., try to teach the meaning of sustainability to some of my clients.”

Bill, an adult educator, worked as a workshop facilitator in the 2001 report process. The most remarkable aspect of the project for him personally was that “the act of doing the workshops ..., the act of sharing the knowledge ..., the act of teaching” contributed to a “deepening” of his knowledge. Bill spoke of how the project “shaped me as an educator”:

Because of this process, I probably kept shifting toward doing more community development type of education.... It's probably shaped me to be a much stronger advocate or educated activist when it comes to the urban context of ecology. I know it has made me happier about living in the city.... There's a lot more focus [for me] on urban ecology. Definitely this was one of my ... strong shapers. So when it comes to the third semester graduate program [environmental studies at Audobon] as an example, I am the one who put up my hand and said, [I] will organize the students around the urban ecology experience in Boston.

Rachel has also taught a community sustainability course at the University of Calgary in the Faculty of Environmental Design. The course is an opportunity to introduce sustainability to a group of future planning and environmental professionals. Similar to Bill's experience, the preparation for and act of teaching is an opportunity to deepen her own understanding of the concept.:

It was great to be able to teach that course for me because I got a chance to really think about those things and how do you present that to students. As much as it was a lot of work, it was also a neat time to do a bit of integration. And you get more and more confident.... Does it

stand up? How do I say this? Is this making any sense? So there was probably a lot more value in the advocating side and learning to do that than I really appreciated.

8. Demonstrates the Power of Citizen-Led Initiatives

Among the interviewees, there was a widely held belief that the indicator project had been a great success. Some expressed admiration for the balance, quality, and sophistication of the process and of the product that a group of citizens had created. Alderman George felt that “what the value was, was a group of citizens took on this very sophisticated task.”

Armbruster commented, “The remarkable thing is that it was a whole ton of information brought together by volunteers and put into a form that attracted public attention. Information that would normally be difficult to convey to people.”

One interviewee from the municipal government said, “You folks did a very good job at keeping [the indicator report] more balanced.” From his perspective, “The energy of the people, the work that went into that was amazing and the quality of the product was astounding, to put it mildly. It was very impressive ... for a volunteer effort. Better than a lot of paid efforts I’ve seen.”

The comments from two of Sustainable Calgary’s co-founders give some perspective to the accomplishment. In Louise’s estimation, it was remarkable “that the project did its work so well, so far under the radar screen of so many agencies and people. I think people were shocked to see the extremely professional product from a group of nobodies. No big names were associated with us and yet the work looked great and was well vetted and defensible.”

Rachel pointed out that “in retrospect, what we pulled off was two major processes with very little resources, which was quite remarkable [in terms of] cost efficiency. It is outstanding. And at the level of quality, if anything ... when people hear about it they think, Wow! This happened in Calgary?”

In summation, interviewees observed that the indicator project was a complex process that delivered a sophisticated product. The project demonstrated that citizens can carry out complex and coherent analyses of important issues and communicate them effectively. The

project provides a living example of how and why active citizen engagement on important issues should be encouraged and supported.

9. Promotes a Productive and Engaging Citizen Dialogue

When interviewees were asked what was the most remarkable aspect of the indicator project, the most common response had to do with the citizen engagement process. The dialogic nature of the process seemed in contrast to a “corporate, task-oriented,” stakeholder or adversarial process, which many interviewees were more familiar with in public engagement. Several dimensions of this dialogue emerged from the interviews.

The dialogue drew upon a diversity of active engagement techniques. The use of these techniques, sometimes referred to as popular education techniques, set the process apart from a conventional public consultation, and in one interviewee’s opinion, gave the process “different rhythms as you went along.” Krista “remember[ed] the one exercise where it demonstrated very clearly how all the needs that you have in life are really connected – connected with these strings that we had and we were trying to walk in between them.... It was a very impactful exercise.” Janet “really liked a lot of the opening things around recognizing who we are as a group, what parts of the city we came from – it was nice community building. I hadn’t experienced that before.” For Bridgit, the dotmocracy technique was “impressive.... I guess you always talk, discuss, or dispute things, and then to actually see it as a fact – here is my opinion.... Maybe because I am a somewhat visually oriented person.... I could hear it very clear, people don’t like your idea, or people do like it. There is no pussy footing around.” For Ron, the most memorable moment was a piece of popular theatre used to animate the report launch event – “the appearance of ‘Super Indicator Vindicator.’ People in the aisle were very impressed – the level of energy here. There was a creative spirit at work. There’s a point to be made. Very powerful stuff.”

The dialogue supported the inclusion of local, lay, and experiential knowledge into the deliberations. Deborah remarked that with “the variety of people around the table, you honed in on dialogue rather than having a set format.... Dialogue works.... To me, that brings people’s ideas out more.” For Bill, it was “an empowering process.” He connected

the process to “the ideas of participatory action research, people’s knowledge, and Freire’s literacy work.” In Bill’s opinion, “people actually know much more than they realize, even though they have been conditioned not to know or not to create knowledge. This process offered a way for them to be recognized and have a voice.” Marlino was impressed that “the whole process of coming up with indicators ... involved working with indigenous knowledge and people, and linking that with the more academic funded research.”

The dialogue was “inclusive” and “engaging” of a variety of citizens with varying life experiences and challenges. Marlino remarked, “What do I remember most? ... Bringing in more people to the process who would otherwise not have participated. For instance, working with Fred and actually helping him return the project to other people in [the Development Disabilities Resource Centre].... And I remember our workshop at L’Arche.” When asked about his report back to DDRC, Fred said,

Yeah, they gave me good comments.... They said “Oh, you really got yourself involved in something that you wanted to really do.” It gets me out there and I can see what needs to be changed when the City can only afford so much.... Just sitting in and letting the people know what kind of person I am now – living in the community.... You don’t want to leave everybody out [because] then they get kinda disappointed.... My input was more for myself, or for in general people with a disability, or people who are always having difficulties overcoming barriers.

Barb’s commentary alluded to another kind of inclusion when she talked about “the groups [being] relatively multidisciplinary.... There were lots of people [in the health group] that had nothing to do with health but obviously had an interest.” Louise, one of the co-founders of Sustainable Calgary, talked about how the process was open enough for her to bring a unique perspective to the table.

I think my contribution was to provide a different point of view to the table, the way of thinking of an engineer, a mother, and a suburbanite. Having a father and husband in the oil business plus being an engineer in land development provides an awareness of big and small business pressures and constraints that government employees do not necessarily understand. Profits must be made in order for taxes to be paid that result in funding of social projects. Being a mother and part of a family in the suburbs provides a window on the mindset of the people that want the best, newest, and neatest of everything. Quite different from the granola-eating, walk-to-work crowd of the inner city.

The dialogue facilitated a “creative,” “constructive,” and “open-minded” process with a “building of ideas” as they “emerge” from the process. John remarked, “It wasn’t like a group of eight or ten people got together and drove [the process].” Bruce saw the process as one wherein people were “starting to grapple with issues. Starting to learn language and ideas. So there was a healthy debate. A lot of back and forth. People who were really forward-looking and trying to create something that had been done elsewhere . . . , people who were on a cutting edge together and trying to learn some things and apply it to Calgary.” Conrad remarked that “it was a true dialogue in a Freirian sense. People [were] willing to step back and allow the ideas to form themselves.”

The dialogue was welcoming, gentle, and self-directed, engendering trust and an absence of fear to express oneself. Janet talked about an instance when the group dealt with some tension, “which happens in large groups everywhere. . . . One lady . . . had water quality as her big thing, and she kept carrying around pictures of foaming green stuff coming out of our water treatment plants. It didn’t matter what topic. It didn’t matter what part of the process, what time of the evening. . . . [But] it was a very gentle process, the group took care of itself.” Deborah felt the process was trusting in that “nobody was afraid to talk, to put their ideas on the table. . . . I enjoyed it because I was able to put my ideas on the table and no fear of anything coming back at me.” Barb spoke of the challenge of trusting the process itself:

I have to say that I actually thought it was a very good process in the end, and I think I was impressed with the reports that came out for sure. What was interesting for me, though, was it’s like any process where you bring community members together – it’s always murky, it’s always fuzzy, and you hope someone else is going to do the work. I remember the meetings. I thought they were well structured. I thought the information was clear, but the process of working through those indicators, because they were all ranging all over the map, and there were different interests in the room. . . . It was tough for me in terms of some of that discussion because some of it just seemed serendipitous or just whimsical. And yet if you are going to put together reports like that . . . , [if] they are going to have . . . the credibility, there has to be some sort of rationalization of the data and understanding what is futuristic or wish-list versus where do we have some good solid information. Interestingly, in the end the report came together like that. But you know the process worked.

The dialogue attracted a diversity of participants who contributed in unique ways. Emily “found [the workshop] to be a very good experience. It was thorough. The facilitation was good. It’s always meaningful to have a conversation about something with a group of

people who are diverse and don't have the same understanding ..., don't have the same expectations. So the conversations are a little bit more in-depth that way. There is a lot of listening and speaking and learning going on." Rob said, "The thing that got me the first was how wide a range of people that are out there. We had all kinds of people from all different walks of life and different experiences and different social demographic areas and everyone came to contribute and everyone did contribute. I thought that was quite remarkable." What impressed Kevin was "actually getting sustainability indicators out of a diverse set of views. It worked [even though] there were some pretty sharply divided views."

The dialogue called upon people as citizens acting for the common good. For Barb, "the notion ... of a citizen when you're in a process like this is more about collective good than just being a citizen and an individual. That was one of the things that I struggled a little bit with, that notion of citizen and health worker. People say, 'Take off that professional hat.' If they mean they want me to be open and not just hammer my agenda, absolutely, but I can't separate out my knowledge base." Mahmoud explained,

For me as a Kurdish person, I wasn't there only to contribute to the Kurdish community in Calgary but the large group at the workshop. From the City, from the Spanish, from the Sikh, whatever – get together to contribute to the Calgary community. A bigger umbrella for all ethnic communities in Calgary...."

Of course, there were tensions, debates, and exclusionary practices in the process as well. Dialogue is no magic remedy to abolish those. Barb's comments highlighted that reality: "With a group like that who don't know each other and you have to figure out how to talk together and get meaning out of each other. Yeah, it's always a struggle, but overall it was enjoyable. It wasn't like it was splintered, or [that there was] hostility, or clear acrimonious feelings among people." For Rob, the conflict was a real learning experience with respect to

the whole idea of working with the focus groups with blue-blooded conservatives and other people who were definitely leaning the other way and trying to reach a compromise or to develop some sort of consensus with these people.... It wasn't successful in every case. I remember one fellow came out for two of our focus group meetings and didn't like the way it was going and he didn't show up after that. But by and large, I think there were a lot of diverse opinions that at least had input and got expressed. Learning that process and learning how to deal with different people was ... one of the main things I learned.

Harry expressed some frustration at “one guy [who] always called the GoPlan the no-plan. He didn’t really contribute a whole lot. [He had] a negative attitude.” Kevin saw some “controversy in the group but [surmised that] a healthy group like that has some controversy, so that’s okay. That may be indicative of success, actually, in attracting diverse views and diverse stakeholders.” Mark appreciated the process, but saw it as somewhat exclusionary in that he had “yet to see a full community dialogue around ... business leaders, folks like myself and folks like yourself, all getting into talking about it. I don’t think we’ve got to that point yet.”

Section D: Improving the Process

Interviewees were asked to comment on how the process could have been improved. Responses can be organized into five broad categories: articulation of project goals, preparation of participants, broader participation, exclusion within the process, and dissemination of results.

Ron felt that “the sort of definition of success for this was never at the beginning very clear. It evolved. It would be very helpful to try to articulate where we want to be – what does success look like. It doesn’t mean it is an end point ..., but it has to be more clearly articulated for more people than to join in.” Deborah’s comments about the loose structure of the sector working groups resonated with the theme of articulation of project goals: “You have to balance [the process] for those who like structure.... I would imagine some dropped out after the first session because they like the structure.”

Some interviewees felt that the process might have been improved by more preparation of participants: for example, Barb thought that the process might have been improved by “maybe helping people understand what data is available.” Armbruster commented that “we have many other cities to reflect upon, [and] giving that sort of perspective at the front end would probably open minds and generate energy above and beyond what was there.” Janet reflected how in the second report process, “it felt like we were starting from scratch [without] so much building from the first report.”

Conrad posed the question, “What proportion of Calgarians even know about Sustainable Calgary and how do we improve that?” Most interviewees offered thoughts on how to increase participation of the broader public, people from diverse ethnocultural backgrounds, under-represented partners, and stakeholders and decision-makers. While recognizing the substantial participation, John mused that “if you get ten thousand people, then that is really substantial.” Marlino thought that “one way of having a multiplier effect [would be] to partner with groups who are active ... for instance, with the ethnocultural council. I am sure they would be more than willing to partner, maybe [host] a workshop, to fine tune the [valuing cultural diversity] indicator” and then use “indicators that emerge from the partners.” Speaking from a familiarity with “adult education history” and “the co-operatives movement in the Maritimes,” Bill felt the participation of marginalized groups might require “really strategically draw[ing] in and seek[ing] out folks who could speak from or have some experience speaking with immigrant communities ... and maybe doing some sort of training and coaching.” He acknowledged that “it may take some extra effort or extra money.”

Rob wondered if the process had “engaged corporations or attempted to, [because] that might draw out a lot of other people, [or] if you could move it into community associations.” Don suggested that the project had to “figure out a way of getting involvement of higher up people. It’s great that it was grassroots, honestly, and that’s where the work gets done, but at the end of the day ..., put some heavy hitters on there.”

Armbruster thought that “in an ideal world we should be able to get the organizations that we may be gathering information from to be more engaged themselves in that sustainability project.” Then those organizations could “use the project as a platform to cast their issues in a larger context.” Interviewees also talked about the need to make the process “more available electronically, not just the final report, but the process itself”; they suggested that Sustainable Calgary could “use the Web site much more interactively.” Kevin felt that “we probably tried to do it too fast. People have to agree on what has to be done. They’ve gotta have time to unload and work together.” Bill felt that bringing a stronger element of

celebration into the process might enhance participation. Janet introduced a process methodology called spiral dynamics:

I've done planning with twenty or forty people in the room in the spirit of engaging and involving everyone, and I do think that the quality of the thinking or the strategies of the action plan is less. You sacrifice boldness usually or the courageousness for the sake of involvement and engagement. So I was thinking about your process in that same sense that – it's awful to say because it sounds elitist – but you would want perhaps the brightest minds or the most forward-looking people to be engaged and then perhaps a broader involvement around ... gathering the data.

Conrad expressed a unique perspective on how to broaden participation. He spoke passionately about the need to “re-establish the connections [with] conservatism”:

If you really truly were conservative, then our principles are much more in line with those of sustainability advocates than they are of the spend and consume and destroy mentality that seems right now conservatives are backing. There is nothing more conservative ... [than] traditional values like reverence toward others and humility and modesty. If you asked ... Steven Harper what a conservative is, I don't think any of them would have those kinds of ideas. It's been the great American train robbery. If [traditional conservatism] could be brought forward you would find a lot more Albertans, a lot more Calgarians excited about a sustainability project. It's something I find really compelling. How do we show that what is passing for conservatism now is really opportunism and greed and corporatism.

The flip side of participation is exclusion. Even though for the most part interviewees felt that the process had “a high degree of professionalism” and “got people engaged...[and] thinking,” some interviewees talked at length about discomfort with instances of exclusion from the process. Maya volunteered as a facilitator for the community sector working group during the preparation of the second State of Our City Report. She was uncomfortable with the way a contingent of participants from the arts community had been excluded:

I definitely felt that the participants in the community [working group] were quite disappointed.... [The process] ended up actually breaking down the community [working group]. The arts people got shunted, definitely, and they were very active, very committed participants. I felt that their participation was almost negated by that process. And we did try to talk through that. And if we can only vote.... Even the dotmocracy is exclusive. I can't honestly propose a different way of choosing [the indicators] but ... I was aware at the time that it was exclusive, the same as our political system. [You] lose interest because there was a negation of your voice. Maybe [the arts community participants] needed more time to present why their choices were important to them. Because I think some of the other [indicators] were more obvious to the general population and theirs maybe wasn't represented enough. Maybe it

was a time issue. [They proposed] arts in schools [as the indicator]. And I agreed with them [but] as a facilitator I tried not to sway the crowd.

Mark spoke about his personal experience of exclusion in the process:

At the end of the day, I was one voice that represented the business side. It becomes a bit of a challenge. I remember talking to [my wife] and saying it was ... a real challenge for me. ... I'd hear folks say, well, XYZ, this is the way it should be. I don't want to be the only person saying that [I have a different perspective, and others thinking.] ... who brought the idiot.

Bill offered an opinion about how to deal with these instances of exclusion:

Consensus. I don't know if consensus is needed. It might need some real teaching to get there. If there is a way to say up front we are missing certain aspects.... So coming in to a process and saying we know we need an arts indicator. I don't know if that is twisting the process too much or tweaking it. But there are certain spots of strategic engagement of getting certain groups involved. That might be a way. Is that a way to get into the corporate workplace, by really targeting [an indicator] that just might draw and getting them strategically engaged? Because the more groups you can engage in this, it seems, the more power it can have.

As a person with a learning disability, Fred also raised an important aspect of exclusion that, in fact, echoes several other interviewees quoted above:

Some of it didn't make any sense to me – some of the ideas. Trying to see where they all fit in. It was a little bit complicated for me to understand. Everybody was learning at a different level.... The dotmocracy I found a little hard. Okay, where do we put this, where do we put that. I have only so many [sticky dots] to put into that. It was very hard to choose the ones that we wanted that really made some sense. I found it really hard. I don't know if there is a better way to do this. 'Cause we didn't really have a lot of time to think, how are we going to do this or how are we going to do that.

A final theme under process improvement is dissemination of results. The interviews focused on two issues: marketing the product and post-report advocacy. To improve the marketing, Reesa suggested, “You really have to pretty it up and dress it up – more graphics.” Rachel talked about the need for “communications on all sorts of fronts,” and in particular, “enhanced communication with funders – bringing them in as partners.” Emily, a representative of one of the project's funders, focused on the need for post-report advocacy:

To tell you the truth, I always thought that where the [reports] left off, Sustainable Calgary should have picked up. I wish you guys had more capacity as an organization. I feel that

Calgary ... considering the leadership we have at the municipal government level, [leadership] doesn't appear anywhere else. There is a real lack of environmental groups and especially urban issues groups in Calgary. There is no one to take a lead in engaging other sectors, and I find that very frustrating.

The importance of Emily's words were validated in the interview with Deborah, a City alderman:

I still think we might have prioritized more, to key in on some indicators that really are the red flags. I think disseminating the information was tough. It was tough the first time around getting the first report together, but the real meaning is disseminating the information and making people realize that it's an accountability measure.... Everybody, whether you are a public institution, a private industry, or an individual, should take some ownership in it to improve the statistics so that our outcome is in fact that we have a sustainable city.

Section E: Future Directions for Sustainable Calgary

When asked their opinion of the sustainability of Calgary, interviewees expressed a wide range of views, but none felt that the city's current structure or the predominant lifestyles of Calgarians are sustainable into the future. Although a minority of interviewees were hesitant to offer an opinion because it's "a big question – it is so complex," most interviewees were animated in their responses. They were evenly split between those who felt we were moving away from sustainability and those who felt we were moving in the right direction.

The most severe assessments of sustainability were that Calgary "is moving strongly against sustainability." Interviewees described a city that is "physically the direct opposite of sustainability ..., cancerous," and the sustainability outlook as "pretty brutal" or moving away from sustainability "maybe more rapidly than I would like to think." Less harsh assessments were that we are "having serious sustainability issues [and] not doing very well by and large," or that "in some areas we may be moving towards more sustainability, there are odd pockets of promise, but I think in general, from a gut feeling we are probably moving slightly further away from sustainability." A city planner offered the assessment that "there are big chunks of the city that are not sustainable." One interviewee concluded

that “there are forces that are working against sustainability and I think they are stronger than the forces that are working for sustainability.”

Conrad offered an analysis of appearances versus reality. In his opinion,

without understanding the concept of ecological footprint and commodity chains and things like that, we could easily say Calgary is very sustainable. But we have to remember that we don't have much manufacturing in Calgary. So everything I buy, it causes some resource depletion and pollution and environmental degradation somewhere – but not in Calgary. California, for most of my produce, or southeast Asia, for most of my manufactured goods. So as a Calgarian, I've had a huge footprint, but I don't recognize that.

Some interviewees expressed ambivalence to the question of the city's sustainability, suggesting that “on some aspects we've made progress, [but] I think we are confused.” In the words of one interviewee, the City is “talkin' the talk, but not walkin' the walk.... The commitment is just not there.... So I guess the impression I get is that a lot of what the City does ... is moving in the right direction but at such a slow pace it's not a very strong commitment.” This opinion was supported by the assessment of a policy analyst at the City:

The biggest decision point the city had to go through was GoPlan. Really, GoPlan was about looking for a sustainable Calgary. Quite frankly, it was a wonderful plan, but it's not being followed. The political will is not there to make those hard decisions. Every time the rubber hits the road and they are faced with a hard decision, they back off.... It is kind of a shame.

Other interviewees felt that Calgary was “moving toward sustainability,” “moderately moving toward sustainability,” or “catching up.” Some focused on the economic dimension of sustainability. One interviewee commented that “from an economic point of view ... I do think there will be an economic advantage or a base in Calgary.” Another said that “certainly the economic side is strong.... Calgary is moderately sustainable.” Many of those who perceived a positive movement still felt that “we have to move quickly.”

Several interviewees differentiated between the city in general and a movement of a minority in another direction. Bill, for example, said, “Thankfully it depends where I'm focused. If I focus on the sprawl of Calgary, [it] really just astounds me. If I focus on the activist community, that is hopeful.” John observed, “I see more and more citizens now are trying to be more sustainable. Attending courses on permaculture, with no advertising,

people show up.... People who live in the suburbs question the suburbs. So there is a lot of deep uneasiness amongst the people.... Now, I think people don't know what to do about it." Armbruster felt that "we are spinning weakly towards more sustainability, but it is a bit fragmented.... Preconditions for thinking about sustainability in Calgary are not very strong, but despite that, we do have some pockets of inspired thinking. It's not a completely dismal picture."

Louise was disheartened that in her assessment, "as the city grows larger and larger I believe the quality of life will deteriorate," and that in fact "Calgarians do not want to live in a sustainable manner." Janet spoke about how it "definitely worries me [that we are] creating a city that is not sustainable or that we want to live in." A comment by Rachel captured the sense of frustration, combined with hope for what could be in Calgary: "My view is if we can't do it here, we can't do it anywhere."

Challenges and Impediments to Change

What are the challenges and impediments we face in trying to "do it here"? What has to change? Strong opinions covering a wide range of topics were expressed on this question. The analysis of the interviews suggests that while forces are gathering to nudge the city toward a sustainable path, we are still in the grips of a damaging cycle that reinforces unsustainability. Our "affluence," combined with a "disconnect" from community and a lack of "political will," delivers "sprawl" and a "car-dependent society." The financial drain of this path puts pressure on our "social infrastructure" and reinforces the "me-first attitude" that our affluence supports. Two prominent forces are gathering strength to challenge this damaging cycle: our recognition of the importance of our community assets and a growing environmental awareness. The trouble is, most citizens have not recognized the interconnectedness of these various forces in our city.

Affluence and Disconnection

When asked about the biggest issues facing the city, many interviewees cited our "affluence" and a cluster of similar descriptors, including "wealth," our "insatiable appetites," our "disposable society," what one interviewee called "our unofficial curriculum

to consume,” and the realization that “all the education we can give toward sustainability can’t compete with the billion-dollar advertising industry, six hours every day of TV telling us to consume.” Louise reflected on the consumer culture from the perspective of an expatriot living in Indonesia:

The entire consumer–corporate culture that more is better. People are so completely in the rat race they cannot get off and enjoy the simpler things in life, things like nature, neighbours, not buying, and non-sensationalized news. It has been refreshing to have Halloween and Christmas both in Indonesia and in Australia. The pressure to buy and decorate and spend, spend, spend is just not as significant here. I hadn’t realized that Halloween was really just a North American creation. But even here the merchants are starting to catch on to these special days, promoting them and having the merchandise available. Also since we have only cable vision there are not the excessive advertisements encouraging all that buying.

Other interviewees related affluence to a “me-first” attitude that desires “big houses, big garages” and that is fueled by “fear” and “apprehension” about “embracing change” and a “complacency” about “future thinking.” Marlino remarked on

the whole mind frame around ... we have a very consumption-led society.... It’s like a crime if you don’t consume now – you are weird. If you have an eight-year-old car, there is something wrong with you.... And the social expectation to move up, so even the homes – a starter home, to move up home, to estate. We tend to frown on voluntary simplicity. I think that is the biggest stumbling block.

This “economic mentality” feeds into a “disconnection” from our “sense of community,” a loss of “experience of place,” and an unwillingness to “invest in our communities.” Mary related this issue to our support for the arts: “We are not funding the arts like we used to. Looking after our souls is not as much a valued piece as looking after our roads.” Deborah spoke of her concern for the health of our communities:

I think the city of Calgary has been one step up because we have had neighbourhoods and community associations. It’s been like little towns within a big city, and I think that has enabled us to develop a different attitude. There is a concern that community associations aren’t evolving with the community, and that could be a problem. If [people] are starting to find gathering places all over the place and not [in their community], they are going to be gone.

Reesa offered the opinion that Calgary “has kind of a persona, and it may attract more people who are really hooked into the material success and not community. It may be that the whole personality of the city is at odds with sustainability.” Janet recalled “the bumper

stickers from the 1980s – please give us another boom and we promise not to piss it away – but we do, we are.”

Sprawl and Auto Dependency

The two most frequently used descriptors of our biggest problem or impediment to sustainability were “sprawl” and “cars.” In relation to sprawl, interviewees mentioned “our ethic of land-use,” “annexation” and “loss of agricultural lands,” and the costs of “big box development.” There was also discussion of the need to increase “density” and create a more “walkable” and “resilient” city. The transportation issue touched upon “a Council that is completely focused on roads,” an imbalance in “transportation spending,” and the need to rethink “mobility” and to “separate the Calgarian from his car.” Fred wondered where current development will take us and related it to affordable housing:

It’s getting so big now I don’t know where we are going to be in a hundred years from now. It changes so much.... We’re spreading out. It goes one direction, then they add more to that direction, or more to that one, and it’s like we’re not thinking ahead.... Well, is it going to go all the way out to Red Decr or wherever?... There’s not much land space.... There are so many people coming in and they can’t afford a house so they gotta rent.

Conrad pointed out that “our auto dependency ... relates to so many other issues like sprawl and pollution and our contribution to global warming.” Armbruster noted that

there are initiatives here and there but we have this love affair with our vehicles and the suburbs ... that dominates our thinking. And because we have the space to grow and we don’t see so clearly the effects of the abuse we are having on the environment, there remains little impetus to make changes. A place like Vancouver, where there isn’t room to grow, it’s hard to take a turn without thinking about sustainability. Here we don’t have to think about it and so we don’t.

Joy reflected on the impacts of growth and related it to her local community:

I think some of it is related to just the growth of the city and the pressures that puts on transportation systems, affordability of housing, the whole ability to provide health care, the crime that goes along with [it].... It doesn’t have to go along with ... becoming a big city. I’ve lived here my whole life and sometimes you read the headlines and where in the world do I live ... because some bizarre thing that used to just happen in New York or Boston ... and now it’s happening here. Trying to keep the culture, keep the small town caring for your neighbour kind of attitude as you become a big city.... Like the meeting last night in the community was about the widening of Glenmore Trail. They want to take it from two lanes

each way to three lanes each way, and people said, isn't there a better way to get from east to west? And you gotta take out houses!

Kevin questioned the conventional wisdom of focusing on cars and suggested a re-think of how we define mobility.

Transportation docs drive a lot of issues in the city. My impression is that some of the choices that get laid out there. And this is where the ideology comes in. Yeah, you should do the low footprint thing and let's all take transit, but you know what? Transit is inconvenient, uncomfortable ... and the jam-packed cargo trains ... it's not a pleasant experience. We are missing that piece in the quality of life and the experience of place. I give up my air-conditioned car with a stereo system and a seat? I'm sorry, standing on a train getting too hot and too cold, jostled about isn't my idea of fun. I still maintain that the biggest approach that we're not doing is taking a good look at how do you design cities [to reduce the mobility] need.

Rachel cautioned about the definition of "sprawl" and its application to Calgary:

This place is quite different from almost every other city in Canada. The wholesale application of what people think is right for Vancouver is not true here. We are working against different things. Yes, the principles are the same, but what that looks like on the ground.... For Calgary, if we want to stop sprawl, sprawl is what's happening in Bears paw. It's that stuff outside our city boundaries. How to stop that? To a certain extent you need to offer a variety of housing densities inside our city so you are not pushing people out there. 'Cause we don't have a shortage of land.

Affordable Housing and Income Equity

Another dominant pair of related issues raised by interviewees was "affordable housing" and "income equity." Besides affordability, the other frequently mentioned housing issue was "homelessness." Discussions related to income equity touched upon the "growing gap between rich and poor," the proliferation of "McJobs," the low "minimum wage," "stereotyping the poor," and the "cold-heartedness of the media" in dealing with some of these issues. There was also mention of "discrimination" and "disenfranchizing" of newcomers with "foreign credentials" trying to enter the professional job market.

Fred talked from a personal perspective: "From my point of view with low income, it's pretty hard to find a place. It's pretty hard, it's pretty hard. You're not going to find anything under four hundred and fifty dollars a month. Now I'm okay, but down the road

when I retire, I won't have a whole lot of money to work with." Jackie discussed homelessness and its root causes:

[It] seems to be getting worse every year, although we do have a great network of people who work in a collaborative fashion who want to address homelessness. And we are doing things and putting investment and time into it. I think that the problems are so deeply rooted. That's why we seem to be getting this larger and larger homeless population every year... I would say that you would probably love to live here and it's beautiful – parks, we have nice people, good shopping, but be sure you have a place when you get here and you have a job. Don't come in cold because you might end up living in your car.

I think that there are several underlying causes. Like we have the lowest minimum wage. We have extremely low SFI rates and AISH rates. There are a lot of people who can't qualify. Housing is so expensive. There is a lot of employers who don't pay a good wage, so people end up working all of these McJobs. Those are some of the systemic issues. I think that in a lot of cases, it is public attitude. People tend to stereotype poor people.

Bruce discussed some of the issues he confronts repeatedly in his community and some of the prevalent misconceptions about poverty and economic growth:

For me, I come at it from a social perspective, so the most pressing issues have to do with people, equity of experience, living conditions – there are many newcomers coming here and things like racism and discrimination are prevalent in the workplace. There are many pressing social issues that relate to long-term health of the individual ... that if we were able to address more systematically, we would have a healthier individual, family, community, and city... Financial issues as a city, affordable housing issues, quality and quantity of work issues – these come up repeatedly with me.... From a social end, I know the mayor was in the paper yesterday talking about how the rising tide of the economy is raising all boats, but I think that is just a cliché.... There is lots of separation of rich and poor and a widening gap. And the poor are getting left further behind.

Political Will, Vision, Leadership, and Capacity

Analysis of the interviews revealed an expansive discussion of the state of political capital at both the municipal and provincial levels. Interviewees expressed concern about the “lack of political will” and “commitment” and the “unwillingness to intervene” with public policy. Some suggested that the lack of “vision” was perhaps related to “money politics” and a lack of “accountability.” There was concern over a lack of “policy vision” and the effect on policy of the “conservative outlook” in the city. Many interviewees cited a lack of “inspirational leadership,” a “loss of leaders,” and a “lack of champions” in public life, and some expressed concern about the capacity of the political system to act. This was

attributed to “compartmentalized thinking,” “bureacracy,” and overbearing “approvals processes” and “lack of incentives” to make sustainable change.

In commenting on the political unsustainability of Calgary, Bruce pointed to the lack of an effective partnership between the provincial government and the City of Calgary.

Politically, unfortunately no. We are not a sustainable municipality because we don't work all that closely with the province, nor do we work all that closely with the federal government. Winnipeg has the Winnipeg charter with the province – it's an understanding of a way of doing business. We don't have that kind of understanding.

Rob was among those who identified money politics as an issue. “Well, developers, politics, you can blame whatever you want on that. People are doing well enough in Calgary that they let these sorts of things slide.... They don't stand up and demand that changes occur. If it is the case that developers are having too much influence at City Hall, maybe it is the fact that we allow people to spend three or four million dollars to become mayor.” Cheryl's comments supported Rob's perspective: “Developers, it blows my mind how the City allows them to develop and develop and make money and make money and not expect them to contribute more to infrastructure and sustainability – huge amounts of money. It's not sustainable. Where is the investment in the community, accountability?”

Ron made a forceful case that

we don't have either the policy or political vision ... or the apparent will to really address much of this for a whole host of reasons. People are very frightened they will lose their political position. There are people who feel their standard of living is seriously at risk. There are old traditional thinkers who are still in charge of government who don't want to embrace change. They may be frightened of it. They may be apprehensive about it. To me, fundamentally we need a whole new sense of what is important here.

Cathy talked at length about the issue of the rigidity of our planning and design standards, and the difficulties caused by compartmentalization and imbalances in the relationships among municipal government departments, particularly the dominant status of the transportation department.

Our standards. It's the whole thing actually. In the project I am working on, what turned out to be the biggest issue is the transportation capacity, and some of it has to do with methodology. We have this hugely expensive regional transportation model that we've invested millions of

bucks in building and maintaining and updating. We base a lot of our decisions on how wide a road has to be for the land-use capacity, on the output of that model. It's an interesting approach to how you plan a city, based on one criterion. The number one priority in the city is traffic. There is a lot of reasons why [traffic engineers] have a lot of clout. That's where the municipality, and to some extent the province, puts their money. It costs a lot of money to build the roads. Everyone wants a city that works well for cars. We have focused a lot more on accommodating cars than we have on accommodating transit and better alternative modes. They have the data and the computer models and a lot of sophisticated tools to be able to understand traffic and how it flows. And it's pretty hard to compete against that. Those are some of the dynamics.

Social and Physical Infrastructure

Another set of issues and impediments identified by interviewees can be grouped under the heading of social and physical infrastructure. Water consumption and the precariousness of our supply were frequent topics of conversation. To a lesser extent, interviewees discussed our "energy resources" and reliance on "oil and gas"; "local food" production and the use of "pesticides"; and the amount of "waste" the city generates. Interviewees also identified "health care," "hospitals," and "public health" as issues of concern. Concerns related to education included "kindergarten to grade 12" education, quality and access to "post-secondary education," "adult education," and high school "drop-out rates."

Ron concluded that "Calgary is an unsustainable city. It's got huge energy demands. It's got huge food demands, it's got huge water demands.... And we seem to be losing the game ... because the demand seems to be going up." Marlino linked several issues to our expanding land use:

One of the things that's happening is that we use more and more energy, - resource use. So land is a big part of that. Public transport systems, the loss of vibrancy in the core. Hospitals are moving away from the centre, so you have a dead zone. You privilege those who are living outside, further away, with their tax regimes and building new highways instead of extending the LRT.

Marlino also identified issues of sustainability for our social infrastructure: "The other one is how Calgary uses its human resources ..., its citizens – lots of wastage, I think, in terms of not investing in post-secondary institutions, for instance, or not supporting the recognition of foreign credentials and not investing ... in adult education."

The Positive Side of the Ledger: Community Assets and Environmental Awareness

Asking for opinions about the sustainability of Calgary elicited less discussion of those features that contribute to sustainability, but for the most part, interviewees' responses can be grouped under one of two general headings. Community assets include things like the growing ranks of new "immigrants" to the city and the "ethnocultural diversity"; our tradition of "community associations"; trends in "community policing"; Calgary's "community spirit"; and the city's "educated base." A second general heading is a growing environmental awareness. This awareness is captured in the recognition of our attention to "air quality" and "water quality," appreciation of our "beautiful parks" and "river valleys," and projects like "schoolyard naturalizations" and "Ride the Wind."

The community spirit generally felt by many Calgarians is captured in Krista's comment: "From what I know, I feel like the City of Calgary appears to make a really good effort to look at quality of life in the city. Thursday night when the Flames were playing, it made you really proud to be a Calgarian when you saw all those people and all that support. There is a feeling in Calgary that it is a good place to live." Bruce demonstrated the growing environmental awareness in his comment on some of the notable achievements of the city:

The first thing I kind of think about is a range of municipalities, and try to understand where Calgary was in that range.... There is going to be a lot of room for improvement, but things like our sewage water treatment plant, which has been recognized as a really good one compared to other ones. There are some real positives in the way we are doing things: Ride the Wind – we've got a lot of really interested people in environmental management services who are pushing this and who want to make Calgary a way better place than it currently is."

Section F: From Indicators to Action

Sustainable Calgary's Role

Before being asked to comment on specific potential strategies for moving from indicators to action, interviewees offered their perspectives on the future role of Sustainable Calgary (SC) in making Calgary a more sustainable community and on next steps for the indicator project. Comments on SC's role centred around four different themes: SC as advocate, educator, or facilitator, and SC's target audience. Some felt that change has "gotta be a

push from citizens” and that “one of the biggest roles [SC] could have is really as advocate ... , as a conscience to ... governments” or as a “watchdog.” The second descriptor of SC’s role was educator. Most interviewees focused on education in the context of local government, speaking about the need to “educate bureaucrats” and “work with planners”; in one alderman’s view, this would include “participating in [ImagineCalgary]. Lending your expertise to the city [as they develop] a long-range plan.” Some interviewees also proposed education of educators and the general public – “people who are not converted but are ... close.”

Although there was not a consensus, certainly the dominant descriptor of SC’s role was “facilitator.” Interviewees used terms like “hub,” “catalyst,” “stimulus,” “connector,” “bringing people together,” “taking the lead in engaging other sectors,” and “gather the energy of groups and individuals.” One experienced alderman offered encouragement and a note of caution on the potential for an advocacy strategy.

I think that [post-report advocacy or engagement] is what has been missing to this point in time. Advocacy is a minefield and therefore has to be approached with caution, simply because you want to have a desired outcome from that advocacy and not an undesired outcome. So provided some caveats around how that might be done effectively, yes, I think the next step should be some sort of advocacy or trying to get buy-in so it’s not just a nominal or symbolic gesture of support but that somebody in the City of Calgary says, this is a valuable measure for us and hold some accountability.... It’s very tricky because what you are doing is something quite sophisticated in terms of indicators, and therefore the participation in the advocacy will probably require a similar level of sophistication.

From Indicators to Action

Each of the thirty-two interviewees had participated in the creation of the State of Our City reports. Each person was asked to reflect on that experience and suggest where SC should take the indicator project from here. There was a strong sentiment that in moving forward on the SC mandate to create a more sustainable community, the indicator reports themselves should continue to play a pivotal role, and perhaps “SC could be the authoritative assessment body.” In Ron’s words, “That’s got to stay up there on the billboards.” So how can the indicator project be leveraged to realize a more sustainable Calgary? Responses to that question fall into three broad categories: promotion/marketing, call to action, and partner/convenor.

The image that emerged out of the interviews is that the indicator reports were a superior product but that the organization's capacity to promote and market was limited. Some interviewees commented that the indicators "need to be constantly in front of the decision-makers" and that to do that, SC had to "maintain or even enhance [its] links with the city [and] maybe even with the other groups in the city – the Calgary Board of Education and the Calgary Health Region." Others felt that SC "needs to engage more and more citizens and get into the corporate culture" through "key institutions like the Chamber of Commerce." It was suggested that SC could "hone the information [for] ... standing policy committees" by focusing on "key indicators" and "trend lines."

There was also discussion of the need to "go big with it," to use a marketing-oriented approach to getting the indicator reports into the public consciousness. One interviewee commented, "You need a big marketing machine, the feel good machine." Kevin's comments resonated with the "feel good" part of marketing by cautioning against "creating sustainable behaviours" using what he called "the hairshirt mentality." From Kevin's perspective, "The guilty conscience thing – I am passed that, sorry, it doesn't motivate me." Instead, several interviewees suggested "celebrating success stories" because, as Armbruster pointed out, "people like to be part of a winning team." Mark identified the need for a focused message. He commented that from the perspective of business, "you throw all the information at the client and they only care about three or four things. So figure out what part of that story the person is going to care about,"

One interviewee felt that the indicator report was an "information document" and that "if you want to influence behaviour then maybe ... you need ... some kind of action plan." One suggested action was to ramp up the marketing by enlisting the *Calgary Herald* or CBC as promotional partners, with an ongoing focus on the indicators, much like the current stock market and traffic reports. There were also suggestions to use something like the Suzuki Challenge to introduce an element of competition around sustainable behaviours related to the indicators.

Many of the suggested actions assumed the formation of partnerships, alliances, and networks. There were suggestions to form one-to-one partnerships to promote or further the research on particular indicators. Reesa proposed “partnering ... with a food bank campaign ... as one of the sponsors. Helping them with their promotion in return for being [one of the report’s] sponsors.” Rob suggested that SC has “some influence, some connections here at the university ..., whether Sustainable Calgary can organize graduate level research into sustainability issues in the city ..., come up with funding for certain projects ..., develop some sort of think tank organizational structure....” In relation to this research theme, Don suggested that SC could play a significant role in rationalizing the many local indicator initiatives into a coherent framework:

One of the things I see here is [the City has] developed [its] own measures. We’re not the only ones. The Health people have theirs. The School Board has theirs. But wouldn’t it be something if we merged them all together and we all agree that these are a good set of measures of the state of health of Calgary. That would be very powerful. I think [the City, School Board and Health Region] would be interested in that. I had a very interesting conversation with [people from the Calgary Health Region] about this. [Their] eyes were opened when [they] heard this. That’s why I say, get the organizations involved. It is something that they all have, and if this could be marketed to them as improving what they already have, and a bit of citizen consultation to beef it up, I think this would be a very neat thing. It wouldn’t be very hard to do in my sense of it.

There was also the suggestion to leverage SC’s work by connecting with existing networks. For example, Jackie suggested

promoting it among working groups where there’s already lots of collaboration and sectoral work going on. For example, you could have a talk with the sustainable poverty reduction group. That’s getting to be a big thing. It started off as a United Way initiative, but then we decided it is better housed ... in the community, with United Way as a participant rather than leading it. We wanted it to be more community owned. It changed its names to Vibrant Communities Calgary. It is also connected to the Vibrant Communities cross-Canada initiative.

Other interviewees suggested that SC play the convenor role. Janet, for example, thought that “because of [SC’s] process orientation and involvement in engagement, it might be the group that does create a little bit of a coalition to reduce duplication.” Many interviewees recognized the need for SC to “build up its organizational capacities.” Another suggested strategy to accomplish this was to integrate different SC projects. For example, Bill “wonder[ed] about something like connecting the Green Map to the indicators project.”

The Citizens Forum

The final topic of conversation in the interviews was the Citizens Forum concept. The broad outlines of the concept were presented and interviewees weighed in on whether they felt the Forum concept itself was a sound idea; whether the Forum should engage civil society, decision-makers, or both; and whether the invitation to participate should be made to stakeholders or citizens.

The concept of a Citizens Forum had unanimous appeal. Emily and Cheryl spoke eloquently about why it is important and why Sustainable Calgary is the group to make it happen.

That's absolutely what needs to happen.... If you look at the [City] Council vision documents, it sounds fabulous but right now it is all rhetoric, so show the policies, show the by-laws, and then I'll get excited. If that is what they are saying, then I want to see some action on the ground and I think this process might be a way to do that. So when the people especially who work in management at the City are hearing from thousands of people that this is important and not just the advocacy groups.... Some of those guys have environmental backgrounds and some of them struggle between what they do and what they want to do. – Emily

I think that is brilliant because you already have your loyal following established and the process has been very fluid and transparent so people know what Sustainable Calgary is about and know how the process works. They know the participants. There is rapport established. – Cheryl

Interviewees, however, suggested caveats to their support to ensure that such a Forum would meet with success. They felt that the Forum should work “in a consultative co-operative inclusive way,” be “goal-oriented,” “interactive,” and “learn by doing.” Ron felt that “the concept of a Forum appeals to no end and yet it’s got to have a context and commitment, and I would say it also has to have a sponsor. Sustainable Calgary as an organization on its own can’t pull that off on a continuing and really viable basis.” Ron also felt that the Forum had to be “an organic activity that has people engaged” and cautioned that “the more general it is as a Forum, the less likely it will be sustained. There’ll be a big attrition,” so it requires “very specific topics,” or in Kevin’s words, “bite-sized doable things.” In Joy’s opinion, the Forum will work best if “a person knows their commitment.” Marlino counseled that the Forum has to “create a sense of urgency ... [but] not to create

false hopes.” Three interviewees spoke to these caveats in relating their own experiences. Barb’s experience at the Calgary Health Region was a caution against building on a structure rather than an initiative:

We have a network right now that we have been supporting for some time, and it’s a dilemma. It’s around cardiovascular [health]. It came out of some passionate interest. Then it became bureaucratic, they anticipated every problem before it ever happened. So some of the excitement is not happening.... I’d have to say that starting with a big structure and laying out the model and all these functions without any work doesn’t usually work. Those limp along more than those that start with people who have an initiative.... It’s how you get the right people at the table and grow it to the bigger vision is my sense.... I’ve rarely seen any group set up on a structure and move anywhere because that is when it becomes bureaucratic. Start with something tangible.

From his experience with Diversity Calgary, Bruce cautioned not to underestimate the difficulty of keeping a consistent group of people together over time to do advocacy work and effective multi-sectoral coalition-building across government and civil society:

Let me just reflect on what you’re saying and the kind of work I have been doing on cultural and racial diversity. The same ideas are ones we had back in 1998 and then 2000 when we formed Diversity Calgary – and the very same language. We wanted to bring together a cross-section of people who have the ability to drive something and it’s been a big challenge because in a sense it is an add-on to a [government or institutional] person’s responsibilities. There’s been a lot of forward movement and then backward movement in terms of new people continually getting involved. People cycle through and turn over and it is really hard to get a momentum moving forward.... You have to go through a lot of fighting before you get to any real concrete work, and I’m just not sure we are able to get to that yet. It’s taken a long time. And then you move further and further away from the decision-makers and the people who can create real change. So I’m not sure it’s as easy as you said. So that is one observation. The [Forum], I think that is a good idea but you may need to make it in more bite-sized time frames for people.... Cluster groups around specific issues. I think if it’s laid out, it potentially could work. I know we do have some sectoral clusters underneath the Diversity Calgary council, and some of that has worked well.

Kevin talked about the positive experience of the Clean Air Strategic Alliance (CASA), a forum set up jointly by NGOs, government, and industry to deal with environmental issues of concern at provincial level:

I would really suggest you take a good strong look at CASA, and that model. And the synergy groups. CASA’s secretariat is funded by the energy, environment, and health [ministries].... I sit on a number of CASA committees. I’ve co-chaired those committees. I also sit on and co-chaired committees in the oil sands dealing with cumulative environmental management issues. And those are multi-stakeholder consensus-based approaches, and Alberta does amazing things. My peers in other jurisdictions are astounded that we don’t have people in

court. We have environmentalists and First Nations communities and industry and government collaborating.

Citizen Forum Membership: Civil Society, Decision-Makers, or Both?

Interviewees expressed very little support for the idea of a forum exclusively for decision-makers. A significant number favoured a civil society-based forum. Those in favour of a civil society base felt that inclusion of decision-makers would dull the message to the “lowest common denominator” or raise the danger of co-optation of the initiative. John felt strongly that it should be “definitely bottom-up” but, “that said, it shouldn’t just be the executive director of this non-profit and the executive director of that non-profit. Because that’s not bottom up either ’cause the non-profits are of the elite.” John went on to say:

I think if you just bring in the decision-makers ... say [the mayor] sits at the table with the head of the CHR.... Bring in all these types.... It is diametrically opposed to everything they believe in.... So you gotta come over an education hurdle. And I think then they might do some little projects just because it is really good PR, not believing in the project, or they might really sign on ... ’cause they just want to co-opt it – ‘we’re sustainable.’ They might put some window dressing around the project. The project will probably be watered down a little bit. And they’ll say, we’re sustainable.... In a democracy citizens shouldn’t just work through the ones at the top.... I’ve had enough of these meetings and these vision statements and nothing happens or nothing real changes.

Conrad favoured a civil society-based forum because in his experience civil society groups “working totally autonomously is one of the biggest tragedies right now. So if Sustainable Calgary can be a forum for bringing those kinds of groups together [with] some kind of a common voice.... First and foremost, let’s learn off each other ..., bringing forward ... fairly well articulated ideas to council and other groups.”

The most support, however, was voiced for a forum bringing together both civil society and decision-makers. Interviewees supporting this position thought it would be worth it to “get the non-converted on side”; to be effective, “you need the organizational buy-in.” Cathy was skeptical of the civil society-only Forum because of how “advocates are perceived from inside the bureaucracy.” In her view, “when you take the advocate role on, it’s hard. By definition you are working outside the mainstream and it’s an easy target to dismiss as being radical. To me that would be a high-risk route to go in terms of efficacy.” Emily

shared her experience of the newly formed Calgary Chamber of Voluntary Organizations and suggested that it might be a network to work through in creating a forum:

I like the cross between the two, because decision-makers, especially if you are looking at elected people, are very impressed by a large group of people who share an opinion about something. The new Calgary Chamber of Voluntary Organizations – this is exactly the kind of thing they are trying to do. It's the sector creating a voice for the sector. And [demonstrating] how the voluntary sector adds value to the lives of the citizens. It's at the high level, so you could, I think, use the CCVO.

The majority of these opinions also favoured some kind of phased engagement with civil society and decision-makers. Bridgit cautioned that you need an engagement mechanism that “doesn't have them stare at each other and going for it”. For Armbruster, the all-at-once notion

feels like it's a potentially challenging thing to do. Just take cultural sustainability – you think of the players you would have to gather around that issue alone and all the divergent points of view. You've got potential conflict within the sub-sectors, let alone in the whole. Maybe what you need to do is add another tier to that process where you get caucuses happening around major theme areas within the broader indicators. Get them thinking about their own areas first and that might increase their buy-in as well. To make the leap from where they are at as individuals in agencies or as individual advocates within their particular domain. It would make the leap from there to city sustainability more realistic.

George had this to say in support of a combined, phased engagement:

That's what you are really looking for is a group of citizens who think this is a good idea and are prepared to give leadership to the Forum. Invite politicians to come [and] policy-makers come. You need to be disappointed if they don't show up. But there is still merit in doing this and coming up with a strategy to help improve the life of the community. So there would be tremendous value if you could bring together people who are thinking in those sustainability ways.... Build a constituency and build a climate for things to happen and at the same time show up to meetings of the city, school board, health authority, and constantly promote what you are learning and its implication for policy making.

Cheryl made an end run around the question of membership in the Forum, making the following observation. “It is my humble opinion that if you have a group of enthusiastic people, enthusiasm breeds enthusiasm – so if you can get them together, I don't think you need to make that separation between decision-makers and stakeholders.”

Citizen Forum Membership: Citizens or Stakeholders?

Cheryl's comments bring us to the final question. Should a Citizens Forum extend invitations to citizens or stakeholders? There was very little support among the interviewees for the idea of inviting unattached "citizens." Maya spoke passionately about the need to engage citizens because "we too often relegate decision to the experts and sustainability is about the citizens." But she also felt that "it is good to have key players who actually make policies, make decisions, but there has to be a citizens base, or otherwise it's meaningless."

There was a significant level of support for inviting "stakeholders." Joy felt that "if you had it as everybody as a citizen, I don't know if you would get the full engagement of the sector that you need to take back and take action." Other interviewees felt the Forum had to "go for the top guys" and that "with stakeholders around the table you may get change quicker. With citizens, it may take a lot longer," and "if the grassroots thing is not influencing decisions, then it's not effective." Jake offered this opinion:

Personally, I think it would be more effective to invite the stakeholders to the table. If you are inviting the stakeholders and you are getting the right representatives from these stakeholder groups, they are in fact representing the greater public through whatever audience they have and whatever group they're representing. So you are getting the same benefit of getting the public's interest represented but in a much quicker and much more sustainable form in that you are getting ten who are representing a thousand.

Interviewees generally felt that what was really needed was to "invite [participants] as stakeholders but appeal to them as citizens," to invite "the people who are passionate and have some insight to share from their particular vantage point." In Kevin's words, invite "citizens who are also in positions of power and influence." Mark's caution about the stakeholder scenario was this: "Who do you get at the end of the day when you ask a stakeholder group? Are they speaking for the stakeholder group or are they speaking for themselves? On the other side, a lot of people in groups, they don't actually know some of the policy positions that the organization has taken." Conrad offered the opinion that SC needs to "do [its] homework and try to find some high-profile people, citizens that are

connected or have good positions within these organizations so they do come as citizens to this Forum but they are part of these other organizations.”

Barb offered a caveat to the type of individual who would be most effective in the Forum:

I think there is a difference between high-level and front line. I think you need the people in mid-management because they are the ones who actually can make change or influence the senior people. The senior people aren't going to have time. Front-line people aren't going to make organizational change in the same way. You have to get the buy-in from senior [people]. You have to be selective about champions. Go and talk to all the senior people.... The work has to be aligned [with] where the department is ... [if you are looking for champions who have influence].

Jackie offered an opinion, from her experience with the Aboriginal community, of the commitment it takes to recruit forum members from a diverse set of stakeholders. She suggested that “it’s a really good idea and it takes a lot of commitment to include the Aboriginal voice because we want trust relationships first. So you have to do lots of networking. You have to be visible to them.” She suggested trying “to recruit people in the community who are seen as leaders. [These are] often the people of influence, [not] the people in official power.” Cheryl weighed in on the value of attracting committed people above all else:

I think there is a much greater value to having that enthusiastic participant.... It will attract other enthusiastic and energetic people. Whereas if you pick the person because they have the decision-making ability or the position of power and rank, it doesn't necessarily mean they're even going to come to the meeting, or do anything on your behalf.... There's more value of a mass of committed enthusiastic, educated, accountable directors and board members than someone who's got the title who doesn't have the time of day to come to a meeting.

Emily offered her experience with a diverse group of NGO and resource industry stakeholders and how they are invited to participate on the board of directors and project selection committees as citizens:

Everybody there is reminded that you leave your ego at the door. You are here as a citizen with a variety of perspectives so that at the end of the day, regardless of where you work, you are a member of the community and you bring your collective repertoire of experience to ... the discussion. It's impossible to say, don't wear your corporate hat or don't wear your community hat – but when it adds value.

Another aspect of Emily's comments had to do with the leadership-building strategy of Alberta Ecotrust – working with NGO and industry professionals and appealing to them as citizens. She talked about the investment required and the eventual payoff of a grassroots leadership-building strategy.

My perception of how these processes work is that if you are doing it at the grassroots level, it takes a lot longer. You have to be building leadership through the process. Those people become hugely engaged and create a lot of momentum.... You get a lot of power ... power to influence decisions, power to engage – all of these things that are important to change. If you do it right, the access to the public policy process is much shorter and more powerful.

In general, interviewees strongly endorsed the concept of a Citizens Forum, provided that it was action-oriented. They also spoke in favour of a Forum that would include civil society and decision-makers through some sort of phased engagement strategy and recruitment of prominent citizens who are well-connected to the key stakeholder groups and have an enthusiasm and passion for sustainability.

Summary of Research Findings

Personal Outcomes

For many interviewees, the indicator project was not the first exposure to the concept of sustainability, although for most, it was a first-time involvement in a sustainability initiative. Participants got involved in the indicator initiative to learn more about sustainability and out of a sense of responsibility, as citizens, to contribute to their community. For many interviewees, the indicators themselves provided a concrete manifestation of the nebulous or fuzzy concept of sustainability. Interviewees' understanding of the concept increased from one that was predominantly environmental and to a lesser extent economic, to one that included the social dimension. The indicator initiative provided access to a coherent, holistic framework as a lens to understand sustainability and enhanced interviewees' appreciation of the complexity of sustainability praxis. The indicator initiative increased the sustainability literacy of a significant number of Calgarians.

Interviewees experienced personal growth with respect to an increased mindfulness, awareness, knowledge, and critical stance toward sustainability. Concretely, they developed new skills (e.g., facilitation) through the initiative. Personal growth also came in the form of the empowerment experienced by individuals as a result of their ability to be part of the process and in the form of what I would call a “citizen high” – the good feeling that comes from being a contributing citizen. Interviewees also talked about the project being a beacon in a conservative climate and a hopeful sign, comments that evoked the sense that the project was inspiring to many participants.

Interviewees reported some modest changes in attitudes and behaviours with respect to sustainability, although these changes were rarely attributed solely to involvement in the project. However, the project was judged to have contributed to or reinforced evolving attitudes and behaviours. Rarely did the project itself result in participants becoming advocates for sustainability, but for many it served to reinforce an existing commitment to advocacy. In addition, interviewees felt they had acquired a knowledge base that improved their capacity and increased their confidence in their ability to advocate for sustainability.

Professional development and career path development were among the personal benefits derived from participation: many interviewees drew a direct link between their participation in the indicator project and enhanced job performance. Professionally, participation resulted in a better knowledge of sustainability, networking opportunities, and new skills. For some interviewees, sustainability was a new framework they could employ to enhance their professional work. In addition to generic professional benefits, younger professionals attributed enhancement of job prospects and help with defining career paths to their involvement in the project.

The personal outcomes identified by the interviewees are consistent with outcomes that define transformational learning. Key characteristics of transformational learning touch on empowerment, autonomous and critical thinking (Brookfield 1989), socially responsible thinking, and the establishment, elaboration, reframing and transformation of “points of view” and even deeply embedded “habits of mind ... that define our lifeworld” (Mezirow

1997, 5). The project achieved in some measure the transformational learning goal of assisting adults to recognize the colonization of their lifeworlds and to act to reassert communicative discourse as a political force through engagement at an experiential and critical level with social movements (Welton 1995, 2001; Foley 1999).

Community Outcomes

Interviewees identified that the indicator initiative had generated new social (e.g., valuing cultural diversity), economic (e.g., economic diversification), and ecological (e.g., ecological footprint) research. Interviewees also recognized the project as a catalyst for new projects, including the Calgary Green Map and the Sense of Community survey instrument.

Although interviewees recognized that policy is messy and diffuse, their comments indicate that the project did achieve a significant influence on policy. Effects were identified in three areas of policy design within municipal government: policy actors (e.g., city planners), structures (e.g., City Council), and instruments (Triple Bottom Line Reporting). Interviewees felt that one of the most significant accomplishments of the initiative was that it established a benchmark for indicator reporting, providing an example of successful process, content, and presentation of indicators.

The importance of creating an enabling environment for sustainability was also discussed in the interviews. Interviewees felt that the sustainability indicator initiative had helped provide legitimacy to the sustainability discourse and that the effect of this should not be underestimated. In effect, this work gives “permission” to others in municipal government or even in the business community to promote a sustainability agenda. Another aspect of the creation of an enabling environment was the initiative’s role in the creation, enhancement, and strengthening of an informal sustainability network that spanned local government, the not-for-profit sector, and average citizens.

Interviewees also saw the report as a living document and as an important educational tool. Though the circulation of the report has been modest, it does not tend to sit on shelves and gather dust. Ethnocultural groups, city planners, and affordable housing advocates have

used the report; interviewees have referred colleagues in other cities and towns to the report, and some have incorporated the report into the curriculum of the college and university courses they teach.

For many, what was most remarkable was the process, the diversity of participation, and the quality product. Interviewees felt strongly that the initiative has demonstrated the energy, creativity, and sophistication – in short, the effectiveness – of citizen action. In their estimation, the State of Our City reports were produced in shorter time and with less money, more participation, and higher quality product than is often seen in the private or government sectors. Perhaps the most significant outcome of the indicator initiative was its promotion of participatory democracy. Most participants enjoyed their participation; for most, it was a comfortable and interesting process characterized by respectful dialogue. At the same time, interviewees felt the process could have been improved by inclusion of greater diversity among participants, more clarity and leveling of the understanding of sustainability among participants, and a more formal association of the project with decision-makers.

These participatory achievements resonate with Habermas's social theory. The participatory process asserted the role of uncoerced dialogue, debate, and deliberation into indicator development and urban governance, realms that are often dominated by instrumental reasoning. Habermas and others (Cox 1999) have also demonstrated the importance of discourse in dialectically shaping the material world. The process described by interviewees has contributed to reorienting the urban development discourse toward sustainability and, in so doing, to creating the enabling environment for material transformation of the urban environment.

The community outcomes are broadly consistent with what has become known as governance for sustainable development (Lafferty 2004). This concept recognizes that in today's world, well-functioning communities do not rely solely on local government for direction and management. Governance, rather, is a much more broadly based coordination of government, private sector, and civil society interests. Governance for sustainable

development recognizes the organic nature of change, the need for new metrics to help steer change, and a “ramp up” of democratic capacity. It encompasses a general vision of a deeper democratic practice (Dryzek 2001; Young 2001), as well as specific deliberative policy processes (Hajer and Wagenaar 2003).

Looking to the Future

Interviewees exhibited a general split of opinion as to whether Calgary was moving either slowly away from or toward sustainability. A strong majority felt that land use and sprawl, combined with transportation and to a lesser extent infrastructure, were the most pressing sustainability issues. The biggest impediments to achieving sustainability in Calgary were identified as our affluence, sprawl and automobile dependence, lack of affordable housing and income inequity, lack of political will and capacity, and social and physical infrastructure deficits. Strong support was expressed for the assessment that Sustainable Calgary’s role in making Calgary more sustainable was as an advocate, educator, and facilitator. Most interviewees felt that a Sustainable Calgary Action Forum was a good next step and that it should include civil society and decision-making organizations. Opinion diverged on membership and mandate of the Forum, with the general feeling being that membership should consist of citizens with a passion for the topic but as connected as possible to key stakeholders and decision-making processes.

The interviewees’ analysis of the current sustainability of Calgary and its challenges and opportunities is consistent with a reading of the literature on urban regimes (Stone 1989, 1993, 2004; Mossberger 2001) and growth machines (Jonas and Wilson 1999). Researchers recognize that the ideology of growth is a central problematic and that the development industry has a large role in shaping current city growth. They also acknowledge that problems stem from individual preferences and lifestyles, and from what Habermas and Cox, for example, might identify as distortions and manipulations of the lifeworld resulting in the fulfillment of existential desires via material consumption (Pusey 1987; Cox 1999). Interviewees’ insights with respect to the key players in the city suggest an understanding, to various degrees of clarity, of the role of an urban regime in the shaping of our city. With respect to the future of Sustainable Calgary, interviewees struggled with the need to both

maintain its autonomy while at the same time engaging government and the private sector to alter the existing power structures. With respect to the Citizens Forum, interviewees were again sensitive to the need to engage stakeholders in the structures of governance while simultaneously tapping the power of citizen action. The wisdom of participants' recommendation to engage stakeholders is borne out by Meadowcraft's (2004) analysis of effective modes of participation for sustainable development.

In summation, I would venture that the indicator initiative outcomes can be grouped into four related categories. First, the initiative has contributed to participants' transformational learning process. Second, it has provided a benchmark tool for sustainability. Third, through the provision of new knowledge and a modest relational and structural realignment of networks and institutions, it has contributed to the creation of an enabling environment for sustainability; sustainability has achieved greater resonance in policy and civil society networks. Fourth, the initiative has demonstrated the appetite for, and value and efficacy of, more participatory and inclusive democratic processes.

In the next chapter I examine the experience of indicator initiatives in several North American cities. The purpose of this examination is to compare the Calgary experience with that of other comparable cities. The experience and lessons learned from Calgary and the comparable North American cities will provide important insights into the crafting of the Sustainable Calgary indicators to action strategy of chapter 9.

Chapter 8: How Other Cities Are Walking the Talk

Sustainable Calgary's indicator initiative is relatively young. In plotting a course for its future, we want to know what lessons can be drawn from the indicator development processes in comparable cities. What successes have other cities had in creating a set of sustainability indicators? What motivated the projects in other cities? What outcomes have they been able to achieve? What innovative practices might we apply in Calgary? Most importantly, we want to know if other cities are moving from indicators to action. Have they been able to leverage an indicator initiative to create action on education, policy change, or planning in support of the transformation to sustainability? In this chapter, I compare indicator projects in eighteen "comparable" cities, nine in Canada and nine in the United States, and review the literature on local indicator projects in order to draw out key themes, dilemmas, and conclusions that will inform the way forward, from indicators to action, for Calgary's indicator initiative.

Identifying Comparable Cities

Using a four-tier selection process, a list of seventeen cities and one region were identified for comparison with Calgary. Tier one, a literature- and web-based search, yielded a preliminary list of 157 towns, cities, counties, and regions with indicator projects in some stage of development (see appendix 3).⁷⁴ These 157 initiatives were filtered through four criteria: population, land area, geographic location, and stage of development of the indicator project. North American cities with a population similar to Calgary's and with an indicator initiative at an advanced stage were brought forward to a second-tier analysis.⁷⁵ The second-tier analysis of twenty-eight cities was examined through an eight-criteria filter, which included population density, report type, and lead agency. Twenty initiatives passed through this filter (see tables 8.1 and 8.2). The third-tier analysis of the twenty remaining

⁷⁴ This process was augmented by participation in the March 2003 International Sustainability Indicator Network conference in Toronto.

⁷⁵ The one non-city in the final eighteen initiatives was the Fraser River Basin. This initiative was selected on the basis of its profile as a leading Canadian indicator initiative, its unique governance structure, and the participatory indicator selection process it employed.

initiatives included a consideration of the motivational trigger, philosophy and mandate, indicator selection process, governance structure, and notable innovations.

The merits of the twenty third-tier cities, vis-à-vis comparability with Calgary, were presented to the Sustainable Calgary Action Forum project team. As a result of the team analysis, four cities were dropped from the list. This filtering process included consideration of intangibles such as comparability of political culture. The remaining cities were examined in more detail in order to document the achievements of each initiative with respect to its impact on sustainability awareness, policy, planning and practice, the impact on the status of the indicators, and the overall effectiveness of the indicator initiative as a catalyst for action on sustainability.⁷⁶ At this stage, we decided to include two other Canadian cities (Vancouver and Montreal) in the analysis to provide a comprehensive overview of sustainability initiatives in major Canadian cities, even though neither city has undertaken a participatory sustainability indicator project.⁷⁷ Tables 8.1, 8.1a, 8.2, 8.2a, 8.3, 8.3a contain a summary of these final eighteen comparison cities. In the next section, we look at each of the comparable cities in detail. Appendix 4 contains a discussion of the indicator initiative and related planning initiatives in each of the eighteen cities.

Summary of Comparable Cities Analysis

The populations of the cities surveyed ranged from 325,000 to 2.5 million. The metropolitan populations ranged from 600,000 to almost 5 million. Interestingly, most of the indicator initiatives surveyed set their boundaries at a regional, county, or greater metropolitan scale. In Vancouver, Toronto, and Hamilton-Wentworth, the projects explicitly aligned themselves within the greater metropolitan boundaries, and in the case of

⁷⁶ The research process was augmented by visits to Sustainable Boston and Sustainable Seattle in the winter of 2004.

City/Region	Population	Land Area (km ²)	Density (Per km ²)	Metro Population	Metro Area (km ²)	Metro Population Density (per km ²)	Annual Pop. Growth Rate	Economic Engine
Vancouver	545,671	115	4745	1.987 million	2879	690	1.7%	Renewable Resources
Fraser Basin	2.6 million	236,184	11				2.5%	Renewable Resources
Calgary	878,866	702	1252	951,395	5083	187	2.9%	Oil and Gas
Edmonton	666,104	684	974	937,850	9419	100	1.6%	Oil and Gas Government
Winnipeg	619,544	465	1332	671,274	4151	162	.04%	Agriculture Government
(Hamilton) Hamilton-Wentworth	490,268	1117	439	662,401	1372	483	0.96%	Heavy Industry Medical Res.
Ottawa	774,000	2779	279	1.064 million	5318	200	1.46%	Government High Tech
Toronto	2.481 million	630	3938	4.683 million	5903	793	0.8%	Financial Manufacturing
Montreal	1,040 million	186	5591	3.426 million	4047	846	0.46%	Manufacturing Aerospace

Table 8.1: Canadian City Comparison – Tier Two

City/Region	Population (2003)	Land Area (km2)	Density (Per km2)	Urbanized Population (2003)	Metro Area (km2)	Metro Population Density (per km2)	Annual Pop. Growth Rate (City 2000-02)	Economic Engine
Austin, Texas	672,011	653.12	1029	902,000	824	1095	1.6%	High Tech Government
Boston, Mass.	581,616	125.84	4616	4.462 million	5144	867	0.0%	Education High Tech
Chattanooga, Tennessee	155,404	351.52	442	343,509	90	290	-0.5%	Manufacturing Services
Jacksonville, Florida	773,781	1970	393	882,000	1063	830	1.8%	Financial Services Government Transportation
Phoenix, Arizona	1.388 million	1234.74	1124	2.907 million	2069	1405	1.95%	Aerospace/ Tech Financial Services
Pittsburgh, Pennsylvania	325,337	144.56	2251	1.753 million	2207	794	-1.0%	Heavy Industrial Chemicals
Portland, Oregon	538,544	349.18	1542	1.583 million	1228	1289	1.0%	High Tech Health
San Francisco, California	751,682	121.42	6191	4.767 million	2038	2339	-0.8%	Financial High Tech
Seattle, Washington	569,101	218.14	2609	2.712 million	2471	1098	0.65%	High Tech Leisure

Table 8.1a: United States City Comparisons – Tier Two

City/Region (Lead Agency)	Type of Indicator Project	Reports (First, Latest, Total)	Categories	Number of Indicators	Funding Source
Greater Vancouver Regional District (GVRD) (Regional Government)	Livable Region	2002	4 Priorities Protect the Green Zone Build Complete Communities Compact Metro Region Increase Transporta't'n Choice	29 indicators	Public: GVRD
Fraser River Basin (Fraser Basin Council)	Sustainability	2003, 2004	16 Sectors	45 indicators (New indicators in development)	Three levels of government, Private Sector and Foundations
Calgary (Sustainable Calgary)	Sustainability	1998, 2001, 2004 (in progress)	5 Sectors in 1998, 6 Sectors in 2001 Environment, Resource Use Economy, Community, Health, Education	24 in 1998 36 in 2001 36 in 2004	Tides Foundation, The Calgary Foundation Alberta Ecotrust, Local and Federal Government United Way of Calgary and Area
Edmonton (Edmonton Social Planning Council)	Quality of Life	1997, 1998, 2002	4 Sectors Healthy Economy, Healthy People Healthy Environment, Healthy Community	60 indicators (New indicators in development)	United Way of The Alberta Capital Region City of Edmonton
Winnipeg (Local Government)	Quality of Life	Preliminary in 1997	5 Categories Urban Environment, Urban Economy, Community Assets, Individual Well-being, Community Leadership and Citizenship	60 in 1997	City of Winnipeg
Hamilton-Wentworth (Local Government)	Sustainability	1992 - 2003	14 Theme Areas	29 indicators	Hamilton-Wentworth local government
Ottawa (Local Government)	Sustainability	None published to date	3 Sectors Biophysical, Socio-economic, Economic	26 indicators	City of Ottawa
Toronto (Toronto Community Foundation)	Quality of Life	2001, 2003, 2004	4 Themes Working, Living, Learning, Growing	30 indicators	Toronto Community Foundation United Way of Toronto Laidlaw Foundation Maytree Foundation
Montreal (McGill University, SODECM)	Sustainability	2003	3 Sectors Environment, Resource Consumption Community and Economic	11 indicators	TheWoodcock Foundation

Table 8.2: Canadian City Comparison – Tier Three

City/Region (Lead Agency)	Type of Indicator Project	Reports (First, Latest, Total)	Priorities/Sectors/Themes	Number of Indicators	Funding Source
Austin - 5 county (Central Texas SIP)	Sustainability	2000-01-02-03	8 Categories: Opportunity, Civic Engagement, Economy, Education & Children, Health, Public Safety, Natural Resources, Land Use/Mobility	40 indicators	Private Donations, United Way, Local Government, Public Institutions
Boston, Mass. (The Boston Foundation)	Sustainability	2001, 2002	10 Sectors: Civic Health, Cultural Life and the Arts, Economy, Education, Environment, Housing, Public Health, Public Safety, Technology, Transportation	83 indicators	City of Boston The Boston Foundation
Chattanooga, Tenn. (City of Chattanooga)	Sustainability	No indicator Report 40 Goals - 1984 27 Goals - 1993	No Sectors	No Indicators	City of Chattanooga
Jacksonville, Florida (JCCI)	Quality of Life	Each year since 1985	6 Sectors Educational Excellence; Vibrant Economy; Natural Environment; Social Well-Being; Arts, Culture, Recreation; Healthy Community	83 indicators	City of Jacksonville United Way of Northeast Florida
Phoenix, Arizona (Morrison Institute, University of Arizona)	Quality of Life	1997-98-99 (planned for 2004)	9 Sectors Public Safety and Crime; Education; Families and Youth; Economy; Community; Health and Health Care; Environment, Transportation and Mobility; Arts, Culture and Recreation	59 indicators	Private Sector Corporations
Pittsburgh - 5 county Region (Sustainable Pittsburgh)	Sustainability	2002	4 Sectors Nature, Economy, Wellbeing, Social	22 indicators	Heintz Endowments Other Private Foundations
Portland, Oregon (Portland Multnomah Progress Board)	Sustainability	2000, Biennially	7 Sectors Economy, Education, Environment, Governance and Civic Participation, Health and Families, Public Safety, Urban Vitality	71 indicators	City of Portland
San Francisco, Cal. (Sustainable City)	Sustainability	No indicator report. Sustainable City Plan Completed in 1996	15 Sectors	53 indicators	City of San Francisco Private Foundations
Seattle, Washington and King County (Sustainable Seattle)	Sustainability	1993-95-98	5 Sectors: Environment, Population and Resources, Economy, Youth and Education, Health and Community	40 indicators	Private Foundations

Table 8.2a: United States City Comparisons – Tier Three

City/Region	Motivation/Mandate	Governance & Management	Participation Parameters	Notable Achievements and Innovations	Project Status
Vancouver	Part of comprehensive long-term planning. Pro-active sustainability planning Performance management	The GVRD is governed by a board composed of representatives of all local governments within the GVRD, with membership based on proportional representation	No formal public involvement. Experts select indicators Regional government process	Part of a leading-edge long-range plan. Based on Global Reporting Initiative	Ongoing
Fraser River Basin	"To protect and sustain the unique life-giving Fraser Basin" "Help solve complex inter-jurisdictional sustainability issues" Fraser Basin Charter, 1997	A Council of 36 directors representing local, provincial and national government, native communities, private sector and civil society. Executive Director and 15 Staff	Broad Participation (1000+) Stakeholder-based process Experts select indicators Quasi-governmental org.-led process	Using the 'watershed' approach. Multi-level governance structure.	Ongoing Indicators in Progress Moving from Indicators to Action
Calgary	A desire to provide a venue for citizens to create alternative measures of progress & well-being. Inspired by Sustainable Seattle	Board of Directors, Volunteer Indicator Project Team Community Volunteers Paid staff when funds are available	Broad participation (2000+) Citizen-based process Citizens select indicators Civil Society-led process	Democratically selected indicators. Original Indicator Research. Citizen participation model.	Ongoing. Convening a Citizens Forum
Edmonton	In response to perceived threat to quality of life. Desire to collectively redefine community excellence.	A project of the Social Planning Council Edmonton Life Steering Committee, 4 Working Committees Variable Staff support	Broad participation (150+) Stakeholder-based process. Citizens select indicators Civil Society-led process	Comparisons with Federation of Canadian Municipalities Quality of Life Indicator Report	Ongoing. Indicators in Progress.
Winnipeg	In response to perceived threat to quality of life. Contribute to a revision of Municipal Development Plan – Plan Winnipeg.	City of Winnipeg Strategic Planning Division worked with the International Institute for Sustainable Development. A 9 person project team established.	Broad participation (60+) Stakeholder-based process Experts select indicators Local government-led process		No follow-up on Initial Report
Hamilton-Wentworth	In response to perceived threat to quality of life a government appointed citizen panel called for a long-term sustainability vision.	The project is managed by the Vision 2020 Project within the Planning and Development Department of The City of Hamilton	Broad participation (1000+) Citizen-based process Experts select indicators Local government-led process	Integration with municipal budget process.	Ongoing
Toronto	To promote discussion, citizen engagement and change on issues that are important to the quality of life and future vitality of the Greater Toronto Area	Project of Toronto Community Foundation	Broad Participation (100+) Stakeholder-based process Experts select indicators Civil Society-led process	Publication of 'Vital Ideas' to improve 'Vital Signs'	Ongoing
Montreal	Public education, Build a monitoring system Contribute to City's Sustainable Urban Plan	Joint project of Societe de developpement Communautaire de Montreal, Urban Ecology Centre and McGill University Urban Planning	No significant participation component Experts select indicators Civil Society-led process		No follow-up on Initial Report

Table 8.3: Canadian City Comparisons – Tier Four

City/Region	Motivation/Mandate	Governance & Management	Participation Parameters	Notable Achievements and Innovations	Project Status
Austin	Concern for economic, social and environmental sustainability of Austin, Call for change from city-appointed Citizens Planning Committee.	CTSIP is a not-for-profit community organization comprised of volunteer board of directors and independent researchers	Broad participation (100+) Citizen-based process Experts select indicators Civil Society-led	Spin-off from a broad-based Sustainable Community Initiative of City of Austin.	Ongoing
Boston	Concern over growing inequities amidst prosperity. Concern over maintaining competitive economy. Presidents Council on Sustainable Development	Originally coordinated jointly by the City of Boston and The Boston Foundation. (TBF) Currently a project of TBF Project Co-ordinator and a Researcher	Broad participation Citizen based process Experts select indicators Civil-Society-led process	Conference was held to explore how the indicators could be used at the neighbourhood level.	Ongoing
Jacksonville	Concern over Quality of Life Desire to engage citizens in discussion.	A Project of the Jacksonville Community Council Inc. JCCI staff research and prepare reports.	Broad participation (1000+) Citizen-based process Experts select indicators Civil Society-led process	Citizen Focus Issue Teams Citizen Action Teams Summary Report format annually. Report Card format annually.	Ongoing.
Phoenix	Desire to understand quality of life issues Search for policy actions to improve quality of life	The Morrison Institute for Public Policy at Arizona State University houses the project. It is managed by one individual (Project Manager and Lead Researcher) working with a support team.	Broad Participation (3000+) Citizen-Based process Citizens select indicators Process led by University Policy Institute	Parallel reporting of qualitative and quantitative indicators.	Ongoing
Pittsburgh	Concern over economic vitality, environmental degradation and social and economic inequity.	A 12-person advisory Board A 5 person staff. 'Network of Affiliates' – over 140 individuals, businesses and organizations.	Broad participation (300+) Stakeholder-based process Citizens select indicators Civil Society-led process	'Network of Affiliates' membership 'Champions of Sustainability' Speakers 'Sustainability Policy Programs'	Ongoing.
Portland	Part of a long-standing proactive sustainability planning effort in Portland and Oregon.	Project managed by Portland Multnomah Progress Board – a Citizen Board housed and supported by the City of Portland, Office of the Auditor. Co-chaired by The Mayor of Portland and Multnomah County Chair.	Broad participation (~30) Citizen-based process Experts select indicators Local government-led process	'Progress Board Benchmark' Model - "Benchmark Audits" Citizen Panel charged with overseeing government-based indicator project.	Ongoing.
San Francisco	Citizen activist lobbying for city focused on issues of environmental protection, and social and global justice.	Originally housed in City Government Non-profit Sustainable City now champions the project through education, advocacy and political action.	Broad participation (450+) Citizen and stakeholder-based process Citizens select indicators Gov. and Civil Society-led process	Activist Group playing a pivotal role in a government initiative. Political action to move initiative forward	No regular indicator reporting. Project dormant
Seattle	Started in 1990 with a workshop sponsored by the Global Tomorrow Coalition in preparation for Earth Summit. Citizens concerned to promote a sustainable community.	Non-profit Sustainable Seattle has a Board of Directors, Project Coordinator, and sector Working Groups.	Broad participation (300+) Citizen-based process Citizens select indicators Civil Society-led process	Annual Sustainability Awards Neighbourhood Indicator Project Initiated in 2004.	First report since 1998 to be prepared in 2005.

Table 8.3a: United States City Comparisons – Tier Four

the Fraser Basin Council, the regional watershed. In the United States, all but Phoenix set their work within the county or greater metropolitan context. Calgary is somewhat unique in that it is governed as a uni-city and it does not participate in a regional government. The prairie cities – Calgary, Edmonton, Winnipeg, Phoenix, and Austin – are unique in that they hold the over-whelming share of the regional population. East and west coast cities tend to exist within a much larger urban agglomeration.

Two-thirds of the projects were self-described sustainability oriented, and the other third focused on quality of life. Non-governmental, non-profit organizations are the lead agency for two-thirds of the initiatives, although in Canada four out of nine initiatives are local government-led. None of the non-profit-led initiatives have any significant integration with local government. The GVRD (Vancouver) project is the most integrated into the City planning process. Portland's process operates more as an audit rather than a planning tool. Ottawa's process is still in the very early stages, and Winnipeg's did not proceed past the initial stages. Seattle is an interesting case in that the Sustainable Seattle process was independent of local government, but in the meantime, the City of Seattle began its own indicator-monitoring program. In Boston, Austin, and San Francisco, a process that started with government as a partner or lead agency has evolved to become an independent, civil society-led process. Hamilton-Wentworth attempted to turn the indicator process over to an NGO, but the experiment failed. Among the eighteen comparable cities, there is no example of a process that originated within civil society being adopted by, or integrating into, local government.

The motivations for undertaking indicator projects varied among the cities surveyed. In several U.S. cities – for example, Boston and Austin – the motivation for the projects was an assessment of disturbing inequalities during times of strong economic growth, combined with a concern that current development patterns were not sustainable into the future. East coast cities also found motivation in the legacy of historically environmentally damaging industrial economies in decline – for example, Jacksonville and Pittsburgh. West coast and midwest cities in Canada and the United States found motivation in the alarming trends of rapid economic and population growth and sprawl – for example, Vancouver, Phoenix, and

Portland. The majority of cities' motivations can be summed up as a desire to arrest a perceived deterioration in the quality of life and growing social inequities combined with a desire to position themselves as strong competitors in the "new" and "global" economies. A concern for global justice animated the Sustainable Calgary, Sustainable Seattle, and Sustainable City (San Francisco) processes as much as the common motivations cited above.

All but the Vancouver and Montreal processes have had significant public participation. Still, the majority of projects favoured a process whereby "experts" actually chose the indicators or devised a preliminary list of indicators. Calgary's process was perhaps the most grassroots and democratic in that citizens brainstormed potential indicators and chose the final set. Seattle's process was similarly grassroots and democratic, although in Seattle "civic leaders" were invited to select the indicators and the final selection was made by the project team. About half of the projects adopted a citizen-based process wherein the invitation to participate was extended to citizens. For the other half, the invitation to participate was extended to stakeholder groups.

Two of the most widely debated issues with respect to indicator projects are the use of targets and the use of qualitative indicators. The use of targets is not widespread among the indicator projects surveyed. The most consistent users of targets have been Jacksonville and Hamilton, two of the longest-running processes. Most of the projects report qualitative as well as quantitative indicators. About half of the initiatives conduct polling to collect qualitative indicator data, including Austin, Boston, Jacksonville, and Phoenix. Phoenix's report shows the most impressive integration of qualitative and quantitative data. Another technical innovation, most prominent in Boston, is the dis-aggregation of indicators for the sixteen Boston neighbourhoods.

About half of the indicator projects have begun to strategize how to move from indicators to action. Only about one-third of the projects have taken any concrete steps toward action, and no project can claim to have impelled a comprehensive program of action toward sustainability. Of note, though, is the fact that four cities considered to be leaders in

sustainability – Portland, Austin, Vancouver, and Seattle – have created Offices of Sustainability to coordinate and promote sustainability activity. Consideration of these indicator projects suggests that there is rarely a linear cause-and-effect relationship between indicator projects and policy or material change toward sustainability. There is evidence of diffusion of the projects into policy networks, although this is hard to quantify given the murky nature of policy-making. The evidence suggests that indicator projects have been most effective as tools for generating civic dialogue and social learning.

The comparable cities' experiences also point to two very distinct uses of indicator reporting. One is a conventional approach of using indicators as a management tool integrated into policy and planning processes. The indicator sets attached to comprehensive plans exemplify this approach, as in Vancouver and Seattle. The second approach is that of social learning and education. Meg Holden's (2005) analysis and the analysis herein of Calgary's process highlight the social learning approach of Sustainable Seattle and Calgary, respectively. Nevertheless, these two approaches are not necessarily exclusionary of the first approach, described above. For example, Hamilton-Wentworth's initiative demonstrates the successful combination of management and social learning functions in an indicator report.

Overall, the diversity of experiences and innovations in the indicator initiatives examined and the evident learning that has occurred through exchange of experiences – most notably, Sustainable Seattle's contribution to other processes – demonstrates the need for enhanced efforts at sharing experiences across networks such as the Canadian Sustainability Indicator Network and the International Sustainability Indicator Network.

Reviewing the Literature

The community sustainability indicator literature is generally consistent with the findings of this comparable cities' research. Consideration of the comparable cities, through the lens of the current literature, reveals the evolving nature of indicator initiatives over the past twenty years, provides some assessment of the efficacy of moving from indicators to

action, and helps to tease out some troubling inconsistencies about how sustainability is defined and operationalized at the local level.

As part of a global assessment, an ICLEI survey of one hundred Local Agenda 21 projects in North American cities⁷⁸ found that, in contrast to Europe, most local activities were undertaken independent of large-scale national or regional programs and generally self-identify as either sustainable development, environmental protection, or economic development projects (ICLEI 2002). Growth issues, including land-use (90% of respondents) and transportation (80% of respondents) were the dominant issues being addressed by North American cities. Eighty percent of respondents reported stakeholder participation as part of their process. Waste reduction, increased public awareness, and better water quality were some of the achievements North Americans shared with cities in other regions. North America was the only region in which community empowerment was cited as an achievement of the process. The emphasis on community empowerment is consistent with the leading role played by civil society in the majority of the comparable city initiatives.

There is relatively little Canadian literature on urban indicators. Parkinson and Roseland (2002) provide an evaluation of sustainability initiatives in fifty-two of what they consider leading Canadian municipalities with respect to sustainability. Forty of those projects actually identified indicators and only 62 percent of the forty (or twenty-five projects) were deemed to have achieved results. Parkinson and Roseland conclude that “stakeholder involvement was found to be the most important factor in determining the success of a project” (411). Another study, by Frankish, Kwon and Flores, evaluated 117 projects from around the world (thirty-seven were Canadian) with a focus on the use of indicators of community health. The authors found that “there appear to be no consistent standards for defining success for a given indicator” (2002, i) and there is a dearth of research on outcomes associated with interventions taken to improve particular indicators. MacLaren (2003) reviewed forty-two indicator reports from across Canada and found that indicator reporting was an effective tool for individual and organizational learning and for citizen

empowerment. The indicator reporting was less successful as a catalyst for action because there is often the mistaken assumption that the reporting itself will instigate action. MacLaren identified several barriers to continuity of indicator reporting over time, including organizational and personnel change, lack of resources, competing indicator reports, and lack of ownership by government and/or the community. CPRN and Bradford (2003) claim that social sustainability requires local champions, institutional intermediaries (often national governments), equitable participation, a culture of creativity, adequate financial and technical resources, strong accountability mechanisms, and indicators to track progress.

Beslan and Mullin's (1997, 51) work is among the first attempts to survey and provide an overview of sustainability indicator work in the United States. They conclude that "so far ... project leaders tend to feel that they have had limited success in effecting change through the indicator project.... The influence of information is almost always indirect, and it may take a fair amount of time before the information becomes manifested in actions, initiatives, or policy agendas". One exception noted in the article is healthy community projects, which, according to the authors, "have been able to develop the strategies and political will needed to effect real change in their communities" (51). The *1992 Quality of Life Index for Pasadena*, for example, "has guided policy development in tobacco control, alcohol availability, and infant health" (47). The reason for healthy community indicator project success is that "unlike most other community indicator projects ... they have taken on indicators as one part of a larger action strategy" (51).

According to Magilavy (1998, 1) "San Francisco's sustainability planning experience over the last ten years has shown that objective measures are of assistance in implementing sustainability only if other, more crucial pieces of the civic puzzle are in place". She identifies "political support for fundamental change" and "an administrative structure within which change can occur" as the two other crucial pieces (3). Magilavy asserts that the indicators and sustainability plan have played a significant role in shutting down a polluting power plant and in implementing the "most extensive program for reduction of

⁷⁸ The ICLEI survey found 6,500 LA21 processes worldwide, with the majority of these found in Europe.

municipal use of pesticides in the country” (2). However, despite the indicators and sustainability plan being acknowledged as one of the most forward looking in the United States (Portney 2003), because of the absence of those two other crucial pieces, the initiative has met with limited success.

Swain and Hollar report that outcomes have been slow to be realized from the Jacksonville, Florida indicator project, as “the Jacksonville indicators have no direct conduit into the public decision-making process by the City of Jacksonville or other governmental entities in the region.... Indicator information is disseminated and exists, unused, in the community, until some institution or interest group uses the compelling stories told by the indicator trend lines” (2003, 802). The authors do report some success in moving from indicators to action on surface water pollution control, race relations, economic growth, and public education. For example, the realignment of Public School Board priorities in Duval County resulted from a JCCI (1993) citizen-based study, *Public Education: The Cost of Quality*, a response to negative trends in education indicators. After three years of trying to work with the School Board and meeting strong resistance, the business community called publicly for reforms to the system as the indicators continued to show decline. In 1998 the School Board finally established a New Century Commission and, through an in-depth community process, detailed recommendations for reform. In 1999 a new superintendent was hired to implement the reforms. However, as of the publication of the Swain and Hollar article, the education indicators themselves were still showing a negative trend.

Florida and Gordon (1999, 2) review the impact of twelve regional indicator projects across the United States. The authors conclude “that taken alone, indicators play at best a limited role in placing environmental and sustainability considerations on the agenda of regional policy makers and economic developers” and that the “most successful ... efforts are those which embed indicator projects within broader strategies for economic and environmental revitalization” and incorporate significant community participation. One outstanding example cited in the report is Chattanooga, Tennessee, where indicators are used to assess “progress toward regional goals” (2). In 1984, 1,700 citizens of Chattanooga participated in setting forty goals for “economic revitalization through environmental progress and

sustainability,” goals which “made environmental revitalization and sustainability the centerpiece of its regional economic strategy” (18). As a result, the authors report that Chattanooga has made impressive changes to enhance its quality of life and sustainability, including a riverfront clean-up and revitalization, affordable housing projects, and the development of an electric bus industry. Chattanooga is now recognized as one of the most sustainable and liveable cities in the United States. “Ten years later, 85 percent of [the] ... goals were accomplished, with a reported 2000 projects, generating 1381 permanent jobs, 7300 temporary construction jobs, and \$US 793 million in new investment” (18). As a result of this process, “Chattanooga now enjoys a ‘public process culture’ that positively influences the way matters are addressed in the region” (19).

A study conducted by Rowledge and Figge of EKOS International for the City of Seattle surveyed “leading approaches and tangible results” in city sustainability planning. It concluded that “revolutionary metrics, targets and monitoring” is one of eight “critical success factors of leading-edge transformation efforts and best-practices” (2000, 3). Portney’s (2003) larger study supports EKOS’s claim. He compared sustainability outcomes across twenty-four U.S. cities that he identified as “taking sustainable cities seriously” according to a thirty-four-element index. He examined eight high-performing cities in more detail and found that all but one of the eight cities “have an aggressive indicators project, most began the process of initiating sustainability with that project,” and in “nearly every city, the sustainability initiative either got started or received a significant boost from a nonprofit, nongovernmental organization” (217).

Farther afield, the European-based Pastille Consortium used an in-depth evaluation of four city-level indicator project case studies to answer the question, “[D]o such sustainability indicators significantly influence local decision making and, if not, why not” (2002, 6)? The report argues that sustainability indicator sets have to be evaluated in the context of the complex process of urban governance, where multiple actors, both inside and outside of local government, play a role in policy design and implementation; furthermore, “there is no sense in which the sustainability indicators are separate from those processes and sets of relationships” (12). The report concludes that “the conventional approach, with its focus on

sustainability indicators as a policy tool to be (re)designed and then implemented, fails to appreciate the significance of context, the dynamic nature of sustainability indicators and the way they are involved in the conflicts and struggle of urban governance, including struggles over the definition of sustainable development at the local level” (13). It concludes that, because they fail to take into account the political and institutional context of local governance, “sustainability indicators do not currently have much impact on decision-making at the municipal level” (50). A New Economics Foundation (NEF) study of 60 local indicator projects across England and Wales confirmed the Pastille assessment. NEF found that indicator projects had enjoyed some success but that there was little evidence of effect on policy. This “missing link” was attributed to several factors. Some issues simply transcended the responsibilities of local authorities. In addition, there was generally no direct connection between indicator projects and policy processes, no obvious vision of the goals of indicator projects, a lack of clarity about how policy was actually made, a lack of senior buy-in, and ineffective communication of indicator project findings (NEF 2003).

Based on the comparable cities survey and a review of the relevant literature, four broad conclusions can be drawn about the efficacy of indicator projects. First, there is a strong consensus that indicator projects are a key piece of the sustainability puzzle and an effective starting point for taking sustainability seriously. Portney, Magilavy, and Beslan and Muller’s analyses support this claim. Portney’s research suggests that a sustainability indicator project might itself be an indicator that there will be some success toward sustainability. His analysis does not, however, substantiate any potential claim of a causal relationship between the indicator projects and “taking sustainable cities seriously.” It may just be that in these cities the conditions for action on sustainability were in place and an indicator project was simply a logical first step. I would argue that indicator initiatives are also one of the most effective civil society interventions based on Portney’s analysis, the comparable cities research, and an earlier observation (chapter 5) that indicator initiatives are one of the least resource-intensive sustainability interventions and thus the most accessible to civil society.

Second, a strong case can be made that indicator projects can be a catalyst for civic dialogue and for social learning. Indicator projects catalyze civic dialogue in that they have been shown to be an effective tool for bringing together a broad cross-section of the community. Social learning is a feature of civic-led processes in particular, as they provide an environment for a relatively free flow of debate and information. This conclusion is supported by the comparable cities assessment, the Sustainable Calgary indicator participants' interviews discussed in chapter 7, and Holden's (2005) work in Seattle. There are at least two reasons why this would be the case. First, civil society is in a position to reach beyond the departmental silos of local government and the division of labour between local, provincial/state, and national governments. Second, civil society can play the honest broker and appeal to citizens to participate in an indicator initiative without the organizational baggage they might bring to, or be met with, in a government process.⁷⁹

Third, it is clear that the missing link between policy and indicators must be better understood and operationalized. It is fair to postulate, based on the projects we have examined, that the Achilles heel of most citizen-led indicator initiatives is the lack of integration with local government policy and planning processes. However, the existing literature and the assessment of the eighteen comparable cities does not provide a straightforward answer to this question. On the one hand, there is the advantage that embedding indicators into a wider process forges the missing link to policy and planning processes and in turn, influences the deployment of resources toward a transition to sustainability. On the other hand, local governments still operate within tightly defined silos and in relative isolation from other levels of government, making cross-cutting sustainability issues difficult to address. Reflection on the historical evolution of what are arguably the leading sustainable cities in Canada and the United States – Vancouver and Portland – reveals that although the indicator processes are now embedded in local government, civil society played a pivotal role in the decisive changes in local politics in

⁷⁹ During a January 17, 2005 lecture in Calgary, David Bragdon, head of the Portland Metro Council, emphasized that the ability of citizen groups to play the honest broker role was acknowledged to have been a significant factor in the sustainability success of Portland.

the early 1970s that set the stage for those cities to become leaders.⁸⁰ As one Calgary alderman noted in chapter 7, such civil society activity legitimates and creates an enabling environment for more aggressive sustainability activity inside local government and in the community at large. Likewise, in Seattle, a relative newcomer to the ranks of sustainable cities, it could be argued that the work of Sustainable Seattle, perhaps in a more modest way than in Vancouver and Portland, contributed to the sustainability turn in local government. Portney also observes that the transition to taking sustainability seriously in eight high-performing cities was strongly influenced by the non-profit sector. What can be concluded, I think, is that in the best of both worlds, civil society-led indicator initiatives would maintain a high degree of autonomy and establish some kind of coupling to local government policy and planning processes. The nature of that coupling I will take up in the next chapter. Another observation I would make is that although indicator promoters recognize the need to affect policy, there seems to be a lack of clarity around the policy-making process. The Pastille report demonstrates the most detailed understanding of the complexity of this process. Another conclusion, then, is that indicator development and policy-making are two very different realms. Expertise in one does not automatically translate into expertise in the other. There is a need then, for civil society organizations to understand and learn to intervene in the policy-making process. This issue will also be taken up in some detail in the next chapter.

Fourth, despite the positive assessments of Portney (2003), Florida (2002), and EKOS (2000), digging deeper into the urban literature reveals some fundamental questions about the sustainability of even the high-performance cities. Many of the cities that appear on Portney's list of cities that take sustainability seriously also appear on Florida's lists of creative cities. This suggests a strong correlation between the attraction of the creative class to a city and its sustainability. Furthermore, the ICLEI surveys and an examination of the suites of sustainability indicators generated by indicator initiatives in leading creative and sustainable cities (e.g., Austin, Boston, Portland, and Seattle) show progress consistent with the prognosis of ecological modernization – waste reduction, air quality improvement,

⁸⁰ Interestingly, the transition in the political environment in Portland and Vancouver occurred during what analysts in chapter 4 referred to as the progressive first wave of environmentalism.

water conservation, and so on. The fly in the ointment is that Florida's latest work (2005) suggests a strong correlation between creative (and by extension sustainable) cities and cities with significant inequalities.⁸¹ These latter correlations give weight to the critiques of ecological modernization elaborated in chapter 5. These critics might argue that these model cities may have achieved success in terms of the easy picking fruit – air pollution, water conservation, and so on – but they continue to sprawl, use more energy per capita, and nurture local and global disparities.

Yanarella (1999) has written a comparative analysis of three leading U.S. and Canadian cities: Seattle, Chattanooga, and Hamilton-Wentworth. Contrary to the conventional glowing analysis of these cities, he argues that in fact a focus on indicator projects is consistent with what he calls “environmental moralizing and policy incrementalism” (221), a “pathway approach” to sustainability that can be classified as Daly and Cobb's (1989) weak sustainability. He calls for a more comprehensive “balance-seeking process” that would be more consistent with Daly and Cobb's strong sustainability. He argues that the gains in Hamilton have been minimal and tough issues like automobile dependence have not been successfully tackled; that Sustainable Seattle's community indicator project deflected attention away from more comprehensive approaches; and that Chattanooga's success is still “bounded by the primary goal of continued economic growth” (216).

Berke and Conroy have undertaken a study of thirty comprehensive city plans from across the United States (Berke and Conroy 2000). The cities of Seattle, Portland, Jacksonville, Pittsburgh, and Chattanooga were included in this study. Berke and Conroy found that “plans which integrate the sustainable development concept are not significantly different from plans that do not” (26). Secondly, the authors found that “plans do not take a balanced, holistic approach to guiding development and moving toward sustainability. Instead, they focus narrowly on creating more livable built environments, which is the historic mainstream focus of plans” (30). Of the six principles of sustainability used in the

⁸¹ I use Florida's work while acknowledging the many critiques of it: the definition of creative class worker, to give but one example. The following quotation illustrates the contentious nature of his analysis: “In 1900,

evaluation, (harmony with nature, place-based economy, polluter pay, liveable built environment, equity, and responsible regionalism), Berke and Conroy concluded that only liveable built environment was integrated throughout the plans. In a followup study Berkes and Conroy (2004) examined 42 cities in the United States and concluded that genuine movement on sustainability requires political commitment at the local and the state level, significant reallocation of resources, and strong public participation. Berke and Conroy's findings are consistent with my assessment of the Municipal Development Plans of the comparable Canadian cities reviewed in this research.

The question, then, is – sustainable and creative for whom? Are the creative city, the sustainable city, and the liveable city simply creative, sustainable, and liveable for an elite class? Are we really just talking about successful, neoliberal cities? The sustainability or creative city literature would not contradict a reading of cities derived from the growth machine and regime theory literature, for example. Sustainability and creative city researchers (some would say boosters) must acknowledge that the hegemony of economic growth and limitedly democratic political regimes still drives even the most creative and sustainable cities.

The journal *Local Environments* has been reporting on sustainability indicator development for over a decade. In a recent special issue, Rydin and her colleagues discuss how the understanding of indicator projects has evolved from that of a technical exercise to a complex process that delivers indicator sets that are contested, socially constructed, and contextually unique (Rydin et al. 2003). If their analysis is sound, then perhaps we are evolving to a more sophisticated level where indicator initiatives can play a role in contesting the dominant neoliberal agenda and confront some of the more trenchant challenges of uneconomic growth and the democratic deficit.

In the next chapter I bring to bear several of the inquiries and conceptual tools that have been presented to date. The Sustainable Calgary experience and the experience of

fewer than 10 percent of American workers were doing creative work – most worked on farms or in factories” (2005, xiii).

comparable North American cities, as well as theoretical insights from transformational learning, deliberative democracy and complexity theory applied to management systems will inform the Sustainable Calgary indicators to action strategy.

Chapter 9: The Sustainable Calgary Indicators to Action Strategy

Now we come to the practical endpoint of this dissertation and the response to my second research question: How does Sustainable Calgary move from indicators to action? In making the case for a strategy for accomplishing this move, I first review the information gathered thus far that is of relevance to the formulation of a strategy. In chapter 2, I recounted the Sustainable Calgary story to date, including a summary of the findings of the 2004 State of Our City Report. In chapter 5, I discussed the evolution of sustainability discourse and action with attention to the currently dominant discourse of ecological modernization. In chapter 7, I identified individual and community outcomes of the indicator initiative. In chapter 8, I investigated the indicator initiative experience of eighteen comparable cities in Canada and the United States. In what follow I summarize my observations to date, and I identify and elaborate a five-point strategy for moving from indicators to action.

The 2004 State of Our City Report reaffirms trends that have been evident since the first report in 1998. The 2004 report suggests that current trends in the community sector indicators and the natural environment indicators are sustainable. For example, rates of volunteerism and numbers of city festivals and attendance are on the rise, and per capita waste volumes and water consumption are decreasing. However, based on the research, we cannot say with any certainty that current trends will result in a sustainable health and education system. Class sizes are just beginning to decrease to recommended levels, and the percent of the health budget spent on preventative measures is a small fraction of the total and is decreasing. An assessment of the economic and resource use indicators suggests that we have not made significant progress in these areas over the past decade and that we are, in fact, moving away from sustainability. The income gap remains large, food bank usage continues to grow, the relative buying power of the minimum wage continues to decline, per capita energy consumption is growing, and Calgary has the largest per capita ecological footprint of any city in Canada. Significant inequities in our community and the unsustainable rates of resource consumption are clearly two of our biggest challenges.

The analysis of the interviews with thirty-two former participants in the indicator initiative shows substantial increases in sustainability literacy (particularly the sensitivity to the social pillar of sustainability), personal growth, professional development, and modest effects on sustainability-related behaviours for the majority of interviewees. In the greater community, the analysis shows that the indicator initiative has had a modest but significant influence on policy actors, structures, and initiatives. The indicator initiative was a catalyst for new research and projects, and it helped create an enabling environment for sustainability activity. Most importantly, it created a successful civic dialogue on sustainability, and promoted and demonstrated the efficacy of more participatory forms of democracy. Perhaps the biggest lost opportunity in the indicator initiative to date was the lack of an effective post-report process of engagement and advocacy directed toward policy and material change within municipal government. Furthermore, there was consensus among the interviewees that the indicator initiative must continue to report on the state of our city and maintain its autonomy from local government; that Sustainable Calgary is in a position to show leadership to convene civil society organizations around issues of sustainability; that there are both structural (e.g., economic growth and transportation) and lifestyle (e.g., consumption habits and car-dependence) impediments to Calgary's sustainability; and that a Citizen Forum bringing together "citizen-stakeholders" from government, civil society, and the private sector is a logical next step in moving from indicators to action.

What we have learned from other comparable cities confirms three key findings from the Sustainable Calgary participant interviews. First, sustainability indicators are an effective and important tool for the transition to sustainability. Second, indicator initiatives have been demonstrated to be effective processes for a broad-based civic dialogue on sustainability. Third, the lack of integration of indicator initiatives into the policy and planning processes of local government is the missing link in moving from indicators to action. The strong role played by civil society-led indicator initiatives in promoting dialogue and more participatory forms of democracy, the missing link of policy influence, and the continued silo-like operation within local government and between governments suggests the need to both maintain the autonomy of civil society indicator work and to find

a mechanism for coupling these initiatives to the local government policy and planning process. A fourth observation, from the comparable cities analysis, the apparent correlation between sustainable and creative cities and inequitable cities, calls into question the ultimate effectiveness of ecological modernization as the dominant framework for the transition to sustainability.

In chapter 5 I reviewed the origins and current status of sustainability theory and practice. It is widely acknowledged that ecological modernization is the dominant framework in the current transition to sustainability. However, there are persuasive theoretical and empirical arguments that challenge the efficacy of ecological modernization. Ecological modernization is content to optimize resource flows (e.g., water and automobiles) within an inefficient built urban form rather than facing the more fundamental challenge of optimizing built urban form and resource re-allocations. The strongest of these arguments call for a reorientation away from global, technical solutions to the sustainability challenge and toward local and political/cultural solutions. One implication of the critique of ecological modernization for Sustainable Calgary's strategy is the need to assess the political climate and make a strategic determination of what is possible in the near to medium term. A cursory analysis of Calgary's politic, with reference to table 5.1, suggests a mixed landscape. On the national scene, the federal government is among the leading nations in some aspects of sustainability and a laggard in others. Canada does have a reputation for the development of tools such as round-table stakeholder processes. Generally, I would characterize the federal government as holding a reflexive ecological modernization position. At the provincial level, it is fair to say that the government of Alberta functions as a neoliberal regime. Market-oriented solutions are the preferred economic instrument of the government of Alberta, and it is generally hostile to regulation or collective decision-making, as, for example, with the Kyoto Protocol. At the local level, the municipal government has in recent years achieved promising technical advances in environmental protection. The City's wetland preservation program has received accolades; Ride the Wind is an outstanding renewable energy conversion program; and Calgary's waste treatment system is world class. However, progress is slower on issues requiring more social and political than technical finesse, like the reduction of homelessness, the

promotion of mass transit and curbing sprawl. For these reasons, I would characterize the city politic as one of technological modernization.

Taken together, these findings suggest four observations that inform an indicators to action strategy: 1) indicators are an important and effective tool for the transition to sustainability; 2) democratic and dialogic process is an indispensable cornerstone of the transition to sustainability; 3) moving from indicators to action requires an effective engagement with the local governance policy processes; and 4) meaningful transformation toward sustainability will have to go beyond the “technical fix” of ecological modernization. Following from this analysis, I propose a five-point indicators-to-action strategy (see Figure 9.1):

1. alignment of the City’s sustainability agenda with the Rio Consensus, the Melbourne Principles, Local Action 21 and The Earth Charter;
2. rationalization of indicator sets that relate to Calgary in order to make the indicators project effective and accessible as a policy and decision-making tool in a governance milieu where indicator mania has overwhelmed all but the most ardent indicator fans;
3. elaboration of foundational principles and principles of practice that support a process of transformational social learning;
4. an effective civil society dialogue, education, and advocacy strategy toward local government and;
5. consultation with citizens on the policy and action implications of the 2004 State of Our City Report.

1. Alignment of Calgary’s Sustainability Agenda Global Sustainability Initiatives

In a strategic scale jumping move, I propose that Sustainable Calgary endorse Local Action 21, the Melbourne Principles for Sustainable Cities (table 5.2), and the Rio Consensus⁸²;

⁸² While I have argued against the dominant understanding of sustainable development that has emerged since Rio, I also argue that the most general consensus reached at Rio is that environmental degradation and

call on local government to do likewise, and invite all Calgarians to wholeheartedly support this global movement. As the 2004 State of Our City Report states, “Calgarians have made their mark around the world as entrepreneurs and traders. Now is the time to make our mark as global citizens” (Sustainable Calgary 2004, 8). As writers such as Paelhke (2000) argue, sustainable development stands in strong contrast to, and is an improvement over, neoliberal globalization. In the current political climate, I think such a move is strategically defensible. Although, as I argued in chapter 5, the Earth Summit-inspired sustainable development framework is deeply flawed, there are seeds of localism, environmentalism, and participatory governance within it – particularly in Local Agenda 21 (Lafferty, 2004).

The Rio Consensus

Taking a position in support of the Rio Consensus, local government would highlight the global momentum toward sustainability. It is important for Calgarians to understand that through international agreements, as global citizens we have accepted certain obligations for creating a sustainable world. In effect, these obligations amount to a Rio Consensus. The Earth Summit in Rio de Janeiro was the largest gathering of global leaders in the history of the world. Preparations for it consumed tens of thousands of people from all over the planet for two years. It was also a “coming out” party of sorts for global civil society, which for the first time had a seat at the table and staged its own impressive gathering in Rio. Significant treaties, conventions, charters, and declarations were signed by the world’s peoples and nations. Not only were the government of Canada and Canadians signatories to these documents, but as a nation and as individuals, Canadians played a pivotal role in creating them (Strong 2001). The foundational documents from the Earth Summit are a significant part of our covenant with peoples and nations of the world. International conventions and declarations launched at the Earth Summit include the Rio Declaration on Environment and Development, Agenda 21 – Global Programme of Action on Sustainable Development (UN 2004), the Convention on Biological Diversity (UNEP 2004), the UN Convention to Combat Desertification (UNCCD 2004), and, of course, the

poverty are the twin scourges of the modern world, and that enhanced democratic participation of the world’s citizens will be required to resolve them.

Melbourne Principles for Sustainable Cities

Promote a long-term vision based on sustainability; intergenerational, social, economic and political equity, and its individuality

Strive toward long-term economic and social security

Recognize the intrinsic value of biodiversity and natural ecosystems and protect and restore them.

Enable communities to minimize their ecological footprint

Build on the characteristics of ecosystems in the development and nurturing of healthy and sustainable cities

Recognize and build on the distinctive characteristics of cities, including human and cultural values, history and natural systems

Empower people and foster participation

Expand and enable cooperative networks to work toward a common, sustainable future

Promote sustainable production and consumption, through appropriate use of environmentally sound technologies and effective demand management.

Enable continual improvement based on accountability, transparency and good governance.

Table 5-2: The Melbourne Principles for Sustainable Cities (adapted from <http://www.melbourne.vic.gov.au/rsrc/PDFs/MelbournePrinciples/MelbourneprinciplesEnglish.pdf>)

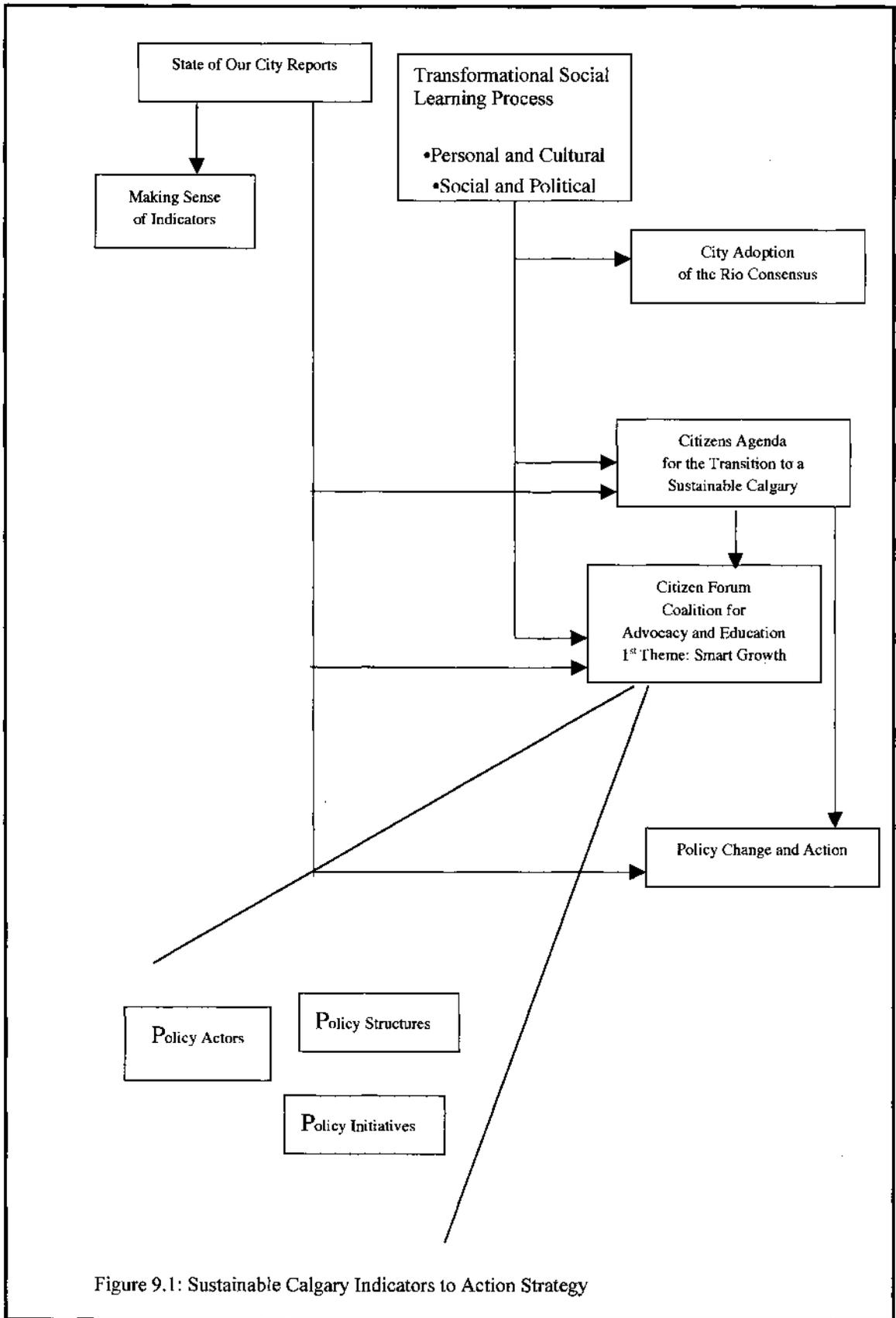


Figure 9.1: Sustainable Calgary Indicators to Action Strategy

United Nations Framework Convention on Climate Change (UNFCCC 2004).

Agenda 21

Agenda 21 was signed by all nations present at the Rio Earth Summit. The preamble to the Rio Declaration on Environment and Development – Agenda 21 states:

Humanity stands at a defining moment in history. We are confronted with a perpetuation of disparities between and within nations, a worsening of poverty, hunger, ill health and illiteracy, and the continuing deterioration of the ecosystems on which we depend for our well-being. However, integration of environment and development concerns and greater attention to them will lead to the fulfillment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future. No nation can achieve this on its own; but together we can – in a global partnership for sustainable development. (UN 2004)

Chapters 28 and 40 of the Declaration are particularly relevant to the work of Sustainable Calgary. Chapter 28 describes what has become known as Local Agenda 21:

Because so many of the problems and solutions being addressed by Agenda 21 have their roots in local activities, the participation and cooperation of local authorities will be a determining factor in fulfilling its objectives. Local authorities construct, operate and maintain economic, social and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations, and assist in implementing national and sub-national environmental policies. As the level of governance closest to the people, they play a vital role in educating, mobilizing and responding to the public to promote sustainable development.... Each local authority should enter into a dialogue with its citizens, local organizations and private enterprises and adopt "a local Agenda 21". (UN 2004)

Chapter 40 of Agenda 21 calls for the creation of information systems, including indicators, to assist decision-making:

In sustainable development, everyone is a user and provider of information considered in the broad sense. That includes data, information, appropriately packaged experience and knowledge. The need for information arises at all levels, from that of senior decision makers at the national and international levels to the grass-roots and individual levels.... Commonly used indicators such as the gross national product (GNP) and measurements of individual resource or pollution flows do not provide adequate indications of sustainability. Methods for assessing interactions between different sectoral environmental, demographic, social and developmental parameters are not sufficiently developed or applied. Indicators of sustainable development need to be developed to provide solid bases for decision-making at all levels and to contribute to a self-regulating sustainability of integrated environment and development systems. (UN 2004)

Local Action 21

In a document submitted to the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002, The International Council for Local Environmental Initiatives (ICLEI, 2002) provides an assessment of the progress made on Local Agenda 21 since the Rio Earth Summit ten years earlier. ICLEI concluded that “significant movement towards sustainability has occurred at the local level.... Local governments have developed participatory, multi-stakeholder strategies to implement sustainable development.... [but that] future initiatives must place greater emphasis on addressing the social and economic problems that underlie environmental degradation” (2002).

The ICLEI submission also announced ICLEI’s intention to move from agenda setting to action to change people’s material conditions. It concludes that “[s]ustainability, equity and security can be achieved through a fundamental alteration of the values that shape and inform our lives” (ICLEI, 2002). ICLEI launched its Local Action 21 Campaign at the Johannesburg Summit with the mandate of moving from planning to action on sustainable communities and cities, contributing to the protection of the global commons, and anchoring the principles, policies, practices, and mechanisms in local governance and municipal sustainable management (ICLEI 2003). The initial priorities outlined in Local Action 21 are the creation of viable local economies; just, peaceful, and secure communities; eco-efficient cities; and resilient communities and cities.

The Earth Charter

The Earth Charter was an initiative in global civil society and an unfinished piece of business at the Rio Earth Summit. Maurice Strong, chairman of the Rio Earth Summit and former chairman of the board of Petro Canada, continued to lend his support to the completion of the charter, and in 2000, after consultations around the world, the Charter was declared at the Hague. The Charter begins thus:

We stand at a critical moment in Earth’s history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at once holds great peril and great promise. To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth

community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life and to future generations. (Earth Charter 2004)

2. Making Sense and Making Use of Indicators: A Proposal for Integration and Differentiation

Indicator initiatives have a unique place in the constellation of approaches to sustainable development discussed in chapter 6. An indicator initiative tends to be an early response to the sustainability challenge. An indicator project does not require material change and thus does not require the marshalling of the substantial resources required to effect material change. It is perhaps understandable, then, that indicator projects have become popular as a vehicle for small-scale, early-adaptor citizen initiatives to contribute to the transformation toward sustainability. Indicator reporting is one initiative where citizens have all the resources at hand to act.

The ultimate goal of the Sustainable Calgary indicator initiative is to affect material transformation to a sustainable community. Indicators are simply a means to that end. However, as we saw in the discussion of the comparable cities indicator work and in the Sustainable Calgary participant interviews, indicator reporting is poorly integrated into the local government policy and planning process. Furthermore, as MacLaren (2003) observes and table 9.1 demonstrates, a plethora of competing and disparate indicator reports across different sectors and all levels of government are vying for the attention of local government actors. Within the context of governance of complex social systems, the challenge for community sustainability indicator initiatives, whether citizen- or local government-led, is to define a niche within a coherent framework of multiple indicator projects at multiple scales and in local politics, policy design, and planning processes. To attend to these issues and to make indicators more accessible and usable, I propose a conceptual approach to indicator set integration and differentiation. Differentiation allows indicator designers and users to tailor indicator reporting to particular circumstances. One

scheme for functional differentiation of the indicator initiatives listed in table 9.1 might be as shown in table 9.2.

Integration serves the purpose of reducing redundancy in data collection and reporting, and of optimizing the usefulness of any given indicator. Figure 9.2 presents a potential conceptual model for the functional integration of the indicator sets shown in table 9.1. The qualitative core and universal dimensions of the model are sense of community/sense of place and sense of belonging/sense of purpose, respectively. Consistent with my overall thesis that priority should be given to the quality of our lived experience in human communities, sense of community/sense of place are positioned at the focal point of this model. (A discussion of these sense-based indicators is presented in much more detail in chapter 10.) This model signals that the ultimate reference point for sustainability is to be the lived experience of people in community. Sense of belonging and sense of purpose represent the cosmological or spiritual domain responding to people's qualitative feelings of being at home in the universe. Taken together, the "senses" represent individuals' holistic, qualitative assessments of their experience in the world.⁸³ Theoretically, the quantitative indicators, which dominate the indicator sets located in the remainder of the conceptual model, complement the qualitative assessments of the "senses."

Moving out from the core, the first concentric ring represents the Sustainable Calgary State of Our City Report. The second ring represents local sectoral indicator sets such as the State of the Environment Report and the Health of the Region Report. The local sectoral indicator sets contain many more indicators than the community sustainability indicator set. Ideally, the community sustainability indicators should be a holistic subset of the sectoral indicator sets. Subsequent concentric rings moving out from the centre represent regional, national, and international indicator sets. Given the state of the art of indicator monitoring, and the dominance of the United Nations System of National Accounts some indicators will

⁸³ Bell and Morse (2003) support this ordering of indicators in proposing that policy ineffectiveness derives in part from the fact that indicators tend to be quantitative, explicit, and expert-derived rather than qualitative, implicit, and community-derived.

Local	Regional	National	International
State of the Environment Reporting	Measuring Up!	System of National Accounts	OECD Social, Economic, Environmental, and Sustainability Indicators
Community Sustainability Indicators	Alberta Genuine Progress Indicator	Federation of Canadian Municipalities Quality of Life in Canadian Cities	Index of Economic Well-Being
State of the Region Health Indicators		Genuine Progress Indicator	Human Development Index
Safer City Indicators		Ecological Footprint	World Development Report
Socio-Economic Community Profile		Personal Security Index	State of The World
Economic Development Indicators		General Social Survey	Vital Signs
Socioeconomic Outlook		Leading Economic Indicators	World Economic Forum
		Canadian Health Survey	Economic Competitiveness Index
		Canadian Index of Well-being	Best Places Amanac

Table 9.1: Selected Local, Regional, National and International Indicator Projects

<p>Local Sector Indicators – A Management Tool</p> <p>Local sectoral indicator sets are the most fine grained. These sets are of sufficient detail that they are useful as a tool for daily, quarterly or annual planning and management. However, these indicators tell a fragmented and partial story. (E.g. State of the Environment Reporting, Regional Health Indicators)</p> <p>Community Sustainability Indicators – An Integrating Tool</p> <p>Community sustainability indicators are more coarse grained. They provide the local big picture. They are a valuable long-term thinking, citizen report card. For policy planning and action. They are a tool for integrative thinking. However, these indicators tell a holistic but partial story. (e.g. State of Our City Report)</p> <p>Regional, National and International Indicators – A Contextual Tool</p> <p>Regional, national and international indicator sets are aggregate and most coarse grained. These sets of indicators are a useful tool for contextualization. However these indicators tell an integrated, holistic but abstract story (e.g. Human Development Index, Canadian Index of Well-being)</p>

Table 9.2: Proposed Scheme for Functional Differentiation of Indicator Sets

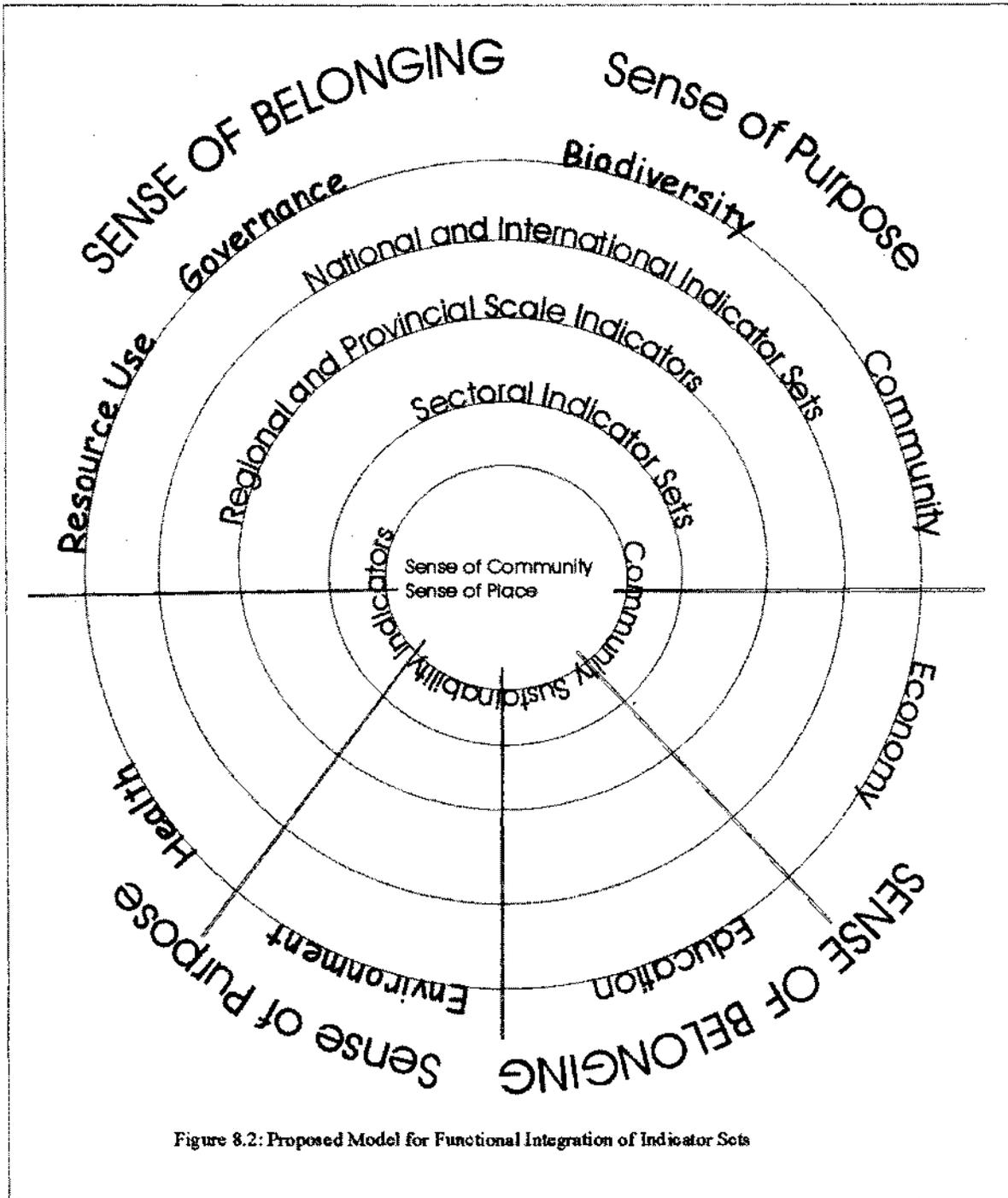


Figure 8.2: Proposed Model for Functional Integration of Indicator Sets

only be available as larger-scale aggregates: for example, Statistics Canada may only calculate some census-derived indicators at the aggregate national or provincial levels. In such cases, the community sustainability indicator set may have to rely on data aggregated at a larger geographic scale to report on particular indicators.

Ultimately, the value of reporting any particular indicator should be assessed based on its contribution to community sustainability. Larger geographic scale indicators may certainly be required to assess the state of, or inform regulation of, an existing political or economic system or structure. These indicators I regard as “contingent” in that at any point in time they may be deemed to be an important means to the ultimate end of sustaining human communities. But these systems and structures are not to be sustained at all costs – only so long as their maintenance can be justified as an effective means to our ultimate end of sustainable human communities.⁸⁴

I argue that as a rule, larger geographic scale indicators are useful for comparative purposes (see table 9.2) and for allocation of financial resources (e.g., from national to sub-national levels), but will ultimately need to be disaggregated to the community scale in order for concrete action to be taken to improve the sustainability of human communities. For example, a global or national poverty indicator still requires knowledge of the community-level incidence of poverty for resources to be effectively deployed to alleviate poverty. The exception to the rule would be ecological indicators of “commons”: for example, the atmosphere, the oceans, Antarctica, or terrestrial wilderness areas.

This model also depicts a subdivision of the concentric circles similar to slices of a pie. Each slice of the pie represents a sustainability domain or sector. At low resolution, the distribution of indicator sets across domains would be discernible in this concentric circle model: for example, the Human Development Index would span the domains of health, education, and economy. At low resolution, the relative holism of each indicator set would be immediately visible (i.e. how much of the three hundred and sixty degree circle does the

⁸⁴ Herein lays the difficulty in the ecomodernist conception of sustainability. Maintenance of the existing economic, political, and technological systems and structures is presumed to be an end in itself.

Index cover?). At a finer resolution, the status of each individual indicator would be discernible, perhaps using a colour designation (e.g., green for sustainable, blue for indeterminate, and red for unsustainable). This conical model faces the limitation that it is static: no trend information is available. A Web-based format could address this issue and provide an accessible, easy-to-use policy and planning tool.

3. Defining A Transformational Social Learning Process

A key to the success of the Calgary indicator initiative was broad-based participation and open dialogue accomplished through the careful design and implementation of a citizen engagement process. Sustainable Calgary's local success is validated by analyses of other community sustainability indicator initiatives (Rydin 2003; Beslan and Mulligan 1997; Atkisson 2001; Hart 1998; Gahin and Patterson 2001; Swain and Hollar 2004; MacLaren 1996) and Local Agenda 21 experiences (Lafferty 2001; O'Riordan 2001; ICLEI 2002). A transformational social learning process is an indispensable component of Sustainable Calgary's indicators-to-action strategy. This process would support personal and cultural transformation as well as transformation of our social, political, and economic structures.

Personal and Cultural Transformation

To support my proposal for a transformational social learning process, let me recount some of the key theoretical formulations from chapter 6. Freire's work is inspired by the desire to understand and practice what it is to be fully human and by a belief in the necessity of praxis. His work builds on three ontological foundations of transformational social learning: dialectical process, human agency, and consciousness and an ethical impulse for social justice. Bowers adds a fourth foundation: that nature is a full participant in the transformational social learning process. Mezirow's work highlights the need to nurture critical and reflective thinking, discern meaning from our experience, and transform points of view and deeply embedded habits of mind. Welton focuses on the need to promote transformational learning in social movements, and Holst is concerned that social movements not artificially disengage the state and civil society in a bid to protect their autonomy from the state. Foley urges a dual strategy of honouring lived experience and reflecting critically on the historical material context that, in part, shapes lived experience.

Peter Mayo proposes a practical analytic for liberatory education, the content of which includes demystification and critique of the dominant language and culture, politicization of taken-for-granted assumptions and legitimation, and critique of the learners' cultures. In Mayo's prescription social relations are non-hierarchical and non-coercive, and its sites of practice comprise any sites of material, social, and cultural production.

Through a synthesis of these theoretical formulations, I propose a "call to action" and a set of ontological foundations, guiding principles, and principles of practice for transformational social learning in support of Sustainable Calgary's indicators-to-action strategy. I take this synthesis to be as much an art as a logical distillation of the theoretical material summarized above. My objective in this exercise is to honour the theoretical findings of these individuals and at the same time craft a call to action and principles that resonate with and inspire my colleagues and Calgarians to engage concretely in the proposed strategy.

I propose that the call to action of transformational social learning is to honour authentic human experience and build our world in that image. I propose the ontological foundations of transformational social learning to be dialectical process, human agency and consciousness, an ethical impulse for social justice, and the inclusion of nature as a full participant in the transformational social learning process.

From these ontological foundations, I propose five guiding principles for transformational social learning as noted in figure 9.3. First, **Change is complex and reciprocal**. There are no "silver bullet" solutions. People and the cultures and social systems they create, and the ecological systems we are embedded within are complex. As individuals change, we change our cultures, social systems and institutions, and ecological systems. Likewise, as our ecological and social systems change, so they affect cultural and personal change. Second, we must **make space for the rest of nature**. If we believe that we are but one of many unique creatures that inhabit and co-create our places on earth, we must find ways to allow the agency of other creatures to flourish and the communication between ourselves and other creatures to flow. Third, we need to **start with individual and community lived**

experience. Amidst all the complexity, we must give voice to the compelling stories that speak to people and engage them in action. Fourth, **social justice and ethical relations should guide all of our actions.** The human impulse is to seek ethical and just relations with one another; we should honour that impulse in whatever we do. Fifth, **all of our actions should nurture an authentic learning process.** The ability to learn is perhaps the defining feature of living systems, including humans; indeed, the learning process is integral to human sustenance, growth, and creativity. An authentic learning process honours the concrete experience of learners and allows for a critical historical and contextual critique and transformation of the relations, structures, and systems that shape our lives.

At the level of practice, how do the theory and principles of transformational social learning inform our actions? What principles of practice should guide our daily relations with fellow community members as we “make our way by walking” from indicators to action? I would propose the following as a starting point for the Sustainable Calgary strategy (see figure 9.3):

- 1) Build and inspire trust.
- 2) Acknowledge diverse ways of knowing.
- 3) Nurture reflective, critical, and creative thinking.
- 4) Engage all of the human senses in the process of learning.
- 5) Create a democratic space.
- 6) Aspire to consensus.
- 7) Share leadership.
- 8) Practice inclusion.
- 9) Start with concrete experience.
- 10) Consider historical and spatial context.

Transformation of Social, Political and Economic Structures

Transformational educators have had a profound influence on personal and cultural transformation, and have constructed quite compelling social critiques. But to find thoughtful alternatives to the present social structures, we must turn to political theorists

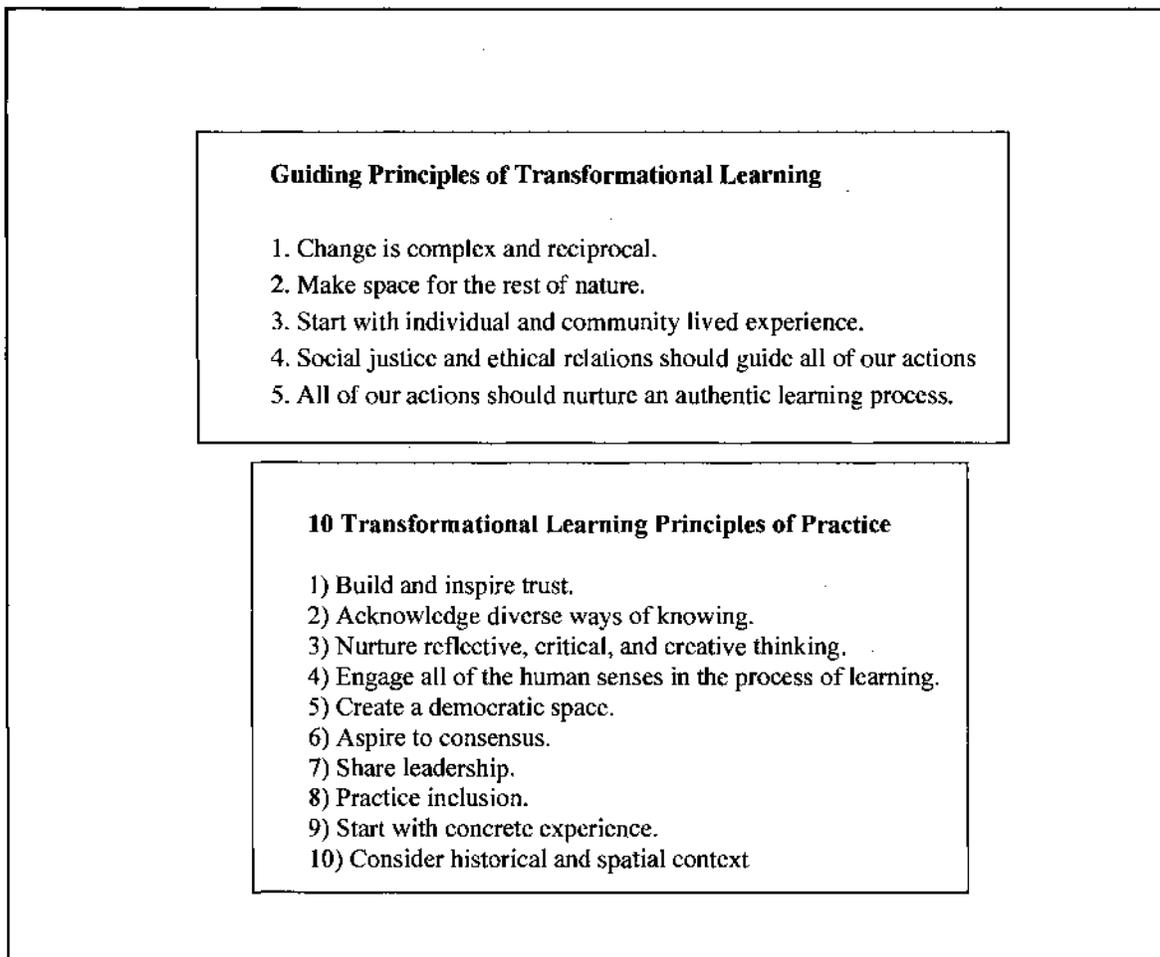
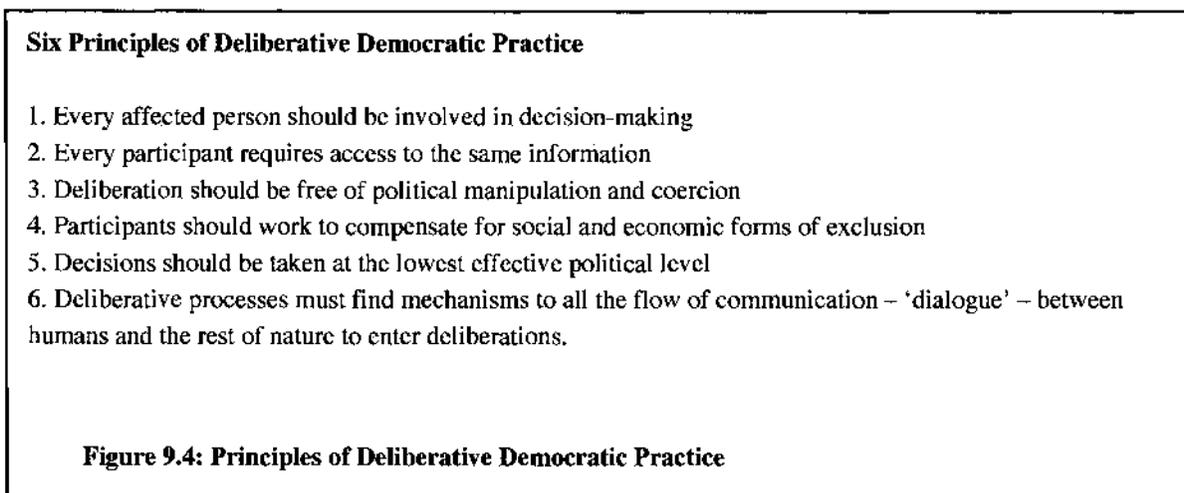


Figure 9.3: Guiding Principles, and Principles of Practice of Transformational Learning



and social movements. Modern societies have evolved representative forms of democracy; in a representative democracy, we elect fellow citizens and invest these elected representatives with the power to make decisions for us. If we don't like the job they have done, we vote in a new representative four to six years later. The dominant liberal variant of democracy accepts that by and large, the economy should function through capitalist markets rather than democratic regulation (Mason 1999). Social movements advocate a variety of democratic forms that are deeper (i.e., more participation rather than representation) and broader (reaching into the economic sphere). Table 9.3

Democratic Model	Description (Notable References)
Representative	Citizens vote on a four to six year cycle and empower elected officials to make decisions.
Participatory	<p>Most general description of alternative to representative democracy. It is associated with democratic forms beyond the political system to all spheres of life.</p> <p>Switzerland: Citizens take on broad responsibilities and much more is expected of them than in representative democracies. They may initiate referenda on any subject they choose, may call a referendum via petition to remove legislation or bylaws that have been proposed by their representatives, set priorities for municipal budgets as well as set social and planning objectives.</p> <p>Porto Alegre, Brazil: Participatory Budget Process</p> <p>The Participatory Democracy Group: A group of Calgarians from various city-wide organizations and the municipal government who have gathered to enhance public engagement in Calgary life. (Socialaction.ca)</p>
Deliberative	<p>"Inclusive and reasoned political dialogue" (Smith, <i>Deliberative Democracy and the Environment</i>)</p> <p>Deliberative democracy advocates have a well-developed set of practices for direct citizen decision-making including Citizen's Panels and Deliberative Polling. "Deliberative Democracy is founded on our belief that citizens care enough and are smart enough to participate meaningfully in the deliberative process of making public policy." (The Deliberative Democracy Project)</p> <p>British Columbia's citizens Panel on Electoral Reform</p> <p>Deliberative Democracy Consortium - Stanford University: Essentially, our view is that democratic deliberation is a powerful, transformational experience for everyone involved--citizens and leaders alike--which can result in attitudinal shifts toward the institutions and practice of democracy overall.</p> <p>Graham Smith, <i>Deliberative Democracy & The Environment</i>, 2002, Routledge.</p>

Environmental	<p>“a participatory and ecologically rational form of collective decision-making: it prioritizes judgements based on long-term generalizable interests, facilitated by communicative political procedures and a radicalization of existing liberal rights” to include participatory democratic forms and economic democracy. (Michael Mason, Environmental Democracy)</p> <p>Michael Mason, Environmental Democracy, Earthscan, 1999. The Politics of Sustainable Development, Baker et al, 1997.</p>
Ecological	<p>Decentralized decision-making and economy that makes room for the rest of nature as participants. Most insistent on why and how to include nature in democratic deliberations. Most closely aligned with deep ecology.</p> <p>John Dryzek, Rational Ecology, 1987 Dryzek, Political and Ecological Communication, Journal of Environmental Politics, V4, N4</p>
Inclusive	<p>Aims for radical decentralization. Elimination of all forms of domination Local Direct democracy coordinated at higher geographic scale by a confederal system. Most explicit critique of capitalism.</p> <p>This is the project for direct political democracy, economic democracy (beyond the confines of the market economy and state planning), as well as democracy in the social realm and ecological democracy. In short, inclusive democracy is a form of social organization which re-integrates society with economy, polity and nature.</p> <p>Tad Fotopolous, Inclusive Democracy Network</p> <p>The most often cited community that approaches the ideal of inclusive democracy is Burlington, Vermont. Inclusive Democracy Network - inclusivedemocracy.org Nature and Democracy: International Journal of Inclusive Democracy</p>

Table 9-3 Alternative Democratic Models

describes several of these alternative democratic models. Each provides some food for thought vis-à-vis the crafting of transformational social learning processes that support the indicators-to-action strategy.

These alternative political formulations have many points in common. Most generally, they allow for a more meaningful role for citizens and they support the desire to extend our democratic deliberations to encompass the economic system and to be more inclusive of ecological systems and in the case of ecological democracy, other living beings. Figure 9.4 is a distillation of these alternative models into six principles of deliberative democratic practice. I propose these principles as a guide to Citizen Forum engagement with local government. In my view, the most concrete of these alternative democratic models is deliberative democracy.

Theorization of deliberative democracy is energetically debated in the political science literature (McCloy and Sculley 2002; Young 2001; Dryzek and List 2003; Dryzek 2001). There are several institutes dedicated to the theorization and practice of deliberative democracy (Centre for Public Dialogue 2000; Deliberative Democracy Consortium 2005; Centre for Deliberative Dialogue 2005). Most encouragingly, the practice of deliberative democracy is advancing (Phillips and Orsini, 2002; British Columbia Citizen's Assembly, 2004). In the following section, I outline a conceptual and functional deliberative democratic framework that maintains civil society autonomy from, and engagement with, local government.

4. Sustainable Governance, Adaptive Management, Deliberative Policy-Making

The strategy I am proposing is consistent with recent conceptualizations of sustainable governance; it is designed to leverage sustainable governance discourse, conceptualization, and experimentation. Within the broad frame of sustainable governance, I propose a model that brings civil society and local government into dialogue via processes of transformational social learning, adaptive management, and deliberative policy-making. Thus far, I have identified transformational social learning as the process through which we achieve sustainability. If we imagine transformational social learning as emanating from civil society or the lifeworld, then in order for systemic change to happen, we need an effective coupling with the local governance system. This coupling requires a receptive local government and a coupling mechanism. I propose adaptive management as a local government management model that is conducive to this coupling and deliberative policy-making as the coupling mechanism. Let me first orient this discussion with a brief sketch of sustainable governance, adaptive management, and deliberative policy-making.

Lafferty (2004, 351) has proposed that "integrating core sustainable development values and principles horizontally and vertically within governments, and finding effective ways to involve and mobilize civil society into the formulation and implementation of sectoral policies, is the very essence of governance for sustainable development". In a major study by ProSus, a Norwegian sustainable development research initiative, Lafferty describes

sustainable development as “a major overall goal of national governments, “strongly prodded from ‘above’ by international and regional organizations, and pressured from ‘below’ by a broad variety of non-governmental organizations...” (2004, xiii) Lafferty differentiates sustainable development from market-oriented approaches to governance and asserts that significant changes to those dominant forms of governance will be required to achieve sustainable development. He also clearly differentiates sustainable development from ecological modernization. In his view, the goal of ecological modernization – to create mechanisms to ensure the sustainability of present economic and political structures – is insufficiently concerned with issues of intergenerational and global equity. Lafferty claims that concern with equity and a realization that current political and economic structures exacerbate the sustainability problematic are at the heart of the sustainable development agenda, as interpreted from UNCED, and that “the realization of a sustainable development programme – particularly in the area of sustainable production and consumption, but also with respect to global and generational equity – implies a fundamental reorientation of basic tenets of the Western liberal-pluralist-capitalist model” (349). He maintains that sustainable development “differentness” derives from the fact that it is driven from the outside-in by NGOs and regional and international organizations; is a trans-border, supra-national programme; has a transformative agenda; is characterized by holistic interactions, interdependencies, and unpredictable results; and rests on a normatively founded programme that requires long-term focus.

Lafferty (2004) argues that sustainable governance is about fitting the form of governance to the sustainable development function. He recognizes that “the most broadly accepted ‘lesson’ of [the ProSUS research project is] the value of social learning” and that “any attempt to initially generate a broad-based understanding of the comprehensiveness and complexity of the sustainable development vision, and then follow this up through differentiated lines of implementation, requires a major effort of collective and individual learning” (340). In a statement that resonates with the concept of adaptive management, Lafferty writes that “[l]earning by doing’ has a particularly poignant function in sustainable development planning and execution” (340). He goes on to say that “[t]he ‘medium’ and instrumentalities of communicative discourse must be the guiding ‘message’

for pragmatic, goal-directed change” (341). He also asserts that “there can be no doubt that this particular ‘revolution’ must be based on not only the ‘rule of law’ but the rules of ‘deliberative democracy’” (341) This treatment of governance for sustainable development demonstrates clearly its coherence with the communicative theme that runs through this dissertation, a theme that is also at the core of notions of adaptive management and deliberative policy-making.

Adaptive management is associated with ecologically oriented resource management frameworks (Holling 1987). The core concept of adaptive management is that change is a complex and indeterminate phenomenon and thus management should take an experimental, learning approach that relies on open communication and strives to create dynamic, flexible, and resilient systems. Innes and Booher(1999) have referred to “distributed intelligence” in adaptive management as opposed to the command and control *modus operandi* of conventional management. The notion of the learning organization is consistent with this perspective on management. Practically, in an organization that works from an adaptive management ethos, mistakes are tolerated and treated as opportunities for learning; knowledge and information is widely shared throughout the organization; managers facilitate change rather than direct it; power is dispersed, with each member of the organization empowered to be an active member of the organization; and communicative rationality drives decision-making. For Innes and Booher(2003, 58), new institutions will have to reward experimentation, risk-taking, and new ideas rather than punish mistakes and stifle creativity where “all of the players act autonomously”.

In all of this, it is still crucial to remember the role of power. Not all players will buy into the authentic dialogue of a deliberative policy process. Healey et al. caution against “naïve expectations” for deliberative processes (2003, 86) given the “institutional inheritances of governance” (85). It would be naïve and counterproductive to engage those players with power and advantage in the current state of affairs to participate and presume they will set aside those advantages voluntarily. Healey et al. provide a case study of such a situation in the Grainger Town project in Newcastle, UK. They caution about “the insidious way that powerful interests inside and outside a locality can impose their agendas unless there are

countervailing grassroots forces to challenge and limit their operations” (2003, 86). The well-known case study of sustainability planning in the Danish city of Aalborg, entitled *Power and Rationality* (Flyvbjerg 1998), provides another example of the clash between communicative and power-based processes at work in local sustainability planning.

Deliberative Policy Analysis

So far I have argued that the representative form of democracy is not up to the task of sustainability and that deliberative democracy is the most practically available alternative; that sustainable governance provides a framework for a style of governance that recognizes the complexity of the sustainability challenge posed by the UNCED; and that the notion of adaptive management and the learning organization is an organizational form consistent with the deliberative and communicative ethos I am championing. Now I move to a finer level of detail to argue that deliberative policy analysis provides an interpretive, deliberative, and communicative tool for coupling civil society and local government in the decision-making process.

In an edited volume entitled *Deliberative Policy Analysis: Understanding Governance in the Network Society*, Hajer and Wagenaar (2003) argue that the shift from a positivist policy science to an interpretivist policy science has been evolving for some time. They suggest that “a critical policy analysis, with its assumptions about the inherently contextual nature of knowledge, seems more consistent with the contemporary situation in developed democracies of dispersed power, diminishing trust, ambiguous institutions, powerful transnational influences and increasing reflexivity” and “that a policy analysis that is interpretative, pragmatic and deliberative is both practically and philosophically attuned to the continuous give and take in networks of actors that, as a result of the changing political topography, have sprung up around concrete social and political issues” (xiv). In the authors’ view, deliberative policy analysis is a key component of “more direct, participatory forms of democracy” (xv), one “that is relevant to understanding governance in the emerging network society” (13). Hajer and Wagenaar observe that “whereas in the past we used to think of policymaking as the consequence of political will formation, it now is often policymaking process that leads to political will formation” (13).

Hajer and Wagenaar also observe that in a situation where power is dispersed among many actors and problems transgress traditional political boundaries, “trust cannot be assumed” and “politics and policymaking thus is simply not about finding *solutions* for pressing problems, it is as much about *finding formats that generate trust* among mutually interdependent actors” (12).

Hajer and Wagenaar argue that five challenges of the present social and political reality demonstrate the need for deliberative policy analysis: new spaces of politics wherein the neatly delineated matrouchka-like (Russian dolls) levels of governance have been overtaken by “multi-level governance,” “regimes,” and “transnational policy discourses” (8); the condition of radical uncertainty and the “demise of the myth of absolute knowledge in the public domain” (10); the increased importance of difference in our understanding of politics; a heightened awareness of our interdependence; and the new dynamic of trust and identity.

Deliberative policy is pragmatic in the sense that “action ... structures and disciplines understanding” of a policy problem (15). Hajer and Wagenaar quote what they consider a seminal work in interpretative policy analysis – *The Argumentative Turn in Policy Analysis and Planning* (Fischer and Forester) – to argue that policy analysis should be evaluated “not only for their truth and falsity but also for their partiality, their selective framing of the issues at hand, their elegance or crudeness of presentation, their political timeliness, their symbolic significance, and more” (Fischer and Forester quoted in Hajer and Wagenaar 2003, 15). Hajer and Wagenaar assert that in the context of interpretative epistemologies, “meaning is the product not of individual mental processes, but of human communities” (17). In this new environment policy analysis is “no longer about the invention of solutions for society; it often finds itself in the ‘mud’ of policy practice, trying to assist in the discovery of new policy options and the formulation of compelling arguments” (Hajer and Wagenaar, 2003,19).

Hajer and Wagenaar (2003, 20) assert that the emphasis on pragmatic, practice-focused policy-making “focuses on action as a central strategy through which the individual gains knowledge about the world”. In such a policy framework, policy-making rests on practical judgement that is “immediate, intuitive, concrete, interactive, pragmatic, personal, and action oriented”; it “comes naturally to people” (22). The authors argue in the direction of Habermas’s lifeworld when they state that the “concrete, everyday situations are characterized above all by the ‘interpenetration’ of fact, value and theory” and that “deliberative judgement emerges through collective, interactive discourse” (23).

Hajer and Wagenaar conclude that “[p]olicy-making now operates under conditions of radical uncertainty and deep value-pluralism” and that this new policy regime “means the creation of well-considered linkages between citizens, traditional policy institutions and the new and often unstable policy-making practices” (24). They point out that deliberative policy-making is much more than an instrument for good-policy-making; it aims “at the creation and enhancement of the possibilities of self-transformation, to develop autonomy, or a capacity for judgement ... [and] enhances the collective capacity for productive inquiry,” and is thus “intrinsically valuable” (24). In the words of Innes and Booher (2003, 37), what is sought in deliberative policy analysis is the creation of “authentic dialogue”. Innes and Booher claim that the result of an authentic dialogue will be “restructuring of the policy networks and its discourse, of the emergence of social capital and more empathetic relationships among participants, of collective learning, and of increased capacity for innovative system adaptation to changing circumstances” (27). To be authentic, Innes and Booher suggest, “a dialogue must meet certain conditions which Habermas has laid out as prerequisites for communicative rationality. Each speaker must legitimately represent the interest for which he or she claims to speak, each must speak sincerely, each must make statements that are comprehensible to the others, and each statement must be accurate” (39). Innes and Booher claim that the results of authentic dialogue will be reciprocity among participants, building of relationships and social capital, social learning, and the release of creative energy. Over time, commitment to authentic dialogue will result in a system that has shared identities, shared meanings, new heuristics, and innovation.

Yanow (2003, 30) claims that understanding public policy “requires local knowledge – the very mundane, but still expert understanding of and practical reasoning about local conditions derived from lived experience”. Yanow argues furthermore, that the multitude of cultural meanings or local knowledges that reside within any particular locality or policy analysis community requires an “applied, everyday, practical” philosophy of translation in the spirit of passionate humility” to realize the promise of deliberative policy analysis. (246). She suggests that recognition of local knowledge entails methods such as “meaning audits,” “mapping of the architecture of meaning,” and “daily sense-making” of “puzzles” that emerge in the conduct of policy analysis (246).

5. A Citizens’ Agenda for the Transition to a Sustainable Community

The fifth element of the strategy is a civic dialogue on the policy and action implications of the 2004 State of Our City Report. A hallmark of the Sustainable Calgary indicator initiative has been the participation of over two thousand citizens in the identification and research of the thirty-six indicators contained in the State of Our City reports. Recall that the interview analysis of chapter 7 revealed that there were significant personal and community outcomes from the indicator initiative, especially related to the dialogic participatory process employed. Recall also that the policy outcomes were relatively modest and that the indicator project was considered by at least one alderman to have been a lost opportunity. The citizen consultation will build on the strength of Sustainable Calgary’s participatory process and respond to its weakness in policy influence. The consultation should be constructed on a deliberative policy analysis framework and should proceed based on three guiding principles. First, Sustainable Calgary should forge partnerships with other organizations with an interest in, experience with, and capacity for policy analysis. Second, the citizen consultation should seek to piggyback on already existing policy analysis initiatives. Third, the consultation should employ a participatory process consistent with transformational social learning.

The Sustainable Calgary Citizens’ Forum

The suggestion of a Citizens’ Forum met an enthusiastic response among the thirty-two interviewees (see chapter 7). The majority felt that such a forum should include civil

society, private sector, and government and that key stakeholder representation was important, but stakeholder representatives should be citizens with a passion for the issue. The analysis of the policy influence of the indicator initiative (chapter 7) highlighted the existence of local government policy actors, structures, and initiatives as well as the existence of a network of sustainability champions within local government.

A preliminary assessment based on the results of the thirty-two interviews was followed up with a briefing to the Citizens' Forum project steering committee. The presentation outlined ten Forum development principles; specification of Sustainable Calgary's niche; and an elaboration on six "questions that need answers" in order to proceed with the Citizens' Forum design. Discussion of the six questions explored the identity of Calgary's other sustainability players (organizations and networks); a typology of potential "actions"; potential decision-making processes; membership options; the geographic scale of the Forum's operation; and existing models of citizens' forums in other jurisdictions. Subsequent deliberations by the project steering committee yielded a decision to convene a Citizens' Forum by invitation to a broad cross-section of organizations and to designate "smart growth" as the first "theme" of the Forum. The action orientation of the Forum would be a campaign to direct an effective civil society dialogue, education, and "smart growth" advocacy strategy toward local government.

At the time of writing, the Citizens' Forum continues to meet on a regular basis and is focused on research to support the publication of a *Smart Growth Backgrounder* for Calgary addressing the key issues of the barriers, challenges and opportunities for smart growth.

The Citizens' Agenda

While the Citizens' Forum is a stakeholder process, Sustainable Calgary has also embarked on a parallel process designed to engage citizens of Calgary in deliberations on the implications of the 2004 State of Our City Report. Through a variety of engagement venues citizens will select priority policies and actions they believe should be undertaken in a three to five year period – the life of the next City Council. The Smart Growth Backgrounder

work of the Citizens' Forum will contribute to the policy and action priority setting exercise of the Citizens' Agenda. The Citizens' Agenda project will culminate in the publication and dissemination of The Citizens' Agenda for a Transformation to a Sustainable Calgary.

In the final chapter I return in earnest to the theoretical tools I have gathered through chapters 3, 5 and 6. My purpose in this final chapter is to return to sustainability theory, move away from strategic considerations, and propose a radical experiential and qualitative proposition for "sustaining ecological community". This theoretical discussion was prefigured in my closing comments of chapter 5 where I introduced a set of generally congruent ideas, from a variety of authors, about an alternative local conception of sustainable development. I support my proposition for sustaining ecological community conceptually by drawing together common threads from the concepts of place, scale, nature, complexity and transformational learning.

Chapter 10: A Proposal for a Place-Based Focus of Sustainable Development

Modern environmentalism is no longer capable of dealing with the world's most serious ecological crisis.... What the environmental movement needs more than anything else right now is to take a collective step back to rethink everything. We will never be able to turn things around as long as we understand our failures as essentially tactical, and make proposals that are essentially technical.... The environmental movement acts as though proposals based on 'sound science' will be sufficient to overcome ideological and industry opposition. Environmentalists are in a culture war whether we like it or not. It's a war over our core values. (Shellenberger and Nordhaus 2005).

The founders of Sustainable Calgary shared an implicit vision of sustainability. The community sustainability indicator initiative embodied a desire to better understand our place. Those of us who created Sustainable Calgary questioned the inhuman scale and systems structure of our world and envisioned a non-instrumental relationship between humans and nature. We wanted to use a democratic process to explore these issues; we were reacting against the potential and realized negative effects of globalization with the inclination that more self-reliant communities would be more sustainable. From my perspective, achieving sustainability requires the determined pursuit of Paulo Freire's central quest to understand "what it is to be human" and attention to the simple question posed by Aidan Davison: "How are we to live?"

In this final chapter, I propose a reorientation of sustainability discourse and practice toward the cultural domain and onto community terrain. I begin by identifying what it is we want to sustain: sustaining ecological communities. Second, I position sustaining ecological community within a static relational hierarchy of the conventional "systems" of sustainable development. Third, I propose that the dynamic evolutionary and transformational driver of sustaining ecological communities is a quality that I describe as creativity, diversity, love, hope, care, play, novelty, and improvization. Fourth, I propose five criteria by which we can identify authentic experience of sustaining ecological communities.

Sustaining Ecological Communities

My proposition for sustainability is unique in that I first of all clearly identify the object and subject of our sustainability efforts by defining what it is we want to sustain. Second,

my proposition focuses on embodied sense-based human experience of place rather than technosystemic spatial fixes that, as I argued in chapter 5, represent the current status quo and largely shape and confine the “serious” discourse. Third, my proposition is praxis-oriented with ethical and moral discernment at its core. I propose to privilege the qualitative relational dimension of reality over the quantitative material dimension (following, for example, Harvey’s [1996] privileging of place and process), inasmuch as I believe the qualitative dimension is the more enduring constant of our reality. Though radical, my argument is necessary in that the current status quo is neither delivering human well-being nor protecting the life-support systems humans depend upon. I contend that sustaining ecological community can achieve both.

Starting with the general anthropocentric premise that we want to sustain human well-being, phenomenology reminds us that to be human is to be in relationship with other humans and “others” from the rest of nature. Self-identity is itself meaningless outside of relationship with others: self is constituted by those relationships. It follows that sustainability endeavours are bound to fail if they are based upon individual well-being. The most elemental, irreducible unit of enduring, sustaining, self-regulating, self-organizing, and self-reproducing relationships with others is place-based geographic community, what I called ecological place in chapter 6 and what I now refer to as sustaining ecological community. Scaling up from community, I argue that the phenomenological perspective suggests that larger organizing units – regions, provinces, nation-states – are in fact contingent, replaceable, instrumental, and transient technological systems. Put another way, I am arguing that human existence is not dependent upon the existence of nation-states or global governance, but upon the existence of sustaining ecological communities. Thus, the object and subject of sustainability efforts must be community. All other organizational forms find justification in their ability to contribute to the sustainability of communities or at least to “do no harm.”⁸⁵

⁸⁵ While I will not detail the analysis, I believe the anthropological and archeological “big picture” presented by Ronald Wright in the 2004 CBC Massey Lectures is supportive of my proposition. I would argue that civilization has historically contrived continuously grander spatial fixes to deal with resource exhaustion and that the current global fix is perhaps the endgame of this strategy.

I believe that the analysis and arguments I have made in the preceding chapters with respect to phenomenology, critical theory, feminism, and postmodernism; the concepts of place, scale, nature, transformational learning, and complexity; and deliberative democracy provide a gathering, coherent body of knowledge to support my proposition. Paulo Freire (1962) and others (Merleau-Ponty 1962; Kauffman 1995; Berry 1989; Casey 2001; Maturana and Varela 1987) have written that the “vocation” of life (human and other, as I have argued) is the bringing forth of a world. Merleau-Ponty (1962) and others (Freire 1962; Habermas 1984; Maturana and Varela 1987; Abram 1996) have described the process by which we bring forth a world as intersubjective communication– or “shared conversations” in Holloway’s (2004) interpretation of Haraway. Abram (1996) and others (Berry 1989; Evernden 1986; Whatmore 2002) have argued that the rest of nature has to be a part of this shared conversation and that in fact it is a modernist ruse to pretend nature is not inescapably part of the conversation (Latour 2002). Holling (2004) and others theorize that the rest of nature brings forth a world in a localized, non-hierarchical fashion, not characterized by command-and-control but by self-organization (Kauffman 2000; Castree 2004; Levin 1999): in other words, through place-based ecological community. I argued in chapter 6 that attempts by human society to impose order at socially constructed higher scales compromises agency for control. In Davison’s (2001) terms, it privileges technosystemic control over lifeworld agency and it goes against the grain of the rest of nature (Holling 2004). Taken together, these insights suggest that focusing our energy on sustaining place-based ecological communities would be a defensible and prudent course of action. Furthermore, the evidence is persuasive that the current technosystemic, progress-oriented path of human civilization is commodifying, alienating, and destroying the life process, including human life support systems (Castree 2003; Harvey 1996; Wilson 1999; Gunderson et al. 2002; Daly and Cobb 1989; Davison 1996; Levin 1999).

Let me clarify at this point that my proposition is not isolationist. Taking a metaphor from the life sciences – the cell – imagine a sustaining ecological community as an autonomous, open, autopoietic unity bounded by a permeable, porous membrane. The membrane maintains integrity of the living unit – the internal organizational capacity – but also functions as a conduit for learning, communication, and material and energy transfer. Such

a community is not isolated from the world. In fact, the community requires interaction with the world to survive. It receives information and material and energy flows, but on its own terms. Communication is essential but coercion is unnecessary. It engages in contextualized local action. Living and constructing a richly connected place-based existence does not preclude imagining a universal unity. The old and derided slogan of “think globally, act locally,” serves this sentiment well.

A Relational Hierarchy of Obligation, Dependence, and Holism

The phenomenological reduction ... leads not to any form of idealistic distinction between ‘inner self’ and ‘external world’ but to a deepened awareness of our inescapable involvement in the world.... We become more conscious both of the world’s independence of ourselves, its simply ‘being there’, and of the dependence of our own existence, as conscious beings, on our situation within the world. (Matthews 2002, 34)

Having established the object and subject of our sustainability efforts, I now propose to represent sustaining ecological community within a relational hierarchy of obligation, dependence, and holism. The relational model of figure 10.1 illustrates my contention that sustaining ecological community should be the focus of our sustainability praxis. The first inclination in this model is to re-embed the structurally disembedded ecological, social, and economic dimensions of the world we have inherited. So, like the second-generation sustainable development models (see chapter 5), this model shows the economy as embedded within society and society as embedded within the ecosystem. The arrows indicate the direction of obligation, dependence, and holism of the model. Thus, the economic system is obliged to serve the social system, and the social system is in turn obliged to serve the ecosystem. Similarly, the economic system is dependent for its integrity upon social relations, and human civilization is ultimately dependent upon the ecosystem for its survival. As Levin (1999, 15) says, the earth is not necessarily a fragile ecosystem: “What is fragile, however, is the maintenance of the services on which humans depend. There is no reason to expect systems to be robust in protecting those services – recall that they permit our survival but do not exist by virtue of permitting it, and so we need to ask how fragile nature’s services are, not just how fragile nature is”. Holism increases as we move from economy to society to ecosystem. As a final step, removing the artificial systemic barriers reveals an integrated sustaining ecological community.

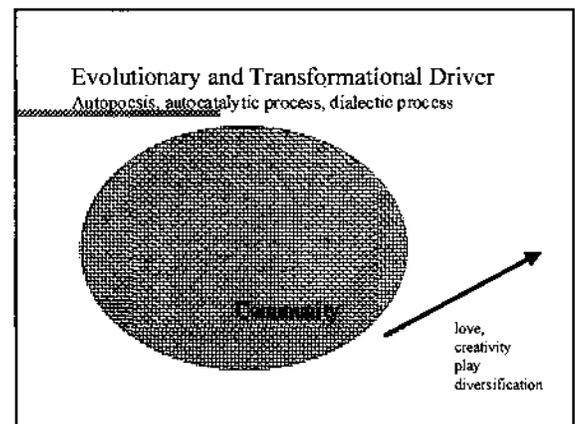
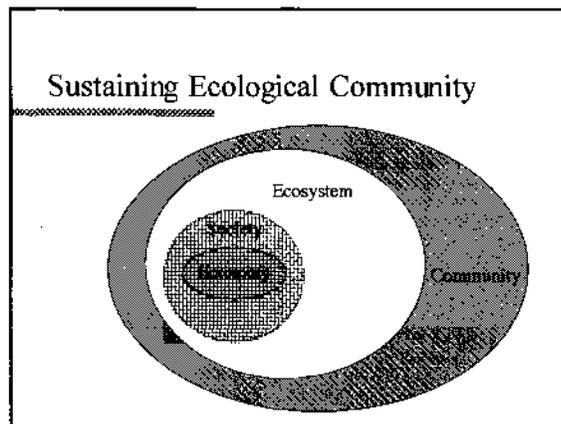
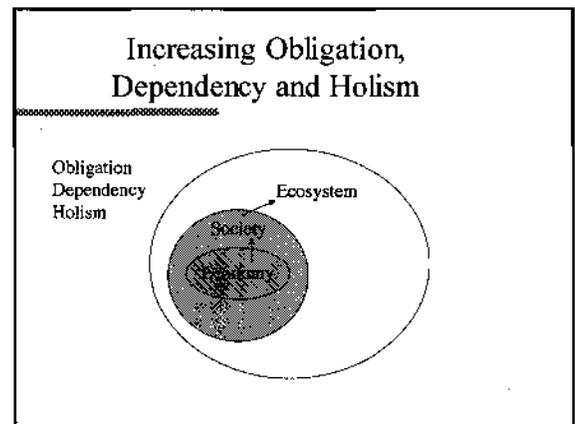
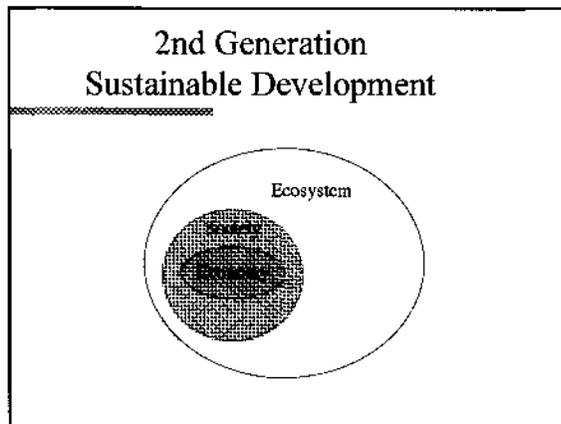
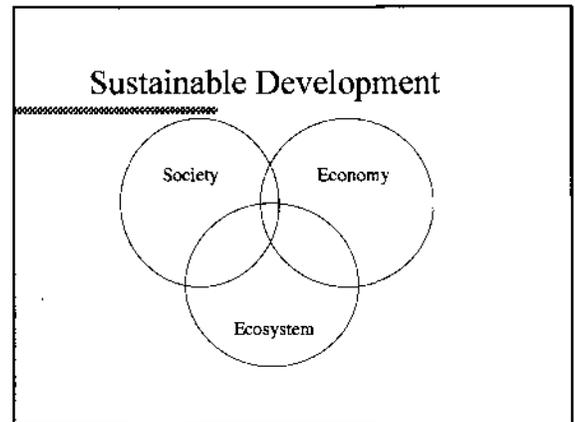
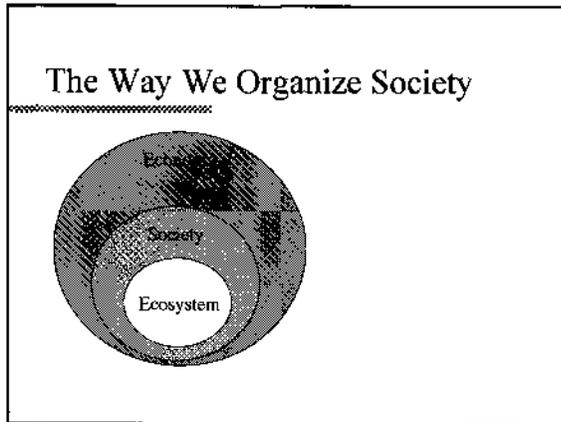


Figure 10.1: A Relational Hierarchy for Sustaining Ecological Communities

The Basis for Change, Evolution, and Transformation of a Sustaining Ecological Community

Thus far I have described a static relational model of sustaining ecological community; it remains to describe this community's process of adaptation, evolution and transformation. Again I return to the big questions: "what is it to be human?" and "what is the basis for the evolution of life?" The Newtonian response, based on the physical sciences, was the linear mechanical metaphor of the clock. In my proposed model, the driver is neither linear nor ultimately quantifiable. Maturana and Varela (1987) argue that autopoiesis – a process of cognition – drives transformation. Kauffman (2000) hypothesizes that autocatalytic processes are the driver, and for Ilya Prigogine (1996), the driver is a thermodynamic property of dissipative structures. For Marxists, it is the dialectical process – thesis, antithesis, and synthesis (Harvey 1996). In *A Dream of the Earth* (1989), Thomas Berry (1989) proposes that processes of diversification, individuation, and communion animate the universe. These explanations are just that: they explain the process of change, but ultimately they do not address what drives it. Maturana and Varela (1987), Kauffman (2000), Prigogine (1996), and Berry (1989) all fall back on qualities to describe the transformational process. The words they use include creativity and diversity (Kauffman, 2000), and love (Maturana and Varela 1987, Prigogine 1996, Berry 1989, and Fox 2002). For Alfred North Whitehead (1978), creativity is the driving transformational force. For Paulo Freire (1962), it is love and hope. Christopher Alexander calls it "the spirit which animates each living centre" (2003, PAGE NO.). Martin Heidegger focused his inquiry into being on the concept of "care" toward the external world (Heidegger in Davison 2001). Brazilian popular educator Augusto Boal (1985, 2001) locates the transformational impulse in the desire for play, novelty, and improvization. Likewise, some indigenous cosmologies locate the animating force in the playful coyote (Dyck, 2000).

Let me elaborate this line of argument with two examples. In a provocative final chapter of *The Tree of Life*, Maturana and Varela (1987, 246) claim that the cognitive autopoietic process they describe "is called love.... And without love, without acceptance of others living beside us, there is no social process and, therefore, no humanness.... To dismiss love as the biologic basis of social life ... would be to turn our back on a history as living beings

that is more than 3.5 billion years old". In *Origins of Order*, Kauffman (1993, xiv) asks, "[W]hat are the sources of the overwhelming and beautiful order which graces the living world?". Inayatullah writes that the pursuit of complexity "is a journey for Kauffman that is based on love" (1994, 687). Based on extended conversations with Kauffman, Michael Waldrop writes that Kauffman subscribed to the Einsteinian view "that science was a search for the secrets of the Old One" (1992, 103). My contention is that these qualitative descriptors (creativity, diversity, love, hope, care, play, novelty, and improvization) drive the transformational processes of life and, by extension, sustaining ecological communities.

Two other phenomena contribute to sustaining ecological communities: agency and indeterminacy. Evolution and transformation require "autopoietic systems" (Maturana and Varela 1987), "autonomous agents" (Kauffman 2000), and "subjects acting in the world" (Freire 1962). Lack of freedom, being acted upon as an object, and constraint on agency are conditions that inhibit evolution and transformation. By extension, to maintain integrity, a sustaining ecological community must possess and express agency. Complexity theorists and postmodernists suggest that our world is characterized by a profound indeterminacy. From one moment to the next, diversification and improvization create novelty and a diversity of forms of expression. Taken together, the process of change "brings forth a world" that is increasingly complex and thick with meaning.

Authentic Experience in Sustaining Ecological Communities

In chapter 2, I presented Sustainable Calgary's five principles of sustainable community. These principles address a world of "systems." In my view, these principles remain valid guideposts for sustaining ecological communities, but my objective in this final chapter is to present a non-systemic, experiential perspective on sustainability. Thus, I do not address sustainability from the perspective of the health of systems (ecological, social, economic, political, and ethical) but from the perspective of authentic experience.

Given my proposition that the object and subject of sustainability is sustaining ecological communities, the obvious question is, how do we recognize a sustaining ecological community? I propose that a sustaining ecological community is characterized by authentic

experience. Whereas indicator reports have typically described quantitative, system-oriented, second-order indicators of sustainability, I contend that experience-oriented, first-order indicators are qualitative in nature and focus phenomenologically on things as they are in the first instance. I propose five criteria for the consideration of authenticity of experience in sustaining ecological community: evolutionary and transformational process in place, sensuous experience in place, scalar harmony in place, technological practice at the service of authentic experience of place, and moral deliberation and ethical practice in place.

The Evolutionary and Transformational Process in Place

In the preceding discussion, I outlined what I consider to be the qualities of the evolutionary process: creativity, diversity, love, hope, care, play, novelty, and improvisation. We will know that the evolutionary and transformational process is occurring if we can be confident that our sustaining ecological community nurtures these qualities. These qualities could be qualitatively and subjectively assessed directly, for example, by asking, "Is our community a caring community"? These qualities could also be addressed quantitatively and objectively using proxy quantitative indicators: for example, the percentage of the residents of a community who are members of the community association (Sustainable Calgary 2004). In the context of this present discussion, the ultimate goal of an indicator exercise would be to achieve a significant fit between a suite of sustainability indicators and the evolutionary and transformational qualities listed above.

There are three caveats to the preceding discussion. First, sustainability indicators, using a partial and static picture of reality, give some indication, intuition, or estimation of sustainability. Second, ultimately the selection and assessment of a set of quantitative indicators can only be derived in conversation, dialogue, and communicative action: all indicators are subjective to lesser or greater degrees. Third, this present discussion does not negate the obvious need to consider material need (e.g., nourishment and shelter) within a suite of community sustainability indicators.

Sensual Experience in Place

“The structure I identify as the foundation of all order is also personal. As we learn to understand it, we shall see that our own feeling, the feeling of what it is to be a person, rooted, happy, alive in oneself, straightforward, and ordinary, is itself inextricably connected with order” (Alexander, 2002, 22).

Following Abram’s (1996) unique interpretation of the term ‘senses’, I propose that authentic experience in sustainable ecological community should “make sense” – that is, be comprehensible to our senses, to our embodied reality. Abrams reserves a unique place for the capacity of our senses acting in concert, what he calls synesthesia, to inform us about our world. From a phenomenological perspective this capacity is what I would call a proto-synthesis, a process of synthesis that is prior to our deployment of abstract reductive reasoning. The discussion of complexity in chapter 6 showed that Stacey (2003), starting from an analysis of human interaction in the context of psychoanalysis and a consideration of physiological resonances,⁸⁶ arrived at a similar conclusion. I propose that sensual experience is in place if we can be satisfied that individuals hold a strong sense of self, sense of community, sense of place, sense of belonging, and sense of purpose.

The sense of self is the most singular sense we strive for. For the most part, sense of community calls up an assessment of attachment to one’s human community. Sense of place is the most profound feeling of embodied attachment to the human community and the natural world in which it is embedded. Sense of belonging carries a spiritual and cosmological connotation – our “at-home-ness” in the universe, the notion of our place in the cosmos. Each of these senses is anchored in our being in the world, in how we feel about our present and perhaps our past. Finally, sense of purpose reflects on the future orientation of becoming. Do we know where we are going and why we are here? Do we feel accomplishment in relation to our work or vocation in the world?⁸⁷ In an authentic community, the economy, social structures, and ecosystem would be material manifestations of these sensuous desires, and the sensual body would be an “instrument” of

⁸⁶ On the concept of physiological resonances, see also Varela’s work on consciousness in chapter 6.

⁸⁷ Two example of how these types of indicators are being developed are the City of Calgary’s sense-of-community assessment tool (City of Calgary 2005) and the Statistics Canada General Social Survey (Statistics Canada 2003), which asks individuals to rate their sense of belonging to community, province, and nation.

community sustainability indicator data collection. Christopher Alexander (2003) and Brian Goodwin (Edge 2005) make the same point in discussions of what Goodwin calls the “science of qualities.”

Scalar Harmony in Place

In our everyday lives, individuals and communities are confronted with a diverse construction of scales in both the temporal and spatial dimensions. I propose that authentic experience of sustaining ecological community requires the construction of scales in harmony with sustaining ecological communities. Among the diverse scalar constructions we confront are physiological, intersubjective, ecological, cultural, political, economic, and technological scales. Physiologically, we can ask, is there a scale that the human organism is best able to relate with and to comprehend in order act in the world? Seamon (Buttimer and Seamon 1980) lands squarely on this theme: “[G]eographic research on the person-place bond involves at least two foci of attention: first, the ecological dimensions of the bond; second, the behavioural and experiential dimensions. An ecological focus asks how people-in-places work as ecological units. A key question is whether rootedness in place promotes more efficient use of energy, space and environment than today’s predominant place relationship which emphasizes spatial mobility and the frequent destruction of unique places. A behavioural focus ... asks a complementary question: what are the existential advantages and disadvantages of place-bound lifeworlds? Do they, for example, facilitate in better measure than a physically dispersed lifeworld such qualities as at-homeness, sense of place, care and concern for environment, community participation? Have Western people presently extended themselves too far at the expense of home?” (194). Abram (1996) and Casey’s (2001) work suggests that that scale may be the landscape. Is the landscape also a viable proposal for ecological scaling? Intersubjectively or communicatively, what scale works best? Christopher Alexander cites anthropological evidence that effective participatory democratic self-government doesn't work in groups larger than roughly 1000, and that 500 may be optimal. He cites other anthropological evidence suggesting that an optimal working team is between 8 and 14 people (Alexander cited in Gliman 1983). For much of modern history, the nation-state was presumed to be the optimum scale. Today the global economy is the imagined optimum, and similarly, technology in service of the global

economy is imagined and created to serve the global scaling of the economy. Some analysts have concluded that for the capitalist economy and its technological tools, bigger is always better (O'Connor 1998; Commoner 1992). Others argue that regional economies are optimal (Peck and Tickell 1994). I propose that authentic experience is enhanced and honoured when each of these domains – physiological, intersubjective, ecological, cultural, political, economic, and technological – are harmonized to the needs of sustaining ecological community. I also propose that achieving scalar harmonics would require the determination of “scalar fit-nesses”: that is, an understanding of the malleabilities, fragilities, and stabilities of potential and existing scalar constructions. Following my discussion of Casey (2001), Massey (1999), Abram (1996), and Harvey (1996) on time-space in chapter 6, I speculate that scalar harmony in place also requires harmony in time and in space.

Technological Practice at the Service of Authentic Experience of Place

Technology is conventionally presumed to be an unproblematically positive feature of our modern world. I maintain that technology of any sort is a powerful magnifier of human intention. Folke et al. (2002, 18) argue that technology masks feedback from the environment and thus magnifies the potential for socio-ecological system breakdown. Technology does this in part by “distan[cing] people from their relations to ecosystem support by disconnecting production from consumption and production of knowledge from its applications”. Evernden (1986) imagines technology as an alienating prosthetic device on which human societies have become dangerously dependent. Neo-Marxist interpretations contend that technological innovation is in the service of the capitalist system (O'Connor 1998). Post-structuralists propose that cultural interventions retain significant human agency to transform given technologies to positive cultural ends (Escobar 1999). Phenomenological inquiry invites us to imagine technology not only as physical artifact and as technique or method, but more profoundly, as conceptualization (Evernden 1992). Technology – conceptualization, technique, and technological artifact – allows humans to push the boundaries, to stretch the strands of our relational web. It allows us to alter the metabolisms and malleabilities of all forms of life and of our technosystems. Some would suggest that we are approaching the limits of this strategy (ozone depletion,

global warming, deforestation, and desertification) (Suzuki 2002). Others suggest that we are on the brink of a breakthrough where the human species can replace God and rejig the whole game (biotechnology, cloning, nuclear fission) (Kahn 1990). I propose that sustaining ecological community requires that technological practice be at the service of authentic experience. I will use the work of Davison (2001) to describe our existential technological conundrum, locate the source of the problem in our philosophical commitments, demonstrate what is at stake in our loss of meaningful technological practice, and propose how we might transform that practice.

In *Technology and the Contested Meanings of Sustainability*, Davison (2001, 103) asks, “How can we limit modern technology to match our best sense of who we are and the kind of world we would like to build”? Our existential conundrum, in Davison’s words, is that “[t]o resist socially dominant technologies is to resist socially dominant forms of life and thus to put in jeopardy the sources of our social identity” (105), yet “even my most mundane activities are embedded within practices that exacerbate the life-long suffering, poverty and oppression of non-technological societies, degrading further their culture and ecology” (xi).

Davison (2001) describes what he calls first and second order explanations of technology. The first order, or instrumental explanation of technology is limited to the descriptions of the making and use of artefacts (technology as object and technology as activity). In first order description, technologies are neutral objects of a neutral science. Second order, substantive explanations of technology endeavour to explain and consider the implications of the making, presence, and use of artefacts in human experience. In second order analysis, “technology is constitutive of our experience” (96), and technological artefacts emerge out of complex systems of relationships. According to Davison, at the root of unsustainability is the lack of awareness that technology is a constitutive facet of our humanity. He argues that modernity’s ruse that technology is external to the human condition has resulted in a curious phenomenon in that “the appearance of technological autonomy [has] taken hold in a polity whose predominant explanations of technology are instrumentalist” (100). Davison locates the technological *problematique*, then, within the “ecomodernist project of mastery

... informed by a technological ontology that portrays the moral purpose of human life as sustained productivity in an inhospitable reality” (6), what he calls “the metaphysics of mastery” (77), which ultimately has led us to “attempt to subsume the ecosphere within a self-sustaining technosphere” (74).

Davison (2001) goes on to argue that through the creation and use of devices, we are building a world that would “disburden and disengage us from the care of things. Our practices bifurcate into mindless labor and distracting consumption, drawing us into an increasingly careless stance toward those things that sustain us. Practices cease to be centred around world-revealing things, instead becoming centered on objects that produce what we want without our attention, aid, or skill, and thus without our joy. Devices function so as to obscure their ecological and social relations (Davison, 2001, 112). and “undermine our relationships to those things, places, and people we want to be free to be able to cherish” (Davison 2001, 111). Davison laments that “[p]erhaps the greatest irony of our technological world is that the proliferation of devices is making it harder to be technological. Our interaction with technologies is increasingly being reduced to switch-flicking and button-pressing” (210).⁸⁸

Adapting Davison’s (2001) prescription for this alienation, I propose that placing technology at the service of authentic experience requires first of all that we re-embed technology in the social process. For Davison, re-embedding begins when we shift the ideal of sustainability from technocratic to cultural discourses. This shift involves “an understanding of human practice that acknowledges that human embeddedness in the world is at once technological and ecological” (89). Second, through what Davison (166) calls the “rationality of relationality,” we must recover our ability for moral deliberation through practical reasoning aimed at sustaining relations and in this way begin to make practical sense of the technological possibilities placed before us. Third, we must reorder work to give priority to sustaining reproductive work rather than unsustainable productive work. Technological practice at the service of authentic experience becomes mindful rather than

⁸⁸ Davison’s arguments are similar to those put forward by Castree (2003) in describing a typology of commodification and alienation.

automatic, careful rather than careless, and craft and skill rather than technique. Davison exhorts us to ask of technology not, “Is it productive?” but rather, “Does it bring me closer to that which I most want to embrace in my experience?” (210).

Moral Deliberation and Ethical Practice in Place

“Sustainability is nothing less, in late modernity, than the craft of a moral life” (Davison 2001, 177).

In this final section, I draw upon the ideas of Plumwood (ecological ethics), Young (justice and difference), Davison (ethics of practice), and Sack (geography) in support of my proposition. I also give brief reference to phenomenological, critical theoretic, and complexity arguments to enrich my proposal.

In *Homo Economicus* (1997), Sack discusses the difference that geography makes to moral action. He argues that an awareness of our place is crucial for moral discernment and action, and that our moral frameworks are formed by the places we inhabit. Sack (1997, 21) locates place at the intersection of meaning, social relations, and nature. He argues that the morality of our actions must be judged from the unique places within which we act, first “because it is impossible to know what is an instance of something as complex as a moral or immoral act without examining the details of its occurrence in a place,” and second, “an action is almost always assessed at least in part by its consequences even when the moral precept or maxim is formulated as an absolute”.

Plumwood recommends the inclusion of the rest of nature in our moral deliberations, based on her assertion that non-human nature possesses sentience and agency. She imagines and advocates ethical frameworks “which recognize dependency on the earth as sustaining other as the central fact of human life” Plumwood argues (Plumwood in Davison, 2001, 83) that in place of an “instrumentalization of the other,” we should “reflect on our relationship [with the world] based on love, friendship and care because they reveal the enrichment that comes through relationships”.

In *Justice and the Politics of Difference* (1990), Young argues that ethics are not a universal, timeless entity but are relationally practical, contingent, and time-and-space bounded. Young's argument emerges from an analysis of the problem of achieving justice in a world of radical difference. Starting from a desire to accommodate a world of difference, Young identifies a relational model of justice that demands, in her estimation, a localization of political control and autonomy. Young draws upon Plumwood's concept of "field of care" to illuminate her argument.

Davison (2001) also draws his ethical framework from Plumwood's work. He claims that in the late-modern world of practice, moral reasoning has been separated and subordinated to instrumental reasoning, which has been positioned as a restrictive matrix within which moral reasoning is confined – this is essentially Habermas's argument concerning the colonization of the lifeworld. Davison imagines a reversal of this relationship, wherein moral reasoning is the matrix within which we judge actions. Echoing Plumwood and Young, he argues that ethics is more than a thought experiment conceived in isolation from the world we build. Rather, as urban theorists have argued (Lefebvre 1991; Soja 1996; Harvey 1996), in a dialectical relationship the world we build in fact influences how we can conceive of ethics, and our ethical practices shape our world.

Davison (2001, 204) argues that embodied world-building activity requires a place-based and time-bound ethic; that "practical reasoning is that discipline of thinking that can only develop, be expressed, and be passed on through embodied relationships"; and furthermore, that "moral care for the future can only emerge out of our desire to take actual, practical care of what seems most valuable in our present".⁸⁹ Rather than the sustainable development paradox of over-consumption alongside the demand for expanded production, Davison argues that practical reasoning would provide us with an ethic of sustenance and reproduction wherein present care creates future care. Abram (1996, 272) makes a similar argument when he writes that "by projecting the solution somewhere outside of the

⁸⁹ For a thorough and persuasive analysis of the deformations caused by humanity's "bastardization" of reason, see John Ralston Saul's *Voltaire's Bastards: The Dictatorship of Reason in the West* (1993).

perceivable [place-based and time-bound] present, it invites our attention away from the sensuous surroundings, induces us to dull our senses, yet again, on behalf of a mental idea”.

Echoing complexity science’s claim that indeterminacy characterizes processes of change, Davison (2001, 163) proposes that “[u]nlike the instrumental reason that designs the means required to produce a given end (of, say, the strongest bridge), practical reason cannot know the *telos*, the end, of our moral activity prior to or outside of our participation in the activity itself”. He recalls pragmatist Dewey’s (1981) formulation that our moral ends are only ever ends-in-view; they can only ever reflect the line of sight afforded by our embodied and correlational location. In an intriguingly provocative passage that resonates with complexity science themes, Davison (2001, 176) asks whether “practice is possible where control is impossible”.⁹⁰ He locates the transformational and evolutionary qualities of creativity, play, and care within his theories of ethical practice: “[E]thical action is first and foremost an attempt to open up possibilities, to enrich the world” (Cheney and Weston in Davison, 2001, 163).

Maturana and Varela’s (1987, 245) extrapolation of their cognitive autopoietic theory into the domain of ethics in the closing pages of *Tree of Knowledge* calls attention to the importance of agency for my ethical proposition. They reflect on “an ethics that has its reference point in the awareness of the biological and social structure of human beings, an ethics that springs from human reflection right at the core as a constitutive social phenomenon.”

There are existing ethical practices that can inform the sustaining ecological community ethic I propose. One exploratory step toward an ethic that is local and inclusive of the rest of nature is to begin a dialogue with Native cultures who still maintain a conversation with the “others.” Already, traditions such as Native justice circles and restorative justice, for example, with affinities to the ethics-of-care model are being reinserted into our justice

⁹⁰ Kaufmann might reply that ultimately control is impossible and attempts to control only exacerbate the creation of entropy (disorder), but that an improvised practice in the here and now might just reap the benefits of order for free.

system.⁹¹ In my view, moral deliberation and ethical practice in place requires trust in each individual's capacity for discernment and wisdom embodied in our relational reality, rather than deferment to rules, technique, and expert judgment. I propose that authentic experience in a sustaining ecological community – where the rest of nature participates fully, practice and deliberation are dialectically joined, sensuous experience is honoured, and the future is indeterminate – requires ethical and moral deliberation based on a model of a relationally practical, place-based, time-bound field of care.

I began chapter 3 with the statement that at its most basic, my research is driven by a search for understanding, meaning, and a compass for moral and ethical conduct in the service of a more sustainable way of being in and of co-creating the world. I present my proposition for sustaining ecological communities in the spirit of exploration and dialogue in the hopes that it might advance theoretical and practical encounters with the concept of sustainability and at the very least spark lively and fruitful discussions of how we sustain and co-create the world we have inherited.

⁹¹ The Native Law Centre of Canada (2005) is a good resource for a current bibliography on justice circles and restorative justice.

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Appendix 1: Selected Approaches to Sustainable Development

Model (Prominent Example)	Description (key references)
<p>Healthy Cities</p> <p>Toronto (circa 1993) Copenhagen</p>	<p>A holistic vision that turns on healthy people and communities. Healthy City uses health as an organizing principle to examine the social, ecological and economic health of a community. There is really not much to differentiate the sustainable community and healthy community approaches. The Healthy City network claims global membership in the thousands of cities.</p> <p>The Healthy Cities project in the European Region is an effective and popular mechanism for promoting policies and programs based on health for all at the local level through a process that involves explicit political commitment, institutional changes, intersectoral partnerships, and innovative actions addressing all aspects of health and living conditions. (WHO Europe)</p> <p>Key References: Hancock, Trevor (1997) Healthy cities and communities: Past, present, and future, National Civic Review; Spring 97, Vol. 86 Issue 1, Ontario Healthy Communities Network - healthycommunities.on.ca</p>
<p>Local Agenda 21</p> <p>Hamilton-Wentworth Geneva, Switzerland</p>	<p>A holistic vision that turns on sustainability and governance. Local Agenda 21 encourages local governments to create an agenda for local sustainability that incorporates social, ecological and economic dimensions. It encourages local governments to create these agendas in consultation with citizens and all sectors of society. The Local Agenda 21 campaign claims global membership in the thousands of cities.</p> <p>Key Reference: International Council for Local Environmental Initiatives – iclei.org</p>
<p>The Eco-City</p> <p>Kronsberg Ecological District, Hannover Ger.</p> <p>Beddington Zero Energy Development, London, Eng.</p> <p>Village Homes, Davis, Cal.</p> <p>Stockholm Eco-District, Swe.</p> <p>False Creek, Vancouver, Can.</p>	<p>The Eco-City holistic vision turns on ecological design with nature. A holistic concept of human settlements that includes aspects of physical design, social inclusion and minimal environmental impact. To date only eco-villages at scales of up to 5000 residential units exist.</p> <p>“The Eco-City concept goes further than any other holistic concept in terms of ecologically sustainable practices such as use of recycled or sustainably grown wood products, zero-energy or energy generating homes, and human-powered transportation priority.” Mark Roseland, Simon Fraser University (Roseland, 2001)</p> <p>Key Reference: Roseland, Mark (2001) The Eco-City Approach to Sustainable Development in Urban Areas, in Devuyt, Dimitri (ed), How Green Is The City: Sustainability Assessment and the Management of Urban Environments, Columbia University Press, New York, USA.</p> <p>City of Vancouver (2004a) Southeast False Creek, Vancouver, Canada, city.vancouver.bc.ca/commsvcs/southeast/history.htm</p> <p style="text-align: right;">(continued)</p>

<p>The Creative City</p> <p>San Francisco, California Boston, Massachusetts Austin, Texas</p>	<p>A socio-economic vision turns on competitiveness in the new economy. The Creative City focuses on increased competitiveness through attraction of the creative class and high tech industry through amenity enhancement.</p> <p>"The Rise of the Creative Class," by Richard Florida, a Carnegie Mellon University professor of economic development, proposes that in the New Economy, the winning urban areas will be those that attract flocks of smart, creative and innovative people. That "creative class" is who will invent and develop things -- new products, new marketing, new financing. To do well, he says, try to make your city a place for artists, writers, entertainers, scientists, engineers and other creative professionals." Book Review, The Charlotte Observer, Oct. 8, 2002 charlotte.com/mld/observer/news/3835557.htm?1c.</p> <p>Key Reference: Florida Richard (2002) The Rise of the Creative Class: And How Its Transforming Work Leisure, Community and Everyday Life, Basic Books, Philadelphia, USA.</p>
<p>The Sustainable City</p> <p>Vancouver, Canada Chattanooga, Tennessee Curitiba, Brazil</p>	<p>A holistic vision turns on social, ecological and economic sustainability.</p> <p>"A sustainable city is organized so as to enable all its citizens to meet their own needs and to enhance their well-being without damaging the natural world or endangering the living conditions of other people, now or in the future. (Herbert Girardet)</p> <p>Key Reference: Girardet, Herbert (1999) Creating Sustainable Cities, Schumacher Briefing #2, published by Green Books for The Schumacher Society, Devon, England.</p>
<p>The Liveable City</p> <p>Boston, Massachusetts Portland, Oregon Vancouver, Canada</p>	<p>Socio-physical vision that turns on conviviality</p> <p>"The purpose of the Making Cities Livable movement is to enhance the well-being of inhabitants of cities and towns, strengthen community, improve social and physical health, and increase civic engagement by reshaping the built environment of our cities, suburbs and towns." Livable Cities Network</p> <p>"To achieve these goals requires, first and foremost, a well-functioning Public Realm... To be vibrant these public places must exist within a truly urban fabric... of appropriate human scale architecture, mixed use shop/houses, and a compact urban fabric of blocks, streets and squares. Outdoor cafes and restaurants, farmers markets and community festivals also enliven the public realm." Livable Cities Network</p> <p>Livable Cities Network - Livablecities.org</p>
<p>Long-Range Planning</p> <p>Greater Vancouver Regional District Long Range Strategic Plan</p> <p>Towards a Sustainable Seattle: The City of Seattle Comprehensive Plan</p>	<p>A mid-range vision that turns on land-use and transportation planning.</p> <p>Long range comprehensive plans set the basic strategies and policies for land use and transportation. The time horizon of these plans is usually 30 to 40 years.</p> <p>"The Livable Region Strategic Plan is Greater Vancouver's regional growth strategy... the strategic plan has provided the framework for making regional land use and transportation decisions in partnership with the GVRD's member municipalities, the provincial government and other agencies." (The Greater Vancouver Regional District Long Range Strategic Plan)</p> <p>Key Reference: The Greater Vancouver Regional District Long Range Strategic Plan (continued)</p>

<p>100 Year Visioning</p> <p>ImagineCalgary Cities^{PLUS} - GVRD</p>	<p>Long-range vision turns on city as complex system and transformation of the urban form.</p> <p>This is a fairly new approach designed to explore leading edge transformative ideas and how they might radically shape cities and regions.</p> <p>Cities^{PLUS} A Sustainable Urban System: The Long-term Plan for Greater Vancouver</p>
<p>Smart Growth</p> <p>Austin, Texas Boulder, Colorado Portland, Oregon</p>	<p>Enviro-physical vision focused on compact built form.</p> <p>Smart growth singles out sprawl as a key design flaw of the North American city. Its tool box consists of planning, design and architectural solutions for more compact urban form.</p> <p>“Smart Growth is a collection of urban development strategies to reduce sprawl that are fiscally, environmentally and socially responsible. Smart growth is development that enhances our quality of life, protects our environment, and uses tax revenues wisely”. Smartgrowthbc.ca</p> <p>“there is a growing concern that current development patterns -- dominated by what some call “sprawl” -- are no longer in the long-term interest of our cities, Spurring the smart growth movement are demographic shifts, a strong environmental ethic, increased fiscal concerns, and more nuanced views of growth”. Smartgrowth.org</p> <p>Smart Growth BC – smartgrowth.bc.ca Smart Growth Network - smartgrowth.org</p>
<p>Community Economic Development</p> <p>Evangeline, PEI</p> <p>Arusha Centre, Calgary</p> <p>Mennonite Central Committee Employment Development, Calgary</p>	<p>Socio-economic vision focused on economic empowerment.</p> <p>“CED is a planned, community-controlled process of social change by which communities, in particular, disempowered ones, acquire, through new institutions, the control over the economic resources that they need to ensure individual and collective fulfilment.” The Canadian CED Network - Canadiancednetwork.org</p> <p>“Community Economic Development is a process by which communities can initiate and generate their own solutions to their common economic problems and thereby build long-term community capacity and foster the integration of economic, social and environmental objectives”. Community Economic Development Centre, Simon Fraser University</p> <p>SFU Community Economic Development Centre – sfu.ca.cedc/ Canadian CED Network – ccednet-rdec.ca/en/pages/home.asp</p> <p>(continued)</p>

<p>Regional Economic Development</p>	<p>An economic vision focused on competitive advantage</p> <p>“The Saskatoon Regional Economic Development Authority Inc. welcomes you to Saskatoon, an international leader in economic growth and diversity. The Saskatoon region is one of the most cost-competitive cities in the world to do business, according to the 2004 KPMG Competitive Alternatives Study.” Saskatoon Regional Economic Development Authority - sreda.com</p> <p>The Pittsburgh Regional Alliance (PRA) has one mission: To globally market southwestern Pennsylvania and support existing regional employers to grow jobs and capital investment. (pittsburghregion.org)</p> <p>Mondragon Corporacion Cooperativa’s mission combines the basic objectives of a business organization competing in international markets with the use of democratic methods in its organization, job creation, promotion of its workers in human and professional terms and commitment to the development of its social environment.” Mondragon.mcc.es</p>
<p>Saskatoon, Saskatchewan Pittsburgh, Pennsylvania Mondragon, Spain</p>	<p>References: Pittsburgh Regional Alliance – pittsburghregion.org Saskatoon Regional Economic Development Authority – sreda.com Mondragon Cooperative, Spain - Mondragon.mcc.es</p>
<p>The Natural Step</p> <p>Whistler, B.C King County, Nova Scotia</p>	<p>An ecological vision focused on maintenance of natural systems.</p> <p>“The Natural Step (TNS) is an international non-profit organization in ten different countries that uses a science-based, systems framework to help organizations, individuals and communities take steps towards sustainability. The Natural Step Framework is a science and systems-based approach to organizational planning for sustainability. It provides a practical set of design criteria that can be used to direct social, environmental, and economic actions.” naturalstep.ca</p> <p>Key references: Robert, Karl-Hendrik (2002) The Natural Step Story: Seeding a Quiet Revolution, New Society Publishers, Gabriola Island, British Columbia, Canada. (naturalstep.org) The Natural Step Canada - naturalstep.ca</p>
<p>Factor4 / Factor 10</p>	<p>An ecological vision focused on dematerialization.</p> <p>“The concept calls for considerable economic, social and technical innovation to satisfy people’s needs with much less input of natural resources than today - at least a factor 10 - while generating the same - or even better - value or utility as output. This relationship between material input to service output he calls MIPS - Material Input Per unit Service - and he uses it as a design principle and to measure and compare the "ecological price" of all goods, infrastructures and services.” Wuppertal Institute website - wupperinst.org</p>
	<p>Wuppertal Institute, Wupperinst.org</p> <p>(continued)</p>

<p>Industrial Ecology</p> <p>Kalundborg, Denmark</p>	<p>An ecological-economic vision focused on industrial design with nature.</p> <p>Industrial ecology asks us to “understand how the industrial system works, how it is regulated, and its interaction with the biosphere; then, on the basis of what we know about ecosystems, to determine how it could be restructured to make it compatible with the way natural ecosystems function.” International Society for Industrial Ecology: is4ic.org</p> <p>Frosch, Robert and Nicholas Gallopoulos (1989) Strategies for Manufacturing: Waste from one industrial process can serve as the raw materials for another, thereby reducing the impact of industry on the environment, Scientific American, Vol. I , pp.</p> <p>International Society for Industrial Ecology - is4ic.org</p>
<p>Industry Clustering</p> <p>Promoting Calgary Inc. Edmonton Austin, Texas</p>	<p>An economic vision focused on economic prosperity.</p> <p>Industry clusters are geographic concentrations of interconnected companies and institutions in a particular field.</p> <p>Key Reference: Porter, Michael (1998) Clusters and the New Economics of Competition, Harvard Business Review, Nov-Dec 1998.</p>
<p>Natural Capitalism</p>	<p>Ecological-Economic vision focused on a nature-mimicking economy.</p> <p>Natural Capitalism is a vision for a new industrial system based on a very different mind-set and set of values than conventional capitalism. Natural capitalism's four interlinked principles - radically increased resource productivity, redesigning industry on biological models with closed loops and zero waste; shifting from the sale of goods (for example, light bulbs) to the provision of services (illumination); and reinvesting in the natural capital that is the basis of future prosperity. Natcap.org</p> <p>Lovins, Amory; Hunter Lovins and Paul Hawkin (2000) Natural Capitalism: Creating the Next Industrial Revolution, Little, Brown and Company, London, England - Natcap.org</p>

Appendix Two: Outcomes Interview Guide Questions

**Sustainable Calgary SC Action Forum
Participatory Inquiry into
the Sustainability Indicators Initiative**

Step 1: Participatory Inquiry into the Sustainability Indicators Initiative

Through semi-structured interviews the experience, evaluation and vision of a sample of participants and stakeholders in the Sustainable Calgary Indicators Project will be explored and documented. The research report will document outcomes (awareness, education, behaviour, policy, planning and program) and future vision and structure for the Indicator Project. Speculative themes will inform the guiding questions but the interviews will be open-ended so as to allow the emergence of major themes.

Interviewees will include citizens who participated in the sustainability indicators project and decision-makers who participated in or are knowledgeable about the sustainability indicators project. An invitation to participate will result in an initial self-selection process. Among those who self-select, citizen interviewees will be selected based on a set of identities including ethnicity, geographic community, sectoral affiliation (social, ecological or economic) age, length of residency in Calgary, gender. It is anticipated that this selection process will bias toward participants with significant engagement in the Sustainability Indicators project. Decision-makers will be selected based on two criteria - diversity of professional and institutional affiliation and ability and interest in supporting sustainability initiatives for the city of Calgary.

This analysis will be validated through a series of workshops employing participatory appraisal, popular education and popular theatre techniques.

Interview Protocol: Participatory Inquiry Participant Profile and Guiding Question

Participant Profile

Name/Coded

Gender:

Age:

Community:

Occupation:

Length of Residence in Calgary:

Ethnic Affiliation:

Organizational Affiliation:

Sectoral Affiliation:

Education:

Guiding Questions

5. How would you describe your knowledge of sustainability prior to your participation in the Sustainable Calgary indicator project?
6. Was this the first time you participated in a sustainability initiative?
7. If not the first time, how have you been involved in the past?
8. How did you find out about the SC indicator project?
9. Why did you get involved in the SC indicator project?
10. Describe the nature of your involvement (time period, role, hours invested)
11. What has been the most remarkable aspect of the SC indicator project?
12. Has your participation benefited you personally? How?
13. Has your participation benefited you professionally? How?
14. Has your participation increased your understanding of sustainability?
15. Has your participation resulted in attitude change re: sustainability?
16. Has your participation resulted in behaviour change re: sustainability?
17. Did you enjoy your participation in the project?
18. What do you think you contributed to the project/process?
19. What was the most remarkable aspect of your participation?
20. How could the process have been improved?
21. Have you become an advocate for sustainability in your home, neighbourhood, community, workplace, city, province, country or globally as result of your involvement with the SC indicator project? If so how?
22. How would you characterize the participants in the process?
23. Who do you think was missing or underrepresented in the process?

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24. Can you give us your opinion about the sustainability of Calgary? (ecological, social, economic and political). Calgary is sustainable? Calgary is moving strongly, weakly or moderately toward sustainability? Calgary is spinning its Wheels? Calgary is moving strongly, moderately or weakly away from sustainability?
25. What do you think are the most pressing sustainability issues for the city of Calgary?
26. What are the biggest impediments to achieving sustainability in Calgary? (ecological, social, economic, political)
27. Has the SC report resulted in movement toward sustainability in the city? On the part of government, private sector, not-for profits. (with respect to Rhetoric, Discourse, Attitudes, Behaviour, Policy, Planning, Projects, Programs, Structures, Collaboration)
24. Can you suggest other individuals who may have of impacts of the indicator initiative?
- Who has the biggest role to play in the future sustainability of our city?
 - What role should SC play in the sustainability of our city?

Explanation of the Action Forum Concept

Prior to an explanation of the Forum Concept participants will be asked an open question:

- Where do you think the SC indicator project should go from here?

This will be followed up with an explanation of the Forum concept and a series of questions.

- Do you have any suggestions as to the mandate of the Forum?
 - Do you have any suggestions as to the structure of the Forum?
 - Should the Forum be integrated into the city of Calgary or remain citizen driven?
 - Who should be represented on the Forum? Citizens? Stakeholders?
 - Could you see yourself as a part of the SC Action Forum? As a delegate? As a participant in forum processes?
- Are there any final comments you would like make about your participation in the SC Indicators Project, the sustainability of our city or the Sustainable Calgary Action Forum concept?

Appendix 3: Initial List of Indicator Projects Worldwide and Tier One Analysis of Comparable Cities

City/Region/County	Population	Geographic Type	Geographic Area	Reason for Elimination
Canada (31)				
Fraser Basin, BC	2.4 million	Watershed	1/3 BC	
Prince George, BC	72,400	City	316	Population too small
New Westminster, BC	54,700	City	15.4	Initiative dormant
Quesnel, BC	10,000	City	35.34	Population too small
Surrey/White Rock, BC	348,000/ 18,250	City/City	317.4/5.28	No report to date
Whistler, BC	8,900	Dist Mun.	162	Population too small
Banff, Alt.	7135	Town	4.85	Population too small
Canmore, Alt.	10,800	Town	68.8	Population too small
Calgary, Alt.	900,000	City	702	
David Thompson, Alt.		Health Reg		Initiative dormant
Edmonton, Alt.	670,000	City	684	
Lethbridge, Alt.	67,400	City	122	Population too small
Saskatoon, Sask.	197,000	City	148	Initiative dormant
Regina, Sask.	178,200	City	119	Initiative dormant
Winnipeg, Man.	619,500	City	465	
Brant, Ont.	31,700	City	845	Population too small
Guelph, Ont.	106,170	City	87	Population too small
Halton, Ont.				Population too small
Hamilton-Wentworth	490,000	City	1,117	
Peterborough, Ont.	71,446	City	58.6	Population too small
North Bay, Ont.	52,800	City	315	Population too small
Thunder Bay, Ont.		City		Population too small
Ottawa, Ont.	774,000	City	2,779	
Quinte, Ont.	41,410	City	499	Population too small
Scarborough, Ont.		City Com		Population too small
Toronto, Ont.	2,481 mil	City	630	
Waterloo, Ont.	86,500	City	64	Population too small
Wellington, Dufferin, Guelph	11,300/43,700 /106,000	TP/City/ City	524/1,252/87	Population too small
Woolwich, Ont.	18,200	Township	326	Population too small
Montreal, Que	1,040 mil	City	186	
Moncton, NB	61,100	City	141	Population too small
USA (74)				
Albuquerque, NM				

Anchorage, Alaska				Population too small
Austin, Texas				
Baltimore, Maryland				Neighbourhood level
Berkeley, California				Population too small
Blacksburg County				Population too small
Boston, Mass.				
Boone County				Population too small
Boulder				Population too small
Boulder County				Population too small
Buckley Valley				Population too small
Burlington, Vermont				No indicator project
Cambridge, Mass.				Population too small
Cape Cod, Mass.				Population too small
Central Minnesota				Region too large
Central Texas				Region too large
Chattanooga Tenn.				Population too small
Cincinnati, Ohio				
Cleveland, Ohio				
Delaware Valley Reg.				Region too large
Dupage County, Illinois				Population too small
Hamilton County				Population too small
Hartford, Connecticut				No indicator report
Jackson				Population too small
Jacksonville, Florida				
Lansing, Michigan				No indicator report
New Orleans				
Mesa County				Population too small
Minneapolis/St. Paul				No indicator report
Minnesota Milestones				Region too large
Missoula, Montana				Population too small
Monterey, California				Population too small
Nantucket, Mass.				Population too small
Naugatuck Valley				Population too small
Northern New England				Region too large
Oklahoma County				No indicator report
Olympia, Washington				Population too small
Oregon Benchmarks				Region too large
Orlando/Orange Coty				
Pasadena, California				Population too small
Phoenix, Arizona				
Pierce County				Population too small
Pittsburgh, Pennsylvania				
Portland, Oregon				
Pueblo, New Mexico				Population too small
Puget Sound, Wash.				Region too large

Racine, Michigan				Population too small
Roanoke				Region too large
Roaring Forks				Population too small
San Francisco, Cal.				
San Jose, California				
San Matco, California				Population too small
Santa Barbara, Cal.				Population too small
Santa Cruz, Cal.				Population too small
Santa Monica, Cal.				
Sante Fe, New Mexico				Population too small
Sarasota, California				Population too small
Scottsdale, Arizona				
Seattle, Washington				
Sierra Nevada				Region too large
Silicon Valley				Region too large
Sitka, Alaska				Population too small
Skagit County				Population too small
Sonoma County				
South Florida				Region too large
St. Louis, Missouri				
Tallahassee/Leon County				Population too small
Truckee Meadows				Population too small
Tucson, Arizona				
Ventura County, Cal.				
Virginia State				Region too large
Weld County				Population too small
Willapa, Oregon				Population too small
Yampa Valley, Col.				Population too small
Europe (33)				
Aalborg, Norway				
Amaroussian, Greece				
Arendal, Norway				
Barcelona, Spain				
Birmingham, England				
Bristol, England				
Cardiff, Wales				
Coventry, England				
Craigavon, Ireland				
Edinburgh, Scotland				
Ferrara, Italy				
Geneva, Switzerland				
Goteborg, Sweden				
Graz, Austria				
Grimstad, Norway				

Den Hague, Netherlands				
Kosice, Slovakia				
Kristianstad, Norway				
Lisboa, Portugal				
Modina, Italy				
Nome, Norway				
Novopolotsk, Belarus				
Oslo, Norway				
Riga, Latvia				
Sandnes, Norway				
Sarpsborg, Norway				
Stockholm, Sweden				
Tilberg, Netherlands				
Trondheim, Norway				
Turku, Finland				
Venneslu, Norway				
Venice, Italy				
Vitoria-Gasteiz, Spain				
Latin America (2)				
Gaudelajara, Mexico				
Curitba, Brazil				
South Pacific (4)				
Onkaraparinga, Australia				
Melbourne, Australia				
Nedlands, Australia				
Newcastle, Australia				
Africa (4)				
Cape Town, South Africa				
Johannesburg, South Africa				
Pretoria, South Africa				
Durban, South Africa				
Asia (9)				
Almaty, Kazakhstan				
Ashgabat, Turkmenistan				
Bangkok, Thailand				
Bishkek, Kyrgystan				
Sungait, Azerbaijan				

Tashkent, Uzbekistan				
Taipei, Taiwan				
Yerevan, Armenia				
Seoul, South Korea				

Appendix 3: Comparable Cities Narrative Summaries

Vancouver

The City of Vancouver enjoys a reputation for innovative planning, particularly in relation to land-use planning and transportation policies, dating back to the 1970s. According to Hutton, a decisive shift in the political climate in Vancouver occurred in 1972 with the defeat of an economic growth-oriented regime. This shift was in large part a result of citizen opposition to proposed cross-town freeways (Hutton 2004). This planning environment has resulted in remarkably high densities and improved community livability, by North American standards (Hutton 2004). Today, Vancouver is considered to be on the leading edge of sustainability work on many fronts, with the City of Vancouver, the Greater Vancouver Regional District, Smart Growth BC, the International Centre for Sustainable Cities, and private sector consultants among the more prominent actors.⁹²

One significant focal point of planning for sustainability in Vancouver is the Greater Vancouver Regional District (GVRD), a region almost thirty times the area of the City of Vancouver and more than three times the population. In 1967 the GVRD board was formed, with representatives from each of the twenty-one municipalities in the region; board membership was based on proportional representation. In 1996 the GVRD created the Greater Vancouver Livable Region Strategic Plan (LRSP), which is formulated within about a twenty- to thirty-year time horizon and is the legally sanctioned regional plan. The LRSP identifies four priorities for regional development: protect the Green Zone, build complete communities, achieve a compact metro region, and increase transportation choices (GVRD 1996). The GVRD's Livable Region Strategic Plan was chosen from more than five hundred submissions as the plan that demonstrated "Best Practices to Improve the Living Environment" at the 2002 Dubai International Awards.

In 2003 Cities^{PLUS}, an eighteen-month multi-stakeholder process designed to create a 100-Year Vision for sustainability for Greater Vancouver and spearheaded by a private

⁹² One anecdotal indicator of Vancouver's image was the "buzz" over Vancouver that I encountered on my research trip to Seattle in March 2004.

consulting firm, the GVRD and the International Center for Sustainable Cities, took the Grand Prize in a competition with eight other world cities (Sheltair Group 2002a). Over five hundred professionals and stakeholders from thirty Canadian cities contributed to the GVRD 100-Year Vision. The process employed an adaptive management framework and an integrated collaborative approach. Its vision drew heavily upon an analysis of the city as a complex adaptive system (Sheltair Group 2002).

In 2000, following a public consultation on the LRSP, the GVRD made sustainability principles the foundation of its strategic planning. The Sustainable Region Initiative (SRI) will provide a framework, vision, and action plan for Greater Vancouver based on a concept of sustainability that embraces economic prosperity, community well-being, and environmental integrity. The intention is for the GVRD to be the “catalyst for a process which has many owners and many actors who are engaged in the task of providing for a better region for this and future generations” (GVRD 2002a).

In 1995 the City of Vancouver completed its CityPlan. (City of Vancouver 1995). The plan was a result of three years of consultations with twenty thousand citizens and is consistent with the regional LRSP. The City of Vancouver explicitly states its desire to be a sustainable city and has endorsed a set of ten sustainability principles (City of Vancouver 2004). Although its successful implementation is still not assured, one of the most notable efforts toward sustainability planning in Vancouver is the Southeast False Creek Model Sustainable Community (Caledon 2003).

There is no stand-alone sustainability indicator project in Vancouver or the GVRD. The City of Vancouver has not integrated indicators into its CityPlan or its sustainability principles, nor does the GVRD integrate indicators into its strategic planning within a performance monitoring framework (GVRD 2002). As part of the Sustainable Region Initiative, the first sustainability report was completed in 2002 (GVRD 2002a). This report adapts the Global Reporting Initiative framework for reporting on progress toward sustainability (GRI 2004). The indicators will be reported in twelve categories: community, economic, land, air, water, liquid waste, solid waste, energy, affordable housing,

transportation, security and emergency management, and City employees. In addition, the LRSP 2002 Annual Report documents twenty-nine indicators selected to monitor achievement of the plan's four strategic priorities (GVRD 2002b). The 2002 report showed thirteen of the twenty-nine indicators improving. Both reports highlight initiatives that are contributing to achievement of the LRSP; both sets of indicators were generated without public participation.

Smart Growth BC is a non-profit organization formed in 1999. It released its latest BC Sprawl Report in the spring of 2004 (Smart Growth 2004). The report contains research on a set of twenty-seven Urban Form, Livability, and Economic Vitality indicators for twenty-six British Columbia municipalities, including the City of Vancouver. The BC Sprawl Report draws upon the creative city work of Richard, Florida to support its call for improved "quality-of-place."

Fraser Basin

The Fraser Basin Management Board, a joint initiative of local, provincial, and national governments, was created in 1992. In 1997 a high-powered Management Board published the Fraser Basin Charter, which contained twelve Principles of Sustainability and twenty-six Goals of Sustainability. The Charter identified the importance of basin-wide coordination "to protect and sustain the unique life-giving Fraser Basin," a region covering 25 percent of the territory of British Columbia and responsible for 80 percent of the province's GDP (FBC 1997).

Given the lack of legal political jurisdiction over the Basin, the non-profit Fraser Basin Council (FBC) was formed in 1997 as a mechanism to carry out the vision of the Charter and "help solve complex inter-jurisdictional sustainability issues." The FBC comprises thirty-six directors representing local, provincial, and national government; native communities; private sector stakeholders; and civil society. It serves as a catalyst, educator, and impartial convenor; its mandate is "to measure and report on progress towards sustainability in the Fraser Basin." The FBC is funded by the three levels of government, the corporate private sector, and Foundations (FBC 2004b).

In the fall of 2000, the FBC developed *Sustainability Indicators for the Fraser Basin: Workbook* as a tool to engage citizens of the Basin in the consideration of a set of forty draft indicators, prepared with the assistance of a variety of experts. A total of approximately 150 people attended five regional workshops held throughout the Basin. In addition, four hundred people completed an on-line survey. At a State of the Fraser Basin conference, three hundred participants attended an indicators working session. The draft indicators were also presented to six hundred participants of a National Round Table on Environment and Economy conference.

The regional consultations resulted in the endorsement of an indicator project. In addition, a number of key messages emerged from the consultations, which were documented in a 2001 Consultation Report (FBC 2004b). Citizens felt that the indicators should appeal to government, non-governmental decision-makers, and the public; be reported every three years; be accompanied by targets and trend interpretation; and lead to collaborative action. In addition, citizens felt the FBC should play a role in facilitating action where significant challenges exist.

The FBC identifies several ways to use sustainability indicators: indicators can be used to monitor progress; inspire actions; increase education; facilitate dialogue; identify information gaps and research priorities; assist priority setting; build partnerships; analyze and develop policy; and help with land use and strategic planning. The FBC has produced two indicator reports (2003, 2004) with the assistance of an Indicator Project Advisory Committee drawn from a wide variety of organizations. The FBC invites public feedback on each indicator report. Ongoing activities of the FBC include the development of new indicators, the identification of new data sources, the showcasing of success stories, and the production of sub-regional reports. The FBC is also considering the development of qualitative indicators through opinion polling and the use of indices of sustainability.

A current preoccupation of the FBC is how to move from indicators to action. As a non-profit organization, the FBC is not linked directly with the policy-making processes of the

local, provincial, or national governments. Options under consideration for moving to action include everything from simply presenting the trends and leaving it to readers to take action, to prescribing recommended actions, all the way to explicitly identifying agencies responsible for improving the trends.

Edmonton

In 1996 the Edmonton Social Planning Council initiated the *Edmonton Life: Local Indicators of Excellence* project. The goal of the project was the creation of a set of quality-of-life indicators for the city of Edmonton.

The first *Edmonton Life* report stated that “emerging global trends will impact quality of life all over the world. Edmonton’s ability to anticipate change will determine whether or not the city can benefit from these trends and maintain a high quality of life. It is critical that Edmontonians, individually and collectively, take this opportunity to redefine excellence in the community” (Edmonton Life 1997). According to the 2002 report, the purpose of *Edmonton Life* is “to provide accessible, periodic reports measuring the health of the economy, people, environment and community” (Edmonton Life 2002).

Edmonton Life identified several anticipated uses of a comprehensive set of indicators. The indicators would assist in identifying strengths and weaknesses, planning effectively, refining existing initiatives and programs, identifying and anticipating trends, setting targets for excellence, and comparing Edmonton’s progress regionally, nationally, and globally. *Edmonton Life* received support from the City of Edmonton, the United Way of the Alberta Capital Region, the Chamber of Commerce, and the University of Alberta. An eleven-person steering committee set the framework for the project, established principles and criteria for indicator selection, and acted as a catalyst to create a comprehensive seven-point vision of quality of life to guide the project. Nine-member working committees were responsible for generating indicators for each of the four elements of quality of life: healthy economy, healthy people, healthy environment and healthy community. In addition to stakeholder involvement through the committees, about 150 citizens participated in focus groups and two thousand questionnaires were distributed throughout the city.

Forty-four indicators were chosen for inclusion in the quality-of-life indicator set. Edmonton Life has produced three reports to date (1997, 1998, 2002). The 2002 report also identified seven “indicators for the future,” for which there is not yet quantifiable data to report. The 2002 report also included a comparison of nine indicators reported in the Federation of Canadian Municipalities *Quality of Life in Canadian Communities* reports (Edmonton Life 2002). The original intent of the Edmonton Life project was to create an entity to sustain the indicator project; to date, the Social Planning Council continues to fill that role.

Plan Edmonton, the City of Edmonton’s legally mandated municipal development plan, was created in 1998 and amended and consolidated in 2004. Plan Edmonton outlines Edmonton’s long-term planning under six “municipal responsibility areas”: Planned Growth, Economic Development, Services to People, Infrastructure Development and Maintenance, Leadership and Regional Cooperation, and Intermunicipal Planning. Plan Edmonton calls for an implementation plan that includes benchmarks and measurements of success, but none are provided in the Plan (City of Edmonton 2004). Edmonton has also published an Urban Sustainability Action Plan to “ensure a vital, healthy future for the City of Edmonton.” The Action Plan is elaborated in three categories: Urban Form, New Fiscal Deal, and Regional Strategy. It calls for an annual monitoring and progress report but does not identify indicators of progress (City of Edmonton 2004a).

Winnipeg

Currently, there is no independent sustainability indicator project in the city of Winnipeg. In 1997, as part of preparations for the Plan Winnipeg Vision 2020 (an update of Plan Winnipeg 1993), the City of Winnipeg Strategic Planning Division worked in collaboration with the Measurement and Indicators Program of the International Institute for Sustainable Development to develop a set of sustainability and quality-of-life indicators for Winnipeg. The report generated by that process stated that Winnipeggers “would like to see their quality of life maintained for future generations, but they are concerned that it may be fading. We need to be able to measure our efforts and to know if we are moving in the right

direction. We also need measurement to assess the effectiveness of current policies and to design new ones as necessary” (IISD 1998).

A nine-person project team was established for the project. Through a one-day focus group session, a broad-based twenty-member stakeholder group selected by the project team identified, grouped, and ranked a set of quality-of-life issues. Thirty-seven other stakeholders completed a survey designed to elicit key issues. From this set of issues, experts generated five indicator categories (Urban Environment, Urban Economy, Community Assets, Individual Wellbeing, Community Leadership, and Pride) and a preliminary set of sixty indicators. No data collection or documentation was undertaken as a part of this project. There does not appear to be continuity between this project and the indicators contained in Plan Winnipeg 2003.

The Plan Winnipeg 2020 Vision identifies a total of twenty-three indicators in five priority sectors: Downtown and Neighbourhoods, Government and the Economy, Planned Development, Transportation and Infrastructure, Public Safety, Health and Education, and Environment, Image and Amenities (City of Winnipeg 2003). The Plan does not report the status or trend information of the indicators, but it states a City Council intention to use the indicators as the basis for an annual Quality of Life Report on progress in achieving the Plan.

Hamilton-Wentworth

The Hamilton-Wentworth indicator project is the longest-running and most integrated project in Canada. In 1989 the regional government created the eighteen-member Chairman’s Task Force on Sustainable Development, the third of a series of multi-stakeholder processes that demonstrated the ability of citizens to work together to address community concerns. The citizen members of the task force met to discuss actions and recommendations for moving Hamilton and region toward sustainability. The task force used a consensus decision-making model. An outcome of the task force was the creation of the Vision 20/20 planning process, begun in 1992 and housed in the City of Hamilton’s Planning and Development Department (ICLEI 2004).

In 1994, in cooperation with McMaster University and the International Council for Local Environmental Initiatives, the local government initiated a sustainability indicator project as part of Vision 20/20. Vision 20/20, in fact, became one of ICLEI's twenty-on international Local Agenda 21 Model Communities. According to the 2000 Indicator Report, the purpose of the indicator report was to "provide a tool to inform decision-making for action in the community and the City corporation, and to generate community debate and action on Hamilton's progress toward creating a sustainable community" (Vision 20/20 Hamilton 2001).

From 1994 to 1997, over one hundred individuals representing a variety of stakeholders worked with a project team to choose the original set of indicators. In 1998 over eight hundred citizens participated in the review of the indicators and generated new strategies for achieving Vision 20/20; the strategies explicitly addressed actions to foster citizen empowerment. In 2003 the Renewal Round Table undertook the second five-year citizens' review of Vision 20/20. Since 2000, community groups, citizens, and data providers have all provided comment on the reports. The comments are then integrated into the final published report.

There have been many milestones in the history of Hamilton's process. In 1994, in order to generate interest in and awareness of the project, the city held its First Annual Sustainable Community Day. In 1996 the Annual Sustainable Community Recognition Awards were inaugurated. In 2000, the non-profit Action 20/20 was formed as a vehicle to manage Vision 20/20. In 2002 the Action 20/20 experiment was dissolved and the project was again housed in the Planning and Development Department. In 2002 the indicator project created a partnership with Environment Canada's community-based Environmental Monitoring and Assessment Network to report on local ecological monitoring by the Network.

The Hamilton-Wentworth indicator report currently contains twenty-nine indicators grouped into fourteen themes. The full indicator report (Vision 20/20 2003) is augmented by a shorter Sustainability Indicators Report Card (Vision 20/20 2003a) and initiatives that

it has spawned have received numerous national and international awards. In March 2004 the project received a big boost as Council adopted a resolution to use the Sustainability Indicators Report in major strategic planning initiatives and in the 2005 budget process.⁹³

Toronto

The Toronto Vital Signs project focused on the selection and reporting of quality-of-life indicators in the Greater Toronto Area (GTA). As stated in the report, the project was “a unique partnership between research centres within each of the three Toronto universities, charitable foundations, local government agencies and departments, community-based agencies, public interest and advocacy groups, corporations and individuals in the GTA” (Toronto Community Foundation 2001). The purpose of Vital Signs was to promote discussion, citizen engagement, and change on issues that are important to the quality of life and future vitality of the GTA. The 2001 Report documented thirty indicators in four themes: Working, Living, Learning, and Growing. The major sponsor of the project was the Toronto Community Foundation, with support from the United Way and other private foundations. The research was largely carried out by university researchers. There is no documentation as to whether a planned public forum on the report was conducted. Reports have since been published in 2003 and 2004. The 2004 report employed ten categories to report on thirty-six indicators (Toronto Community Foundation 2004); it is accompanied by *Vital Ideas 2004*, a resource document whose purpose is to identify areas for interested donors to contribute to help improve the Vital Signs project (Toronto Community Foundation 2004a).

An interesting precursor to Vital Signs was a 1993 City of Toronto Healthy Cities project, which published Toronto’s first State of the City Report and Citizens Guide in 1993, documenting a baseline of data to be used to monitor progress toward a healthy, sustainable and livable city. It was a municipal-funded but community-based project. One unique innovation of that report was its publication in a variety of languages (OHCC 2004).

⁹³ Sherilyn MacGregor offers an alternative assessment of the success of Hamilton’s Vision 20/20. In *WE International* (2000) she tells the story of a local community activist who served as a member of the

Currently, the City of Toronto is in the process of finalizing its Toronto Plan through a process begun in 2002. The Plan will highlight action on five “Campaigns”: Campaign for Beautiful Places, Campaign for Next Generation Transportation, Campaign To Make Housing Happen, Campaign To Green Toronto, and Campaign for a Dynamic Downtown. These campaigns include policies but to date, no indicators (City of Toronto 2002).

Ottawa

There have been two separate indicator initiatives by the City of Ottawa, Environmental Management Branch, neither of which has gained much traction. The first initiative, Sustainability Report Bulletins, included three bulletins in 1998 and 1999 reporting on two biophysical indicators each. The second initiative, a 2000 Ottawa Sustainability Report, was also housed in Environmental Management. The report, which was completed without citizen participation, contained twenty-one indicators in six categories, with a heavy emphasis on biophysical indicators. It does not seem to have been made a public document (City of Ottawa 2000, 2001). The City of Ottawa Web site states that a future Ottawa Sustainability Indicators Program will be developed in consultation with citizens (City of Ottawa 2004).

The current Ottawa 2020 Vision highlights seven themes for Ottawa: Distinct and Liveable City, Responsible and Responsive, A Creative City with a Unique Identity, Green and Environmentally Sensitive, Innovative and a Shared Prosperity, Caring and Inclusive, and Healthy and Active. In the 2020 Vision, the City commits to the implementation of an Official Plan monitoring program consisting of “targets, indicators, surveys and research to assess changing conditions and performance on matters related to the Official Plan. The monitoring program will include an Annual Report Card. It will be based on a set of indicators that best reflect the successes and failures in implementing the Plan” (City of Ottawa 2003).

Vision20/20 Citizen Advisory committee. She is also a member of a working class neighbourhood organization which fought unsuccessfully to halt the construction of an expressway through their community.

Montreal

In 2004 a small group of Montreal's citizens came together and created the first draft of a sustainability indicators report, entitled "The Montreal Urban Indicators System Project." The project is a collaboration of the McGill School of Urban Planning, the Urban Ecology Centre, and the Woodcock Foundation. It reports on eleven indicators in three sectors: Environment, Resource Consumption, and Community and Economy (SODECM 2003). The project was inspired by the 2001 City Summit, where the City of Montreal committed to creating an urban sustainable development plan (City of Montreal 2004). The purpose of the Montreal Urban Indicators System is to facilitate educational activities pertaining to Montreal's urban sustainability, build a monitoring system, and recommend concrete practices to City management and to neighbourhoods. The report was presented at the 2004 City Summit as a starting point in the development of the City of Montreal indicators. The Indicator Project is sponsored in part by the Societe de Developpement Communautaire de Montreal, a non-profit organization committed to the promotion of "social ecology in the neighbourhoods of Montreal, as well as in the city as a whole, and to advancement of change through sustainable development and healthy alternatives to current city lifestyles" (SODECM 2004).

A draft Montreal Urban Master Plan, initiated after the Montréal Summit in June 2002, outlines seven goals, twenty-one objectives and fifty-five actions. The seven goals are high-quality, diversified, and complete living environments; efficient transportation networks fully integrated into the urban fabric; a prestigious, convivial, and inhabited Centre; dynamic, accessible, and diversified employment areas; high-quality architecture and urban landscapes; an enhanced architectural, archaeological, and natural heritage; and a healthy environment. Although the Master Plan does not include indicators, it calls for an Annual Assessment Report. A public consultation process was carried out in May and June 2004.

Sustainable development, defined in the Plan as development that "aims for ecological integrity and social equity among nations, individuals and generations, as well as economic efficiency," is a guiding concept of the Master Plan. It goes on to say that "a sustainable urban environment will be more compact, less dependent on individual automobiles and

organized in such a way as to promote public transportation and non-motorized travel. It will offer diverse activities and services, close to residential areas composed of a range of housing types. It will provide easy access to green spaces and waterways, as well as public spaces that are safe, comfortable and enjoyable” (City of Montreal 2004). The City also has a Sustainable Development Plan for Montreal in draft and public consultation phase. This document will contain indicators.

Austin

In 1995 Austin City government appointed the Austin Citizens’ Planning Committee and charged it with producing a report outlining the challenges facing Austin. In their report, the citizens declared that “[t]he unanimous opinion of the Citizens’ Planning Committee is that these times are not ‘ordinary’ and that Austin is on the ‘wrong road’. This report is an urgent call to the citizens of Austin to ‘follow another way’ and to make the change now!” (Austin City Council 1995). The 22-member Committee recommended the City adopt a sustainable development strategy. As a result, in 1996 the City of Austin created the Sustainable Community Initiative (SCI), which is housed in the Transportation, Planning, and Sustainability Department with staff reporting to the City’s sustainability officer. The SCI exists to “help the greater Austin region achieve economic prosperity, social justice, and ecological health – the highest possible quality of life in the best possible environment”. SCI programs and policies would “respond effectively to the real limits of ecological systems while fostering the unprecedented opportunities of a democratic society in which all people are able to develop to their fullest potential.” To these ends, the SCI would “become a valuable resource for City staff and for area residents by advocating, creating tools, and providing expertise concerning sustainability – from the global to the local perspective” (City of Austin 2004).

The Central Texas Sustainability Indicators Project was one of several projects to evolve from the Sustainable Community Initiative. It is a regional not-for-profit community organization comprising independent researchers plus a diverse and all-volunteer board of directors. The Sustainability Indicator Project took as its mission “to provide detailed, trustworthy information about a range of critical issues that serve as key indicators for the

economic, environmental and social health of our five-county metropolitan region” (CTSIP 2003).

The project completed its first report in the spring of 2000. Indicators were compiled from numerous Advisory Board meetings and input from area residents gathered through Thumbs Up! – targeted phone surveys and educational outreach. The process included a community forum in June 1999, where the community input contributed to determining the inaugural forty-two indicators. The indicators were chosen by a broad group of experts on regional issues, then narrowed and refined through a community workshop with hundreds of local leaders from neighbourhoods, businesses, faith communities, environmental groups, nonprofit organizations, and politics (CTSIP 2003).

CTSIP annual reports, published each year since 2000, contain forty-two indicators in seven categories: Public Safety, Education and Children, Opportunity, Civic Engagement, Economy, Health, and Natural Resources. Seven of the indicators are gathered through an annual phone survey; however, the survey was not carried out in 2003 due to financial constraints.

In 2003 the project hosted a series of focus groups to gather opinions on the outcomes of the project and new directions. Focus group participants reported that the indicators are a tool for identifying important issues; that more work needs to be done on data collection and analysis, and on marketing of the reports; and that the reports provide a framework for long-term thinking.

Technical support for the CTSIP has been provided by staff at the City of Austin’s Sustainable Communities Initiative, the Graduate Program in Community and Regional Planning at the University of Texas at Austin, the Austin Area Research Organization, and a local public relations firm. The current institutional host of the Indicator project is Austin Community College. Funding is provided through private donations, the United Way, local government, and other public institutions. The project is also actively forging partnerships with other regional organizations with complementary goals.

Beyond the indicator project, Austin's Sustainable Community Initiative has supported an impressive Green Building program and the development of a sustainability decision-making tool to evaluate public building projects (Doxsey 2004). Austin has been lauded for these initiatives, but there does not seem to be a direct connection between these projects and the indicator project. Austin has also embarked upon a Smart Growth Initiative (City of Austin 2004a).

Boston

Sustainable Boston originated in 1995 as an initiative of the City of Boston Environment Department. Promotional activities associated with the President's Council on Sustainable Development were a catalyst for the initiative. In 1997 Sustainable Boston and the Boston Foundation, with support from the National Neighbourhood Indicators Initiative (Urban Institute 2004), spearheaded the indicator project (Sustainable Boston 2004). The first organizational meetings included well-known grassroots groups such as the Dudley Street Neighbourhood Initiative as well as government agencies, including the Boston Redevelopment Authority.

The indicators were chosen through an extensive stakeholder, public, and expert consultation process. In 1997 over three hundred people participated in workshops to select indicators. These three hundred Bostonians worked to conceptualize the reports and define indicators and measures. The indicators were proofed at a workshop that included national indicator experts Maureen Hart (sustainablemeasures.com) and Alan Atkisson (atkisson.com). The first draft report was released at a 1999 Boston Citizen Seminar, where two hundred and fifty workshop participants used it as a focal point to discuss the future of the city. In addition, seven hundred copies of the draft report were circulated for review and comment, and a local conference was held to explore how the indicators could be used at the neighbourhood level. The draft report was also presented to several organizations, including the EPA, and at international conferences.

The indicator project eventually became a project of the Boston Foundation, in partnership with the City of Boston/Boston Redevelopment Authority and the Metropolitan Area Planning Council. The project's goal is to "engage the general public as well as civic and community-based institutions, the media, business and government in better understanding Boston's key challenges and opportunities through shared access to high quality objective data. The Report is a shared tool for data collection, analysis and reporting that can be used by stakeholders in Boston to 'tell the story' of how Boston, its neighbourhoods and region are doing, and to guide and measure change" (Sustainable Boston 2004).

The award-winning first Sustainable Boston indicator report, *The Wisdom of Our Choices: Boston's Indicators of Progress, Change and Sustainability*, focuses on the paradox of the growing inequities in Boston during a period of unprecedented economic growth. As stated in the press release of the first report, the indicator project aimed to help Boston "achieve sustained and equitable prosperity" (Kahn 2000).

The indicator reports are designed to provide information, help community institutions and civic leaders collaborate and design interventions, build relationships across boundaries, tell the story of Boston, and market Boston both internally and to the world. They contain eighty-three indicators in ten sectors: Civic Health, Cultural Life and the Arts, Economy, Education, Environment, Housing, Public Health, Public Safety, Technology, and Transportation. The reports have several interesting indicators in common with those of Sustainable Calgary, including ecological footprint and community gardens. They also contain qualitative data gathered through an Annual Boston Survey, designed in collaboration with local government and educational institutions.

The project's innovative Web site allows exploration of cross-cutting themes and comparison of indicators at the neighbourhood level. The project will continue through to the Boston 400 anniversary in 2030. Boston College has committed to hosting a Boston Citizen Seminar every second year leading up to the anniversary, with the indicator report providing a key input to these seminars. The project has recently engaged a group of civic leaders, who will use the indicator report to craft a civic agenda for Boston. In 2004 the

Boston Foundation commissioned two award-winning journalists to write *Boston Unbound* (Pierce and Johnson 2004). This document draws on the broad base of indicator data reported in the Sustainable Boston reports and on interviews with “300 Boston area opinion leaders and observers, ranging from government to universities, business to advocacy groups”; it weaves a story about a possible future – a civic agenda – for Boston.

Jacksonville, Florida

The Jacksonville indicator project is the longest-standing one in North America. Through the Jacksonville Community Council Inc. (JCCI), it has been producing indicator reports annually since 1985. Its origins date back to a 1974 community futures conference funded with the assistance of the Chamber of Commerce. JCCI was created out of the conference with the goal of “improving quality of life in Jacksonville through informed citizen participation in public affairs” (JCCI 2004). JCCI is a non-profit, broad-based citizens’ organization that “involves citizens in community issues through open dialogue, impartial research, consensus building and leadership development” (JCCI 2004). Interestingly, the indicator project was influenced early on by the work of well-known sustainable development advocate and writer Hazel Henderson (calvert-henderson.com).

The original indicators were developed and revised through a broad-based multi-stakeholder consensus process, with teams working in each of nine sectors. Through a public consultation process, indicators have been revised several times since 1985, and the JCCI hosts a citizen review of indicators each year. In addition, Volunteer Work Teams established a set of targets in 1991 and revised them in 2001. The 2003 report contains eighty-three indicators in nine sectors: Achieving Educational Excellence, Growing a Vibrant Economy, Preserving the Natural Environment, Promoting Social Well-Being and Harmony, Enjoying Arts, Culture and Recreation, Sustaining a Healthy Community, Maintaining Responsive Government, Moving Around Efficiently, and Keeping the Community Safe.

Since 2000, the initial reliance on county-based indicators has been relaxed to report indicators at a more local or greater regional level when appropriate. Some qualitative

indicators are researched using data from polling, which is made possible by the donation of resources from a local polling firm. In 1988 JCCI supplemented the full report with a summary of each of the indicators; since 2000, an even briefer brochure-style report card has been widely disseminated. In 2002 JCCI decided to create a specific marketing plan to increase the visibility of the reports.

JCCI's commitment to citizen involvement has paid off in community acceptance and use of the indicators. However, the impact is limited in that the indicators are not directly integrated in City or County policy or planning processes (Swain 2003). Through JCCI, Jacksonville's citizens are exploring ways to create a more structured bridge from indicators to action. For example, each year the project selects two issues for in-depth community study: "Study committees meet weekly for about six months reaching consensus on key findings and recommended solutions. Following publication of an issue report, an implementation task force of citizens takes the report to the community and seeks to place issues on the community agenda" (JCCI 2003). In 2003 one of the focus issues was "Neighbourhoods at the Tipping Point" (JCCI 2003a). The study committee recommended the creation of a system for neighbourhood classification as healthy, at-risk, declining, improving, or intensive care, as well as the development of a toolkit for neighbourhood improvement (JCCI 2003a).

Phoenix

In 1996 the Morrison Institute for Public Policy at Arizona State University began asking citizens of Phoenix, "What does quality of life mean to you?" The Phoenix project is supported by corporate private sector funding and managed by one individual (the project manager and lead researcher), who is located at the Morrison Institute and works with a support team.

The Phoenix indicator reports use a simple, yet unique presentation of public perception (survey) data and regional statistics (indicator) data. The reports present public opinion surveys on individual indicators, alongside actual data on the topic (e.g., crime statistics alongside perceptions of crime). The 1999 report also compares survey data gathered in the

1960s with today's responses and provides an extensive indicator comparison of Phoenix with nine other western US cities. Each report provides a focus on a particular issue of great public concern. For example, in 1999 the focus was on sprawl and growth, a focus triggered by opinion surveys that showed that 45 percent of residents would leave Phoenix if there was a job opportunity in another city and that the most common reason for leaving was too much growth (Morrison Institute 1999).

For the initial report, draft indicators for each category were generated by ten focus groups of regional leaders; citizen focus groups and public meetings were used to assess the draft indicators. The final set of indicators was then chosen using three selection criteria. Over three years, more than three thousand people have been involved through focus groups, public meetings, individual interviews, region-wide telephone surveys, and correspondence.

The reports, prepared in 1997, 1998, and 1999, present fifty-nine indicators in nine sectors: Public Safety and Crime, Education, Families and Youth, Economy, Health and Health Care, Environment, Community, Transportation and Mobility, and Arts, Culture and Recreation.

Pittsburgh

A 1998 President's Council on Sustainable Development (PCSD) meeting in Pittsburgh was the catalyst for the formation of a civic initiative that became Sustainable Pittsburgh (Sustainable Pittsburgh 2004). The PCSD challenged all U.S. communities to examine their plans for creating sustainable communities. The motivation for citizens of Pittsburgh to rally around the PCSD was driven by a combination of the desire for economic renewal in a traditionally industrially oriented city and region, and concerns over significant social and economic inequalities. In 1998 ten teams of approximately twenty-five people, each including a three-person coordination group, met four times over a two-month period. The teams identified goals, strategies, and indicators in each of the ten theme areas suggested by the PCSD: Sustainable Communities, Conservation of Nature, Civic Engagement, International Relations, Stewardship, Education, Women, Children and Regional

Demographics, Economic Prosperity, Equity, Health, and Environment. Out of the initial work of this civic body, Sustainable Pittsburgh was formed and given a structure and staff. It has a twelve-person advisory board and a five-person staff, and is funded in large part by Heinz Endowments. In 2000 it became a project of the Tides Centre, an affiliate of the Tides Foundation. Eventually, Alan Atkisson worked with Sustainable Pittsburgh to develop their 2002 indicator report. It follows the Atkisson format with twenty-two indicators in four sectors: Nature, Economy, Wellbeing, and Society (Sustainable Pittsburgh 2002).

Sustainable Pittsburgh's goal was to use indicators as a tool to catalyze effective action. It sought to distinguish itself from other civic initiatives in the region by its inclusiveness and comprehensiveness in addressing issues from the perspective of economy, equity, and environment simultaneously. It consciously patterned itself after an earlier civic initiative, called the Pittsburgh Civic Club, which was instrumental in revitalizing Pittsburgh's city centre through arts investment. The founders sought to "develop Sustainable Pittsburgh as a civic forum and a partnership of organizations and individuals capable of working across jurisdictional boundaries for the betterment of the region" (Sustainable Pittsburgh 2002). Sustainable Pittsburgh, in fact, recognized social equity as an "overarching imperative" (Sustainable Pittsburgh 2004).

Sustainable Pittsburgh membership consists of a very diverse 140-member "Network of Affiliates." The affiliates are individuals, businesses, and organizations committed to working more closely together to advocate and advance sustainability. Sustainable Pittsburgh now focuses on five initiatives and promotes the many existing model projects and programs already in place in the region: "By doing so it gives more profile, attention, and hopefully thereby, resources, to the initiatives" (Sustainable Pittsburgh 2004). The "Champions of Sustainability" speaker series has brought to the city nationally recognized speakers such as Richard Florida, Bill McDonough, and David Orr.

Sustainability Topic Teams are forums through which affiliates of Sustainable Pittsburgh can work together to further their agendas and/or create new projects to advance sustainable

development. Through the Sustainability Policy Program, affiliates advocate sustainability policies in a policy area of their choice. Current policy programs include Amenities, Diversity and Civic Engagement, and Smart Growth. Through a series of public forums, Sustainable Pittsburgh has promoted the Citizens' Vision for Smart Growth, now endorsed by over forty businesses, NGOs, and foundations in the region. Interestingly, the call for action on Smart Growth contains no explicit recognition of the social equity implications of Smart Growth.

Portland

The City of Portland is recognized as one of the most progressive cities in the United States in terms of its proactive sustainability planning. In 1994 the City adopted a set of ten sustainable city principles (Sustainable Portland Commission 1994). As in Seattle, Portland's sustainability initiatives are firmly grounded in its Comprehensive Plan (City of Portland 2004); however, Portland's Comprehensive Plan contains goals but no indicators.

Although there is currently no independent indicator project in Portland, the city and region have been actively involved in sustainability issues. Portland's sustainability work is coordinated through the Office of Sustainable Development (OSD). A Sustainability Benchmarks report was completed in 2000 by the Sustainable Development Commission (an appointed citizens' volunteer commission housed in the OSD). The twelve indicators compare Portland with nine other U.S. cities (Sustainable Portland Commission 2004). There does not appear to have been any formal public participation in the development of the indicators, nor has the initiative continued beyond the first report. One of the more interesting new initiatives of the Sustainable Development Commission is the "Creating a Renewable Energy Economy by 2040" initiative.

A more innovative approach to indicators is housed in Portland Multnomah Auditor General's office (portlandonline.com/auditor). The Portland Multnomah County benchmarks are built upon the State of Oregon's strategic planning effort of the late 1980s. "As Oregon came out of a long recession, its leaders raised questions about how to guide and reshape the Oregon economy, realizing that more than jobs were at stake. The resulting

plan, Oregon Shines, envisions that by the year 2010, Oregon will be one of the places that has maintained its natural environment, built communities on a human scale, and developed an economy that provides well-paying jobs to its citizens. In 1990, State leaders took Oregon Shines a step farther. The Oregon Progress Board was created and charged with monitoring the State's progress with the plan. They came up with the Oregon Benchmarks – statements that tell us what we have or have not achieved. Benchmarks place a priority on measuring results, such as adult literacy, rather than efforts” (Portland Multnomah Progress Board 2004).

In the spirit of Oregon Shines, the City of Portland and Multnomah County each launched similar planning efforts – the Multnomah County Visions in 1989 and the Portland Future Focus in 1991. Each initiative recognized that to achieve these visions and goals, government, businesses, community organizations, and citizens can all play a meaningful, important part. In 1993 the Benchmarks system, developed by an appointed citizens’ body, was introduced to Portland and Multnomah County, and the Portland Multnomah Progress Board, comprising community leaders committed to the benchmarks, was established. The Portland Multnomah Progress Board tracks over one hundred county level indicators (Portland Multnomah Progress Board 2004). The Progress Board has issued biennial reports that track the status of the benchmarks, identify other agencies working to improve them, and target critical areas of change in the community. In addition, staff have worked with public and private agencies to improve the collection and quality of data for tracking critical community indicators. For example, the U.S. Census Bureau chose Multnomah County to be one of the six sites in the country to test a new data collection method called “American Community Surveys.”

The City of Portland’s reputation for sustainability initiatives is paralleled by its tradition of activism in support of sustainable development. The story of 1000 Friends of Oregon is emblematic of this activism. 1000 Friends of Oregon is a non-profit charitable organization, co-founded in 1975 by Governor Tom McCall as the “citizens’ voice to protect Oregon’s quality of life through the conservation of farm and forest lands, protection of natural and historic resources and promotion of more compact and livable cities” (1000 Friends of

Oregon 2004). The 1000 Friends were pivotal in establishing the strict growth boundaries and progressive land-use policies the City of Portland is noted for. In the 1980s, 1000 Friends established a rather unique coalition with developers to create a growth boundary around Portland and at the same time relax development restrictions within the boundary.

San Francisco

Sustainability initiatives in San Francisco came about as a result of activist lobbying in the early 1990s (Magilavy 1998). A precursor to the initiative was the creation, in 1987, of *A Green City Program for the San Francisco Bay Area and Beyond* (Planet Drum Foundation 1987). In 1992, as a result of the lobbying, the San Francisco Board of Supervisors established a Citizens' Commission on San Francisco's Environment. Knowing they could not produce a plan that would actually be implemented without working with a broad cross-section of the community, several commissioners and others in the community formed the non-profit organization called Sustainable San Francisco (Sustainable City 2004).

Sustainable San Francisco was a collaboration of city agencies, including the City Planning Department, the Bureau of Energy Conservation, the Recreation and Parks Department, and the Solid Waste Management Program; businesses; environmental organizations; elected officials; and concerned individuals. It was charged with the task of developing a plan for the city's future. The process closely followed ICLEI's Local Agenda 21 process (Magilavy 1998).

“In 1996, over three hundred and fifty San Franciscans – community activists and people representing many city government agencies, over 100 businesses, and academia gathered in working groups to draft the ‘rough game-plan’ required for a concerted effort to achieve a sustainable society” (Sustainable City 2004). Portney considers the Plan one of the most comprehensive and potentially transformational of any municipal effort (Portney 2003). In that same year, the City of San Francisco Environment Department was created, and the former head of the Citizens' Commission was appointed to lead it. In 1997 the goals and objectives of the sustainability plan became policy for the City and County of San Francisco. The San Francisco indicator set contains fifty-three indicators in fifteen sectors.

Unfortunately, in spite of, or perhaps because of, the potential of the sustainability plan, little action was taken by the City government. The plan seems to have suffered from a lack of political and business support and a particularly hostile media (Magilavy 1998). The head of the Environment Department eventually resigned in frustration. Today, San Francisco's Sustainable City group focuses its efforts on lobbying and advocacy (Sustainable City 2004).

Seattle

The Sustainable Seattle indicator project is one of the most interesting for many reasons. It is perhaps the most well-known indicator project (Portney, 2003); it has been a catalyst for many, many other cities to produce indicator reports; and it was the inspiration and model for Sustainable Calgary. Sustainable Seattle has not produced an indicator report since 1998, but the 2005 indicator report is in progress (Sustainable Seattle 2004).

The Seattle process was one of the most grassroots participatory efforts at indicator development. The project grew out of a 1990 workshop sponsored by the Washington, D.C.-based Global Tomorrow Coalition. The Coalition was holding workshops across the United States in preparation for the Rio Earth Summit. From a menu of several potential sustainability initiatives generated at the Global Tomorrow Workshop, the Sustainable Seattle Network of thirty volunteers chose the indicator project and began work in 1991. After developing an initial list of twenty-nine indicators over a six-month period, the Network decided to expand participation to a broad-based civic panel of invited community leaders. At the same time, a smaller group, dubbed the Sustainable Seattle Board of Trustees, met to craft a process, principles, definitions, and so on (Atkisson 1999, 1999a).

Three hundred of Seattle's "most active citizens" were invited to participate in a six-month process. One hundred and fifty agreed to participate and another twenty interested citizens joined the group. The process involved a Civic Panel Orientation, First Review and Feedback by Mail, Topic Groups Developing Key Indicators, and Moving Towards Consensus on Key Issues. A draft set of ninety-nine indicators was established through a process that included a "green dot" selection process. For the next three months, a smaller

Indicator Task Team refined the indicators to a final set of forty; this set was mailed to the civic panel for commentary one last time (Atkisson 1999a). In 1993 the first Sustainable Seattle indicator report published its forty indicators for Seattle/King County, grouped into five sectors: Environment, Population and Resources, Economy, Youth and Education, and Health and Community. Subsequently, two more reports were published in 1995 and 1998 (Sustainable Seattle 1998).

Sustainable Seattle seems to have gone through a dormant phase after its 1998 report and has just recently begun picking up steam again. With significant funding from a private foundation, Sustainable Seattle has embarked upon a very different neighbourhood indicator project. The project is in the early stages, having begun with workshops in three Seattle neighbourhoods. Sustainable Seattle also hosts the Sustainability Leaders Awards annually and runs a Sustainability Education Program (Sustainable Seattle 2004).

Seattle is recognized by Portney (2003) as one of the cities that is “taking sustainability seriously”. Like Portland, Seattle also has an Office of Sustainable Development and one of the most ambitious Comprehensive Plans – *Toward a Sustainable Seattle* – of any city in the United States (City of Seattle 2004). The City has developed and begun to monitor a set of sustainability indicators as part of its Comprehensive Plan. The monitoring program tracks twenty-five indicators in four sectors: Community, Economic Opportunity and Security, Social Equity, and Environmental Stewardship. Interestingly, the city indicator monitoring report is a little more positive than the final Sustainable Seattle report. The City’s 2003 report shows a negative trend in 16 percent of its indicators and a positive trend in 40 percent (City of Seattle 2004a). The 1998 Sustainable Seattle report showed a negative trend in 20 percent of its indicators and a positive trend in only 28 percent.

Jeb Brugmann, former director of the International Council for Local Environmental Initiative’s Local Agenda 21 project, has written very negatively about the impact of Sustainable Seattle due to its lack of connection to local government (Brugmann 1999). On the other hand, Meg Holden (2005) of Simon Fraser University has studied Sustainable Seattle and is more optimistic about the social learning that the initiative has generated in

Seattle. In fact, several of Sustainable Seattle's original team are in significant positions of influence in Seattle's local government, including one councillor and the head of the Office of Sustainable Development – an individual who now sits as co-chair of the Governors Sustainable Washington Advisory Panel. This Advisory Panel also intends to produce a set of sustainability indicators for Washington State (GSWAP 2004).