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Integral metamap creates common language for urban change

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Abstract

Purpose – An integral metamap creates a common language to dynamically track values-based urban change at multiple levels of scale: individual, organization, neighbourhood, city, bio-region and nation.

Design/methodology/approach – In a pilot project, using an ethnographic codebook, analysis of data collected from urban residents via telephone interviews, discloses diverse lenses, indicators and values at different levels of complexity. A four quadrant metamap of the data reveals the relationship between four sets of values: (subjective, intersubjective, objective and interobjective) at eight levels of complexity.

Findings – A review of taxonomies of indicators shows how multiple existing data bases can be translated into a common integral map. The pilot project demonstrates how the four quadrant-based analysis and feedback methodology creates vital signs monitors for what we value, want to change (stop or improve), and how we can develop processes to influence change.

Research limitations/implications – The scope of application is global, and embedded in a paradigm shift to an integral worldview, implying users share that worldview. However, the methodology can be applied anywhere, on all scales.

Practical implications – Conclusions show how metamapping research data, planning and management, contributes to improving choices, monitoring and influencing change and the quality of urban life.

Originality/value – This paper proposes a new integral common language to frame and track urban change.

Keywords Change management, Communities, Urban areas

Paper type Research paper

Introduction

This paper proposes a common language to integrate a network of vital signs indicators for tracking change at the scale of community and city life.

In a nation-wide research project examining, Quality of Life in Canada, Maxwell (2002, p. 18) characterized the possibilities of a common language to provide feedback through change indicators. She visualized:

> ... enhancing the collaboration among the various initiatives purporting to monitor elements of quality of life such as standard of living, sustainable development, population health, community health, personal well being, economic status ... [The] integration of existing quality of life indicator models ...[in] a single model ... would lead not only to the creation, but also, more importantly, to the use of a common language, framework and set of indicators by all those interested in quality of life in Canada – including citizens, all levels of government, non-governmental organizations, researchers, academics and the media.

Community change profiling is a global, national and urban interest
A global interest in profiling community indicators for the purpose of improving quality of urban life (aka change), has existed since the Gro Brundtland, Report of the World Commission on Environment and Development, "Our common future" was published in 1977 (Brundtland was appointed Director General of the World Health Organization (WHO) in 1998).

WHO's European web site 2004, has recently distilled its 1980s vision of a healthy city to these words:

> A healthy city is one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life and in developing to their maximum potential (WHO, 2004).

The web site prefaces this definition with this context for change:

> A healthy city is defined by a process not an outcome . . . A healthy city is conscious of health and striving to improve it. Thus, any city can be a "healthy" city, regardless of its current health status. What is required is a commitment to health and a process and structure to achieve it (WHO, 2004).

On a national level of scale, *Time Magazine* (1995) profiled the "State of the [Canadian] nation" with a 14 page spread on indicators sourced from Statistics Canada, private polling, and research organizations. Their key classifications were identified as: people, economy, wealth, health, crime, education, and culture.

At the forefront of proactive application of healthy community principles, Jacksonville, Florida, in conjunction with ecological economist, Hazel Henderson, and local citizens in 1991, designed "Targets, 2000" indicators for a community progress report card. The indicators included: education, economy, public safety, natural environment, health, social environment, government politics, culture/recreation and mobility (Jacksonville, 1993).

In ongoing Quality of Life Workshops and Work Groups, Canadian Indicator experts have been meeting (QOL, 2002, 2003) to develop Quality of Life Indicators (2002, p. 6) that are:

- values-based – emancipatory and empowering;
- community and structural approach[es] towards health;
- grounded in lived experiences of people; and
- strong action orientat[ed].

The workgroups (2002, p. 7) identified the paradoxes in the key elements of researching population health, contrasting positive elements with not-so-positives (Table I).

The 2003 workgroup agreed on the relevance of a QOL framework for policy development and program application; the value of reporting to parliament using such a framework; and the importance of accessing data at the national, provincial and local levels (QOL, 2003, p. 2).

From the foregoing examples of community profiling at the global, national, regional and local levels (which represent hundreds of other similar efforts, as noted in the *Saskatoon and Halifax Workshop Proceedings*) it is apparent that in the last 20 years, mapping the state of community change has become a universal interest.

However, much current discussion seems to be mired in "indicators wars" where turf battles force one set of indicators to compete for acceptance over another. Finding a common language to talk about the factors that contribute to the state of community change seems still to be an elusive goal.

Values, the basis for a common language about change?

With a background in both ethnographic research and quantitative organizational change measures, the researcher proposes that a starting point for finding a common language (and a common denominator) to describe community change, resides in a study of values.

Hamilton (2003b, c) proposes that values evolve from the co-creation of capacity and life conditions in an evolutionary process. Thus, values are both emergent properties and indicators themselves and can be observed and measured with appropriate indicators.

The multiple definitions of the word "value" (Random House, 1967; Oxford University Press, 2002) indicate that it has personal, cultural, biological and social meanings. Value also seems to arise both from inside the person and outside the person. Building on Graves (1971, 1974, 1981) work on values, Beck and Cowan (1996) extrapolated the clusters of values across chronological time at comparable levels of complexity, thus identifying value (or v-meme) clusters that emerge in:

- individual and family lifetimes;
- organizational life cycles (Adizes, 1999);
- community legends and stories; and
- social histories.

Their Spiral Dynamics™ model, is firmly founded on Graves' conclusions, that increasingly complex adaptive intelligences emerge in response to progressively more complex life conditions. Change occurs simultaneously in geo-bio-cultural-social life conditions/domains as do increasingly complex sets of values (and their related assets). Table II sets out these value waves (aka clusters, levels, streams (Wilber, 2000a)) with the color codes used by Spiral Dynamics™ to identify them in waves alternating between:

- individual (express self) values; and
- collective (sacrifice self) values.

The parallel work of Wilber (1995,1996, 2000a, b, 2002), Wade (1996), Csikszentmihalyi (1993), Barrett (1998), Combs (2002), Kegan (1994) and Torbert (2003) and others, based

Positives	Not so positives
Upstream focus	Community focus?
Research-oriented	Change-orientation?
Expert-driven	Lay voices?
Multi-disciplinary	Quantitative dominance?
Scientific	Uncritical societal view?
Objective	Values vacuum?

Table I.

1. Spiral dynamics v-meme code	2. Integral model level	3. Key value Focus	4. Characteristics of complex adaptive intelligences	5. Expressions of community values and assets	6. Examples Positive + Negative −
Beige	1	Survival Self	Depends on instincts & habits to survive Life basics have priority	Survival bands perpetuate life Lives off land, street	+ food bank − homeless
Purple	2	Safety Group	Creates safe clans & nests Respects powerful elders Separates Us vs Them Ritualizes the mystical, signs	Respects folk ways Honors family, kin, ethnicity Traditions are important Guards sacred places	+ immigrants retain homeland ways − use of turbans instead of helmets threaten safety standards
Red	3	Power Self	Defends self against World full of threats & predators Enjoys self to the fullest in the moment	Breaks free from domination and constraints Conquers, outfoxes, dominates other aggressors	+ artistic expression − bullies, gangs
Blue	4	Truth Group	Recognizes one right way Gains purpose in causes Suffers guilt in consequences Sacrifices in honor	Conserves peace and quiet Acts cautiously and carefully Enforces order, tidiness and neatness Honor social position	+ traffic laws − over-regulation − over taxation
Orange	5	Success Self	Invent best solutions Exploit resources to create good life Measure performance Act optimistic, take risks, be self-reliant	Social and economic structures prosper through strategy, technology, competition, planning, engineering	+ 20 year city plan + profits for redistribution of wealth − rich vs poor divide − ecology threatened

(*continued*)

Table II.
Emergent v-memes and community values

Table II.

1. Spiral dynamics v-meme code	2. Integral model level	3. Key value Focus	4. Characteristics of complex adaptive intelligences	5. Expressions of community values and assets	6. Examples Positive + Negative −
Green	6	Communitarian Group	Seeks inner peace Everybody is equal Everything is relative Honors harmony in the group	Creates social safety nets Demands political correctness Accepts diversity Invests in culture	+ universal health care − spend $ before wealth produced − risk bankruptcy from social over spending
Yellow	7	Systems Self	Sees all life as natural systems Remains flexible, spontaneous, functional Considers, chaos & change are natural	Differences can be integrated into interdependent, natural flows	+ integrates all value lenses − undervalues group capacities
Turquoise	8	Holistic Group	Scans the macro Synergizes all life Works for safe orderly world Restores harmony	Interconnected Highly diversified Not isolationist Information rich	+ thinks local, acts global − TBD

on a reading of the psychological literature, developed meta-models of similar wave patterns of values development. Moreover, all of these models propose that the waves are holonic; i.e. they include and subsume earlier value sets and capacities, carrying them forward enmeshed in the new wave.

Evolution of values
Hamilton (2003b) argues that values and commensurate indicators have emerged in every domain of experience and study where humans have evolved. For the purposes of this paper, the majority of the examples are taken from the subjective and intersubjective domains as a counterweight to the plethora of data that exists in the objective and interobjective domains.

Cascadia Scorecard (Northwest Environment Watch, 2004, p. 13) is an excellent example of a set of these types of objective and interobective indicators designed to watch "the healthiest lives, the strongest communities [and] the most vibrant ecosystems." The seven indicators measuring multiple levels of scale (city, state/province, eco-region) are: health, economy, population, energy, sprawl, forests and pollution. A biannually published scorecard it enunciates seven criteria for its indicators (p. 11):

(1) . . . reflect progress toward . . . shared aspirations of healthy, prosperous people and thriving, unpolluted ecosystems;

(2) complement one another to provide good range of coverage . . .

(3) . . . scientifically valid proxies for larger trends . . .

(4) . . . easy to understand

(5) . . . measured in most of [eco-region]

(6) . . . relevant in most of the region

(7) . . . meaningful readings . . . every two years.

Despite this thoroughness the authors admit the Cascadia Scorecard can improve by expanding to include subjective/intersubjective indicators such as a "survey of northwesterner's feelings about their quality of life . . . " (p. 11) or a "way to track northwesterner's education" (p. 12). Thus, they recognize the limitations of not comparing the objective with the subjective data, as proposed in this paper.

The evolution of values at the community level, represents an aggregation of values at a level of complexity that is expanding, not only because of the rate of growth of the "cosmopolis" (Sandercock, 1998), but because of the juxtaposition of different values profiles. This plurality of values arises both from residents experiencing different life conditions in different areas of the city and from immigrants arriving in the cosmopolis from different global life conditions.

Sandercock (1998, p. 14) catalogues the growing differences of values in globalizing European cities. She bemoans at the city scale, the "overall failure of the planning system to respond to the increasing diversity of the city." She also proposes the need to change the planning process because of the entrenchment of:

. . . the values and norms of the dominant culture . . . reflected in plans, planning codes and bylaws, legislation, and heritage and urban design practices, [and the] planners inability to

analyze issues from a multicultural perspective or to design participatory processes that bring racial and ethnic groups into the planning process (Ameyaw, 2000, pp. 105, 14).

Hamilton (1999) examines the natural emergence of capacities from a self-organizing online community system. Distinct identities, relationships and communication processes emerge from the interaction of the first, second and third person agents in the system. Voices from the I, we, it and its agents define the values of a living community system as it changes; i.e. survives, connects with its environment and regenerates.

Waddock (1999) points out that:

> ... an integrated approach [to community] ... Bringing mind, heart, soul and body into union, individually and collectively, validating subjective as well as objective can help our enterprises, public and private, acknowledge the importance of community as a basis on which success, even survival, is built.

Cooke (2001), Cooke *et al.* (2002) and Tonkin (2003) are tracking the values profiles of individuals and leaders in schools, communities and countries, while identifying states of change that show stability, flashpoints, hotspots and indications of new value sets emerging, on a global basis (Beck *et al.*, 1996).

Complex adaptive change

Graves' (1971, 1981) and Combs' (2002) research affirms the complex, adaptive quality of values – that people change because their wants/values arise in tandem with the life conditions, about which people observe, think and feel (Bushe, 2001; Short, 1998; Kelly and Allison, 1998). These life conditions span personal/intentional development systems; biological/ecological habitat; cultural worldview systems; and social/civil/workplace systems.

Beck *et al.* (1996) derived from Graves' research, an evolutionary change model that describes five states of contextual change (and commensurate multiple variations of change interventions), applicable at the individual, organizational and community levels. The five states are characterized as:

(1) *Alpha.* Current steady change state is determined by stable life conditions.

(2) *Beta.* Minor to moderate change state fluctuations occur, determined by moderate change in the life conditions. At Beta, the intention of the individual/organization/community is to make minor adaptations to return to Alpha state.

(3) *Gamma.* Major change blocks to energy flow are determined by major change(s) in the life conditions. There is no way back to the Alpha of Beta state. Clearing the blockage requires new thinking, new strategies, new solutions, not previously available at Alpha or Beta.

(4) *Delta.* The change state that emerges after the Gamma block is broken. It is characterized by a surge of energy and new vision because of the emergence of new intelligences in the individual/group/organization.

(5) *New Alpha.* The new change state that emerges after the Delta surge, characterized by the new intelligences.

Thus, Beck and Graves' (1974) change model implies and depends on: capacity to change; dissonance in the context; insight/breakthrough; learning; overcoming barriers; and (re)integration.

The relationships that arise from the early and dynamic social environment of the family seem to reflect similar learning/change patterns, as explored by a number of family systems theorists including: Friedman (1985), Bowen (Centre for the Study of Natural Systems, 2002) and Hellinger (as cited by Beck (2002)). For the purposes of their relevance to change in the complex adaptive human system, the key points they make are that:

- learning is both a social and individual experience;
- family is generally the first environment/context where learning occurs;
- family is where values are first experienced, learned and reinforced; and
- family is an ecosystem of self-other reinforcing values.

These powerful, natural, human systems examples demonstrate the basic qualities of self-organizing change observed at many other scales of organization, community and society by Wheatley (1999), Wheatley and Kellner-Rogers (1996) and Eoyang (1997).

Hamilton (2002, 2003c, 2004) notes that many of these human systems dynamics meta-models share the characteristics of:

- alternating between individual and group focus;
- increasingly complex structures and patterns of relationship emerge over time;
- being transcendent and inclusive of the value patterns that have emerged in earlier waves; i.e. they are holonic;
- influencing life conditions in which they exist and as well as being sensitive to changes in life conditions; and
- being evident in four primary lenses (subjective, objective, intersubjective, interobjective).

Hamilton (2004) (supported by Miller (1978), Jacobs (2000) and Stevenson and Hamilton (2001)) argues that a city is a complex, adaptive, living system that has these qualities:

- has structures, processes and patterns that ensure short-term survival, connection with its environment and long-term continuity;
- has 19 sub-systems common to all living systems that control matter, energy and information;
- is a meso-scale system (on a planetary basis): located between the micro scale of individual/group and the macro scale of country/globe;
- exists as a set of internal and external contexts and/or environments that are nested: holons exist within it (e.g. neighbourhoods) and it, in turn, is a holon nested in other wholes (e.g. region);
- is *quasi-fractal*: reflecting patterns at the micro level and seeding patterns at the macro level;
- responds dynamically: is ever-changing as it responds to life conditions;

- develops unpredictably: the self-organizing nature of the micro systems (individuals and groups) embedded in it, and the feedback loops amongst them, set-up periodic discontinuities and unpredictable shifts;
- is interconnected: at the micro, meso-peer and macro levels;
- uses simple rules: cities support conformity, generate diversity, judge life conditions and shift (concentrate and/or diffuse) resources (e.g. energy and waste);
- is potentially affected by weak signals: butterfly effects (or weak signals) can affect the stable functioning of the city (e.g. SARS, blackouts, forest fires); and
- is field sensitive: the city is an energetic collision of multiple sources of energy from: cosmos, geology, biology, subjective, intersubjective, objective and interobjective fields.

The final observation regarding values and their commensurate indicators is that every system of science has evolved their own set of indicators. Precluding us from detailing the incisive interdiscplinary discourses of Bloom (neuro-biology), Bronowski (history), Campbell (culture), Dennett (philosophy), Diamond (socio-biology), Hargens (ecology), Margulis (microbiology), Winchester (geology), de Chardin (paleontology) and many others, who disclose similar panoramas of evolutionary emergence, Wilber (2004) notes:

> ... all of the numerous practices or paradigms of human inquiry – including physics, chemistry, hermeneutics, collaborative inquiry, meditation, neuroscience, vision quest, phenomenology, structuralism, subtle energy research, systems theory, shamanic voyaging, chaos theory, developmental psychology – all of those modes of inquiry have an important piece of the overall puzzle

It seems that as far as the change equation goes, comparable scales and domains of evolution show comparable patterns of emergence. When seeking (to influence) change in any human systems, we must always be aware of our context for change and ask "change from what to what?" (Beck, 2003). Then it may be possible to use subtle natural system principles to design change.

Integral change metamap
From the foregoing discussion of values, it becomes obvious that an integrated map of evolutionary values that encompasses subjective/objective and intersubjective/interobjective values would be a useful and powerful tool for researching, planning, tracking and managing change in an organization, community, city or society. The writer proposes a metamap based on Wilber's (1995, 1996) all quadrants, all levels (AQAL) model of reality (Figure 1) meets these requirements. Wilber (2003a, b, Part 1, p. 13) has identified the values related to each quadrant as the values relating to I, we, it and its, which as he notes are reflected by the pronouns that universally arise in all languages to describe the lens of every voice in a social/cultural collective.

The four quadrant map also includes an all levels dimension of development, that spirals outward in each quadrant from the centre of the map. Those are the dimensions that effectively map change in each quadrant. Tracking indicators on the developmental dimension allows us to see change "from what to what?" (Beck,
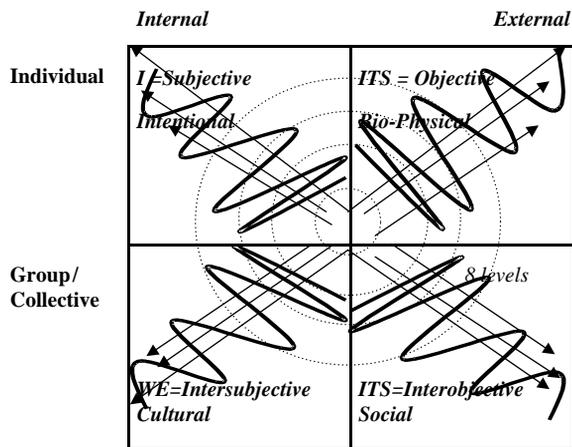
Figure 1.
The integral model
of values

2003). The outward flowing spirals represent the eight stages (levels or waves) of developmental change that emerged in Graves' and Beck's research and that Wilber, Wade and others have traced through research of the literature. Therefore, in effect, the integral model encompasses the spiral dynamics change model.

Table II summarizes spiral dynamics color codes (Col. 1, Beck and Cowan (1996)), and key values and self/group focus (Col. 3) with the integration of the integral model's developmental dimension (Col. 2, Wilber (2000a)). In Col. 4, it describes characteristics of the complex adaptive intelligences at each level (Stevenson and Hamilton, 2001) and how these are expressed as community values and assets (Col. 5). An example of positive and negative expressions of each value from life in the modern city is noted in Col. 6.

Both the integral and spiral model appear to be useful frameworks through which to view changing values using both the lenses of complexity and relevant scales. They seem to provide a framework for examining the micro, meso and macro levels of life conditions, values and assets that emerge large-scale change. Beck (2000) states:

> The focus ... should be on the process dynamic itself, not on any specific system, level, stage or whorl that has been activated in forming the complex, adaptive intelligences. Each of the emerging value system waves not only addresses the unique problems in the milieu that gave it birth, but also adds texture and quality to the more complex v-meme codes in the future.

Integral methodological pluralism
Hargens (2004) notes Wilber's (2000a, b) definition of "integral":

> *Integral:* the word means to integrate, to bring together, to join, to link, to embrace. Not in the sense of uniformity, and not in the sense of ironing out all of the wonderful differences, colors, zigs and zags of a rainbowhued humanity, but in the sense of unity-in-diversity, shared commonalities along with our wonderful differences. And not just in humanity, but in the Kosmos at large: finding a more comprehensive view – a Theory of Everything (TOE) – that makes legitimate room for art, morals, science, and religion, and doesn't merely attempt to reduce them all to one's favorite slice of the Kosmic pie (p. 2).

For research purposes, the integral perspective includes both western and eastern worldviews, and opens the door to multiple ways of knowing; i.e. integral epistemologies. Wilber (2000) substantiates the validity of the scientific method and puts firmly on the epistemological map the validity of the methodologies that relate to the left-hand quadrants (often used by eastern philosophies and first peoples). At the same time he clearly set out the three "essential aspects of scientific inquiry" (p. 155) that methodologies relating to all quadrants have to meet:

(1) *Instrumental injunction.* ... an actual practice, an exemplar, a paradigm, an experiment, an ordnance... of the form, "If you want to know this, do this."

(2) *Direct apprehension.* ... an immediate experience of the domain, brought forth by the injunction: that is, a direct experience or apprehension of data ... science anchors all of its concrete assertions in such data.

(3) *Communal confirmation (or rejection).* ... a checking of the results – the data, the evidence – with others who have adequately completed [the injunction and apprehension] (pp. 155-6).

Furthermore, each of the methodologies within the quadrants is informed by the paradigm/worldview, which gave rise to the way of knowing (and vice versa) (Wilber, 2003a, b). Table III illustrates some examples of the methodologies that might relate to researching aspects of urban life in the four quadrants.

Wilber (2003a) explains the value of an AQAL map as a form of self-checking framework.

AQAL ... is merely a *self-scanning software* ... [an integral operating system] IOS scans the system to see if first-, second-, and third-person dimensions of being-in-the-world are being acknowledged and consulted in any particular situation, and it sends up a red flag if a major human potential (suggested by an integral methodological pluralism) is not being included in the discussion ...

An IOS specifically *attempts to coordinate the very best of the major paradigms in order to produce a more balanced and comprehensive* approach to the Kosmos. IOS combines the strengths of the major types of human inquiry in order to produce an approach to any occasion that "touches all the bases," ... that honors all of the important aspects of holons in all of the their richness and fullness (researcher's underline).

Hargens (2004) quotes Wilber's commitment to a multi-methodological approach:

... [W]hen it comes to deciding which approaches, methodologies, epistemologies, or ways or knowing are "correct," the answer can only be, "All of them." ... Since, no mind can produce 100 percent error, this inescapably means that all of those approaches have at least some partial truths to offer an integral conference, and the only really interesting question is, what type of framework can we devise that finds a place for the important if partial truths of all of those methodologies ...

Maxwell (2002) also captures well a very practical reason why multiple methodologies are needed to study values. She makes a strong case that only citizens can create a values framework that is grounded in experience and relationship. She emphasizes the need to use qualitative research (from left hand quadrants) to do this through the use of Focus Groups, interviews, dialogue, etc. in order to capture the richness of citizen stories and perspectives. At the same time, she recognizes the expertise of professional

	Internal	External
Individual	I = subjective/intentional	IT = objective/bio-physical
	Mapping lifelines	Air pollution analysis
	Meditation	Water purity analysis
	Reflection	Soil analysis
	Journaling life history	Census demographics
	Awareness practices	Literacy levels
	Intelligence training	Performance management
	Emotional intelligence	Regression analysis
	Mulitple intelligence mapping	Biopsies
Group	Story telling	School grading
	Appreciative inquiry	Hospital accrediting
	Focus groups	Economic measurement
	Interviews	Employment analysis
	Dialogue	Asset usage analysis
	Professional reflective practice	Industry standardizing
	Action research	Empirical research
	Shamanic journeying	Statistical analysis
	Social service evaluation	Engineering standards
	WE = intersubjective/cultural	Hard asset valuations
		ITS = interobjective/social

Table III.
Examples of research
methodologies in integral
framework

indicator researchers to bring a quantitative capacity, and scientific discipline to the research (from right hand quadrants).

Wilber (2003a) goes on to elucidate one further benefit of an AQAL methodology:

... Holonic conferencing allows us ... to index most of the significant and time-honored modes of human inquiry, understanding where each of them are useful and effective ... IOS opens up even further potentials for any field to advance in depth and fullness, simply by recognizing those aspects of an AQAL space not yet tapped by the particular field.

Reviewing taxonomies of indicators as integral vital signs monitors
We have examined four major lenses for tracking change and evolutionary methodological maps for learning about individual, organization and community change. Next we review taxonomies of indicators that (primarily Canadian) communities have used to measure themselves and/or their capacities in some way.

Five values-based research studies
In the short span of time since the turn of the millennium, values in the Canadian culture have been researched and identified at several different levels of scale.

For the purposes of this review, four research studies located and conducted in Canada (at three levels of scale), and a fifth on a global level, have been examined for evidence of the relevance and identification of values. The value sets in each of the studies are summarized in Appendix 1 and integrated below.

In the five studies examined, indicators were identified for the purposes of measuring the following situations (note the study reference is followed by the mnemonic used in Tables II-VIII):

1. Spiral dynamics v-meme level	2. Integral model level	3. Example of spiral value	4. Indicator	5. Source	6. Data gathering methods used
Beige	1	Instincts and habits			
Purple	2	Rites of passage, Language	Language and cognitive development +	EDI	Expert observation
Red	3	Self-expression	Emotional maturity	EDI	Expert observation
			Communication skills and general knowledge +	EDI	Expert observation
			Happiness	LVEP	Action research
			Love	LVEP	Action research
Blue	4	Meaning, purpose	Education +	Maxwell (02)	Focus groups
			Literacy, numeracy indicators	CAMP	Survey
			Peace	LVEP	Action research
			Responsibility	LVEP	Action research
Orange	5	Personal success			
Green	6	Caring, compassion			
Yellow	7	Flexible, integrated			
Turquoise	8	Wholeness			

Table IV.
I – subjective indicators

1. Spiral dynamics v-meme level	2. Integral model level	3. Example of spiral value	4. Indicator	5. Source	6. Data gathering methods used
Beige	1	Life survival skills	Language, ethnicity, and the Canadian identity	Mendelsohn	Survey
			Health (1-6)	Maxwell (02)	Focus groups
			Population count of all children	CAMP	Census
Purple	2	Life protection	Responsive to individual need	Maxwell (03)	Action research
			Physical health and well-being +	EDI	Expert observation
			Vulnerable and EDI tested children by capacity	CAMP	Census, EDI
Red	3	Strength			
Blue	4	Regime, discipline			
Orange	5	Research and develop.			
Green	6	Group protection	What do Canada's regions owe one another?	Mendelsohn	Survey
			What do generations owe each other?	Mendelsohn	Survey
			Child development services	CAMP	Census
Yellow	7	Health system			
Turquoise	8	Person wholeness			

Table V.
IT – objective indicators

- quality of life (Canadian Policy Research Networks, Maxwell, 2002, 2001) (Maxwell 02, Mendelsohn);
- health system performance (Canadian Policy Research Networks, Maxwell, 2003) (Maxwell 03);
- community assets and/or capacities (Hertzman *et al.*, 2002) (CAMP, EDI);
- global human values (UNESCO/UNICEF, 2003) (LVEP).

Other studies have measured:

- community health (Jacksonville, 1993); and
- community livability (Hamilton, 1996).

This examination of indicators is merely a sample from a vast panoply of indicators that have emerged from a growing interest in the metrics of communities, that can show us how to observe, develop and/or restore the health of cities (Northwest Environment Watch, 2004).

Without overwhelming the reader, it is proposed, that the sample is sufficient to demonstrate the commonalities that emerge across different taxonomies as well as the differences in taxonomies that come from the use of different lenses. The five taxonomies related to the studies are identified in Appendix 2 (note that each indicator is followed by a reference to a set of summary charts, set out in Tables IV-VII).

Patterns to taxonomies?
It is evident in simply reviewing the taxonomies that a thick, rich set of indicators exist to describe community change (and capacity). With an ever growing list of indicators developed by multiple studies, at varying levels of scale and scope, the challenge is to discover if patterns exist amongst the indicators and what can we learn from the patterns that tell us about urban health and change?

Indeed Maxwell (2002) states well the practical, applied need to discover such patterns in order to "know if ... quality of life is getting better, worse or staying the same" (p. 18). She describes the challenge to create a prototype for a report card that will "give Canadians the means to hold their leaders accountable for policy and program decisions that may have an impact on quality of life in Canada" (p. 18).

She goes on to suggest that "This single model would by mandate link jurisdictions (community through city and province to a national perspective), geography (coast to coast to coast), and disciplines" (p. 18).

Integrating the taxonomies
In an effort to propose a schema that would meet the needs that Maxwell expresses so passionately, an integration of the taxonomies of indicators described above is laid out in four integral/spiral charts found in Tables IV-VII.

Each chart proposes the relationship of the indicator to the integral/spiral framework and identifies the methodology (from the studies above) used to obtain data. In such a manner, the charts effectively translate different languaging in the five research studies into a common language that identifies:

- values frameworks (Col. 1 spiral) Col. 2 integral, Col. 3 spiral);
- taxonomies of indicators (Col. 4);

1. Spiral dynamics v-meme level	2. Integral model level	3. Example of spiral value	4. Indicator	5. Source	6. Data gathering methods used
Beige	1	Survival			
Purple	2	Bonding, family/clan	The Canadian identity	Mendelsohn	Survey
			Community	Maxwell (02)	Focus groups
			Social competence	EDI	Expert observation
			Communication skills and general knowledge +	EDI	Expert observation
			Honesty	LVEP	Action research
			Love	LVEP	Action research
Red	3	Power			
Blue	4	Order, truth	Respect	LVEP	Action research
			The Canadian Identity in the Shadow of the United States	Mendelsohn	Survey
			Canadian Identity and the World	Mendelsohn	Survey
			Peace	LVEP	Action research
Orange	5	Productivity, effectiveness	Voluntary Activity	Mendelsohn	Survey
			Education resources	CAMP	Census
Green	6	Communitarian	The Canadian Social Contract and the Welfare State: What do Canadians Say They Owe Each Other?	Mendelsohn	Survey
			Social Programs/Conditions	Maxwell (02)	Focus groups
			Social Assistance/Challenges	CAMP	Census, Survey
Yellow	7	Flexibility, integration	Social Values	Mendelsohn	Survey
			The Social Contract and the Federal System	Mendelsohn	Survey
			Political Rights and General Values	Maxwell (02)	Focus groups
			Tolerance	LVEP	Action research
Turquoise	8	Wholeness	Unity	LVEP	Action research

Table VI.
WE – inter-subjective
indicators

1. Spiral dynamics v-meme level	2. Integral model level	3. Example of spiral value	4. Indicator	5. Source	6. Data gathering methods used
Beige	1	Survival			
Purple	2	Observe Customs			
Red	3	Command, control			
Blue	4	Order			
Orange	5	Strategy, competition	Cooperation	LVEP	Action research
			Freedom	LVEP	Action research
			Government	Maxwell (02)	Focus groups
			Trade liberalization, globalization, and productivity	Mendelsohn	Survey
			Economy and Employment	Maxwell (02)	Focus groups
			Payment based on ability to pay	Maxwell (03)	Action research
			Quality care	Maxwell (03)	Action research
			Efficient forms of delivery	Maxwell (03)	Action research
			Value for money	Maxwell (03)	Action research
			Household Economics	CAMP	Census
			Education resources	CAMP	Census, Survey
Green	6	Equality	Access based on need	Maxwell (03)	Action research
			Universal coverage	Maxwell (03)	Action research
Yellow	7	Integration	Environment	Maxwell (02)	Focus groups
			Prevention and wellness	Maxwell (03)	Action research
			Simplicity	LVEP	Action research
Turquoise	8	Global dynamic			

Table VII.
ITS – inter-objective indicators

- research source of data (Col. 5); and
- data gathering methods/epistemologies (Col. 6).

It should be noted that empty fields indicate no examples were available from the studies examined.

Summary: reviewing taxonomies as integral vital signs monitors
From the foregoing integration of the indicators from the five studies, it can be seen that the integral analysis deepens our understanding of change indicators by seeing potential connections across the studies. Each study provides descriptors that contribute to a richer more comprehensive, integrated values map than any one could do on its own. The integral and spiral frameworks, in turn provide the common language (and common denominators) to talk about values as they complexify (i.e. change) from different sources, different scales and different locations. This analysis also shows us gaps in the integral data map that could help us widen our focus and strengthen our data gathering methods and indicators. These are indicated by the fields and/or bullets with no data.

**A pilot project for developing a common language: city integral metamap**
In 2003, the researcher set out to apply the integral and spiral meta-frameworks, to a pilot project for the Abbotsford Community Foundation (ACF), located in Abbotsford, BC. This was based on approaches used in previous research in an online community and a troubled community in the Pacific Northwest (Hamilton, 1999; Ruder *et al.*, 2001).

The research findings were graphically summarized in a single integral metamap (Figure 2) in order to present the data to the ACF Board members at a retreat. The single map brings together key data gathered from the open-ended telephone interviews of a random sample of 202 residents. The data were analysed and themed and coded using an ethnographic codebook to analyze v-meme categories as represented in Table II (Hamilton, 2003a, b).

In order to frame the data in a non-academic manner for use by the ACF Board, a metaphor of a four-petalled flower was used to make key learning points about the data (Ruder *et al.*, 2001). This enabled the Board to understand and use the map for exploring the implications for the city of the future represented in the community map's values, capacities and assets.

The key points summarized on the map are:

(1) There are many different ways to foster community. The four petals (quadrants) of the flower show how survey responses cluster into four different but essential categories ... community is made up of all four clusters. In ... Abbotsford the LL petal, representing relationships, family and culture, is viewed as almost three times larger than any of the other three petals (53 vs 16 percent).

(2) Within the petals ... (quadrants) of community are those capacities that help make community work ... [and] flourish in an integrated manner ... grow and thrive. Arrows in ... each petal illustrate the push for the petal to bloom more fully ... indicat[ing] the natural direction and sequence that values and capacities emerge (Beck *et al.*, 1996; Wilber, 1996, 2001; Hamilton, 1999).
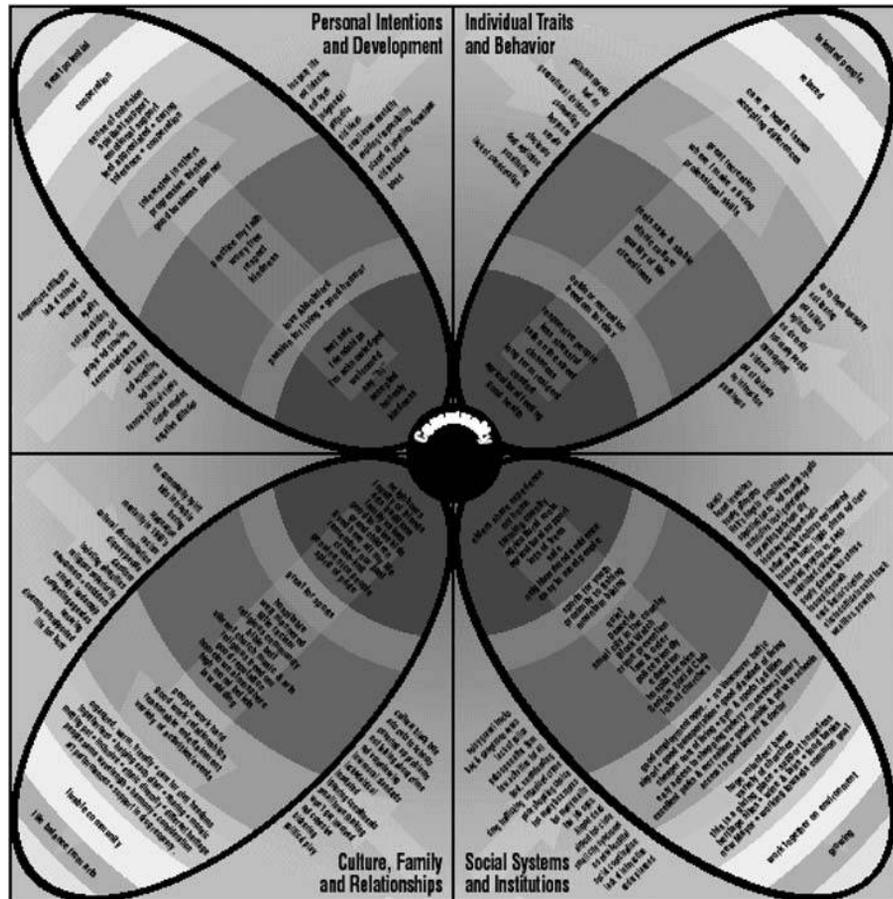
Figure 2.
Spiral flower values map
of Abbotsford

(3) In the gray background ... are those barriers that prevent the flower from blooming larger ... pushing against the petals [with] negative forces ... barriers, blockages and shadows ... (Sandercock, 2000; Fisher, 2003; Wilber, 2001).

(4) This flower is a ... rainbow of community values. Each ... color represents a set of values ... ensuring that ... community is as full and vibrant as possible ... each ... color ... creates ... positive contributions ... (Beck *et al.*, 1996; Ruder, 2001; Hamilton, 1999) ...

Qualitative and quantitative
The metamap combines the qualitative themed data (in the word descriptors) with the quantitative volume of responses (in the width of the value colors).

In this particular version of the map (used for a retreat) the values/capacities/assets were shown in a balanced set of quadrants; however, given the 53 percent weighting of responses in the LL quadrant, and the 76 percent of taxes allocated to the LR quadrant, it seems apparent that the quadrants in the map are rarely balanced (the detailed

results of this study are described in Hamilton (2003b). Nevertheless, for the purposes of ACF Retreat the data and the metaphor was thick, rich and generative.

Directions for change on the meta map
A series of meta maps were constructed from the data; e.g. asset maps reflecting age, gender, other demographics; barrier maps; and desired improvements maps. Such maps are multi-dimensional, allowing overlays and cross-referencing, opening up conversations about the qualitative issues underlying change and the quantitative allocation of resources to make change. Examples from Hamilton (2003b) follow to demonstrate the integral/spiral metrics available to track change. Fuller interpretation of the data can be found in Hamilton (2003b).

Figure 3 is a combination of three metamaps showing capacities, barriers and improvements expressed by residents. The capacities map (dashed line) indicates distinctly strong peaks at the purple (24 percent) and blue (34 percent) value sets, with a very deep valley in the red (2 percent) value set. The orange (19 percent) and green (18 percent) values were moderate with low yellow (3 percent) and no insignificant turquoise (<1 percent) responses. The high peaks and low valleys seem to exemplify Sandercock's (2000) community of differences.

The barriers map (solid line with rectangular nodes) is notable in its contrast to the responses discussed above, related to Abbotsford's assets. The values of the purple – family relationships (2 percent) and red – energetic expression of community (24 percent) memes are virtually inverted. Interestingly blue – order/management (25


Abbotsford Comparison Capacity/Stops/Improves
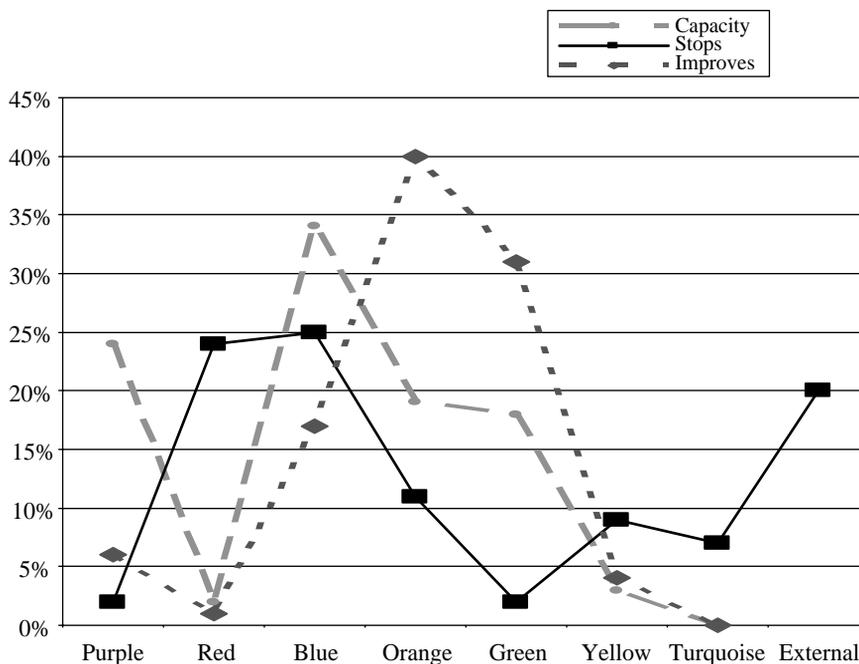
Figure 3.
Abbotsford's capacities
/barriers/improvements
(combined response)

percent) is also relatively high with moderately low values for orange – planning (11 percent), yellow – systems (9 percent) and turquoise – holistic (7 percent) and very low green – communitarian (2 percent).

The data behind the improvements map (dotted line with diamonds) indicates that residents appear to want more appropriate management (blue), better planning and the building of specific capacities like improved bus and traffic infrastructure (orange) and more opportunities to celebrate and learn about the differences in community (green). Given the opportunity to describe what they wanted, the residents were able and willing to identify improvements in all four quadrants (Wilber, 2003a, b).

Figure 4 shows a ready insight into the differences between two population samples: the Abbotsford residents (long dashes) and the ACF Board (short dash with squares).

By definition, the members of the ACF Board were current or past leaders of Abbotsford, who had lived in Abbotsford for 10 years or more. Thus, they had an experience of the city that gave them privileged insights into the capacities, limitations and potentials of the city. Nevertheless, when the board members perceived the differences between their views and the general population, they were initially surprised to see such a gap in the two sets of responses, which is remiscent of different patterns between leaders and groups (Hamilton, 1999).
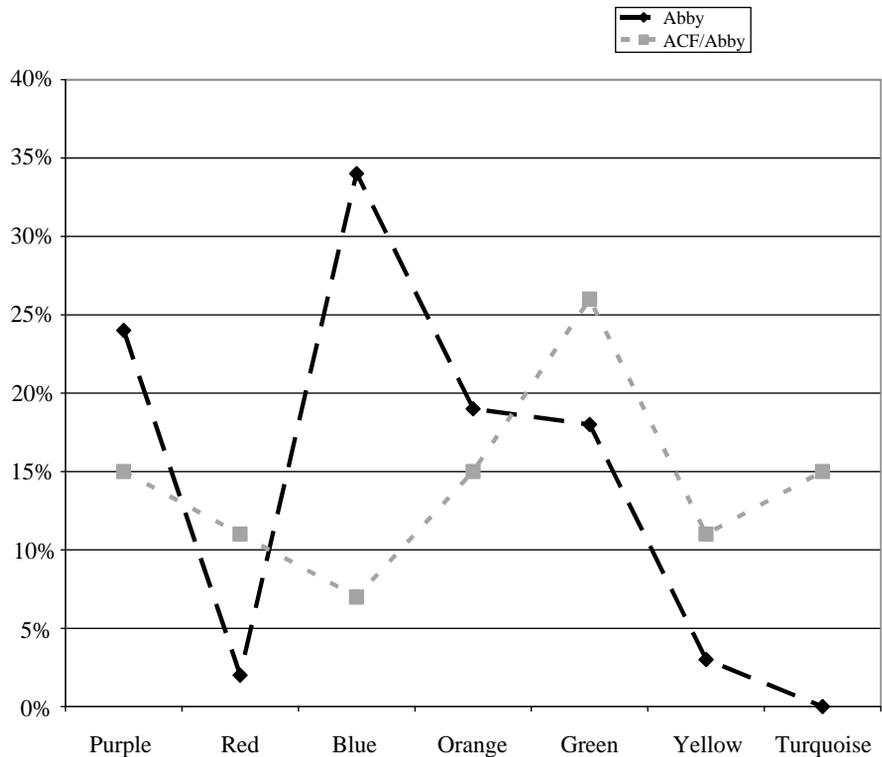
Figure 4.
Comparison of Abbotsford population to ACF Board: community assets/capacities

Creating feedback loops
The researcher has implemented for ACF, a grants selection process and a grant recipient reporting form based on the integral map. The form collects data from all four quadrants and all eight levels in language that the recipients can easily answer, giving the ACF Board an ongoing report about the change caused by the grants that it has made. Similar reporting forms could be implemented by any city or foundation agency. Appendix 3 summarizes the key questions.

Integral is holographic
The four quadrants of the map, each have unique characteristics defined by the two dimensions of subjective/objective and intersubjective/interobjective. However, from an examination of the data from this pilot project, one characteristic that appears to be shared with all four lenses is the holographic nature of each lens (Talbot, 1991).

Through these explanations it is possible to see why the integral model is a powerful language to talk about community. It means that no matter what lens we use to know community and no matter what methodology we select from a given lens, we are likely to see data from some (sometimes all) of the other quadrants. This is readily visible in the Abbotsford prototype – where the telephone survey data of open-ended qualitative responses, identified data that was clearly related not only to the left hand quadrants of the subjective/intersubjective inner world of community, but also to the right hand objective/interobjective physical expressions of community. This is not a shortcoming, but rather an affirmation of the value of using multiple methods to examine something so complex as community. One data gathering method can elicit thick rich data; however, much of the same data can be validated by the intentional use of pluralistic methodologies from the lenses of all quadrants.

Integral metamap: a common language for measuring all scales of change
We have examined values as a basis for a common language and a basis for measuring change; the theory supporting the integral metamap; taxonomies of existing indicators; and a pilot project. We can now summarize the value of the integral metamap as a common language for researching, planning and managing change in the urban context.

Research
(1) *An intentional integral/spiral data gathering approach, discloses more than other methodological approaches.* Because the integral/spiral frameworks provide a wholes systems checklist to gather data and a common language to integrate the results from multiple data sources (Wilber, 2003a, b) across nested levels of complexity, we can see both where our lenses are clear and where we are missing data. Thus, we have a language to describe change that reflects different realities, indicators and values at any level of scale.
(2) *Other data bases can be translated into a common integral/spiral "language" and thus an integrated vital signs monitor.* This means that existing databases do not have to be discounted, but can instead be integrated into the metamap. In the same way that Tables IV-VII integrate the indicators from the five research studies, the Abbotsford survey results, could be cross-referenced to existing:

- census data;
- GIS surveys;
- school district data;
- university college data;
- health region data;
- agricultural surveys; and
- private sector polls; etc.

(3) *Ordinary citizens can voice the change direction they value with an explicit awareness of the assets, values and capacities they experience as their reality in a changing world.* The Abbotsford project mapped the first steps in any change process. It identified what the community is changing from (both positive and negative) and what the community want to change to (identified by the improvements desired (Hamilton, 2003b)). New web-based data gathering processes indicate that dynamic data tracking will shortly become a reality.

(4) *The metamap charts different worldviews/values/tensions of citizens, elected officials, staff and experts.* These can be mapped, compared and discussed for reconciliation and agreed direction.

(5) Change states and dynamic data gathering permit the tracking of dynamics complex adaptive qualities and the use of natural systems for designing change processes.

(6) *The metamap qualities are GIS mappable and could be collected as change indicators by either or both government and private researchers* (e.g. by the creators of the Cascadia Scorecard (Northwest Environment Watch, 2004)).

Planning

(7) The common metamap provides data for social planning, land use (hard asset) planning and the integration of community education and healthcare development.

(8) The metamap allows balanced change in all the quadrants, preventing abilities to change because of blindnesses and/or blocks (Goodall *et al.*, 2003).

(9) The metamap of qualitative (left hand quadrants) and quantitative (right hand quadrants) data is scaleable at individual, organizational, neighbourhood, city, regional and bio-regional scales, thus allowing a kind of "weather mapping" of complex change usable by city planners, urban geographers, developers, etc.

Management
The common language metamap:

(10) *Provides a tool to manage extreme complexity.* The common language not only allows the use of a diversity of data to co-exist, but it provides a rationale for organizing and stratifying it for decision making. It also allows for feedback loops to advise change managers of the effectiveness of their decisions (e.g. see Appendix 3).

(11) *Opens up options on managing conflict.* It is possible to facilitate a discussion amongst multiple voices when all can be heard and valued.

(12) Provides a synchronized set of vital signs indicators for policy change across all three levels of government as well as bio-regionally and globally. This would allow pooling of funding and resources (Maxwell, 2002).

(13) *Translates between multiple interests* of many community stakeholders who would benefit from an integrated framework.

(14) *Allows mapping strategies for: strategic planning*; analyzing group differences; developing communities of professional city management practice; threats; weaknesses; opportunities.

(15) *Views the meso level of city values as a context for comprehending the interrelationship* of micro ecologies (individual/group) and macro ecologies (bio-region, country, world).

(16) *Explores the richness of community in the context of villagizing the globe* because it discloses the dynamics below the surface expressions of values (Wight, 2003).

Cautions?
If there are any cautions to the proposed metamapping process they relate to the scope of the work to reframe existing databases; the development of GIS mapping standards to truly integrate a common language; the development of dynamic mapping technology that is probably at least as complex as weather mapping systems; the need for inter-disciplinary and cross-disciplinary cooperation; and the need for worldviews that have evolved to a level of complexity where such a common language can be used. In other words, the scope of the proposal is nothing short of supporting the emergence of a new paradigm – the integral paradigm. But it can be started anywhere, even with current technology and will disclose many of the gamma traps blocking city change in the world today.

Conclusions
The taxonomy analysis and pilot project demonstrate how necessary a common language is to go beyond merely enumerating indicators (QOL, 2002, 2003) or even developing a "report card" (Maxwell, 2002). A common meta-language creates a framework for describing the dynamic value structures that provide the context for change in every community. It gives us a powerful tool with which we can map, track and manage a diversity of different value structures, vital signs monitors and change processes. The spiral/integral values map of Abbotsford could be replicated on any level of scale, thus showing the flexibility, comparability and adaptability of the common integral/spiral language – effectively creating a quadruple bottom line for change.

Research in other domains has already demonstrated the utility of the values maps for tracking change in individuals (Tupper, 2003; Smith, 2003; Reams, 2002), groups (Reynolds, 2003), organizations (Hamilton, 1999; Fisher, 2003), communities, bio-regions (Eddy, 2003; Wight, 2002, 2003), and countries (Beck *et al.*, 2002).

The researcher visualizes that technology can provide the capability to nest, mesh and/or hyperlink multiple databases to allow a "weather mapping" approach to mining and summarizing data and mapping the dynamic complexity of land/bio/mindscapes

that Eddy (2003) proposes are converging in the spheres of influence of the modern community, town and city.

Moreover, the researcher speculates that communities and cities have a vast meso-scale role to play in supporting change in all scales of life in the modern world. This can only be effectively voiced by an integral common language that translates all the indicators of change between different levels of scale as well as to describe complex interconnectedness within the quadruple bottom lines of the cosmopolis. Such a common language can create opportunities for new participatory planning processes and a framework for choosing, monitoring and improving the quality of urban life.

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Appendix 1. Five studies of values
Country
   (1) Canada's social contract: evidence from public opinion by Matthew Mendelsohn, Professor
of Political Studies at Queen's University
Canadian Policy Research Networks, Discussion Paper No. P/01, Public Involvement
Network, November 2002
Purpose – This report was prepared for CPRN to synthesize the polling evidence from the
past 20 years on the views of Canadians on governments, markets, families and
communities.
Methodology – The data was gathered from commercial, academic, think tank, and
government sources.
   (2) Indicators of quality of life in Canada: a citizens' prototype
Summary of Results of public dialogue sessions and prototype of national indicators,
Quality of Life Indicators Project
Canadian Policy Research Networks, April 2001
Purpose – The main goal for the Quality of Life Indicators Project is to create a national
set of indicators that reflects the range of issues that truly matter to Canadians. At the
same time, the intention is to create a common language for dialogue "across the public,
private and voluntary sectors . . . to enable a more balanced discussion on public priorities
across social, economic, environmental and other dimensions of quality of life" (CPRN iii).
Methodology – This project used a public dialogue process to encourage a select number
of Canadians (total of 250 people in small group settings (i.e. 25 groups of 10 citizens each))
to speak with each other about what constitutes quality of life.

Province
   (3) BC health directional plan
Expert panel: challenges, choices to ensure access by Judith Maxwell, Canadian Policy
Research Networks, Canadians' Health Care Values, Presented on February 4, 2003
Purpose – The purpose of this study was to provide a process for citizens to create the
values framework for health reform. The intention was to create a citizen derived logic
model for "How health care in Canada should be financed, and who is responsible for what."
Methodology – The data collection method consisted of 12 full-day dialogues with a
representative sample of 500 Canadians in 2002, using scenarios and creating their logic
models for how health care in Canada should be financed, and who is responsible for
what.

City
   (4) Early development in Vancouver: report of the community asset mapping project (CAMP) by
Clyde Hertzman, Sidney A. McLean, Dafna E. Kohen, Jim Dunn, Terry Evans, August 2002
Purpose – Human Resources Development Canada and an academic research team at UBC
focused on the City of Vancouver's Early Childhood Development, to develop a long-term
system of monitoring how determinants of childhood development emerge in specific
communities, and how local circumstances could be changed to improve the life chances of
children.
Methodology – The study is based on a population-wide developmental assessment of
kindergarten children in Vancouver using the Early Development Instrument (EDI),
according to children's neighbourhood of residence. The neighbourhoods are then
characterized in terms of their sociodemographic status; developmental risk
circumstances; and *de facto* access to services and facilities that are meant to assist
child development. The information is then plotted on GIS maps.

Globe
A fifth study was examined because of its explicit examination of values at a global level.

(5) Values Education for children and young adults – Living Values An Educational Program, UNESCO/UNICEF, www.lv/values/freedom.htm [5/11/2000 9:04:02 AM] (accessed 4 April 2003)

Purpose – The purpose of Living Values: An Educational Program (LVEP) is to provide guiding principles and tools for the development of the whole person, recognizing that the individual is comprised of physical, intellectual, emotional and spiritual dimensions.

LVEP is a partnership among educators around the world. This program is supported by UNESCO, sponsored by the Spanish Committee of UNICEF and the Brahma Kumaris, in consultation with the Education Cluster of UNICEF, New York. LVEP is part of the global movement for a culture of peace in the framework of the International Decade for a Culture of Peace and Non-Violence for the Children of the World.

Methodology – LVEP started with an "Educational program [which] grew out of an international project begun in 1995 by the Brahma Kumaris to celebrate the 50th Anniversary of the United Nations." Called "Sharing our values for a better world." Twenty educators from around the world gathered at UNICEF Headquarters in New York City in August of 1996, identified 12 universal values to better prepare students for lifelong learning.

LVEP is currently being implemented in 67 countries at over 4,000 sites. . . . The number of students doing Living Values Activities at each site varies considerably, some involve 10 students while others involve 3,000.

Appendix 2. Indicator taxonomies
Mendelsohn (2002) sourced 163 survey studies to inform a further study of Canadian quality of life. He clustered his interpretation of those studies into these 12 groupings.

	Table ref.
(1) The Canadian identity	VI-2
(2) The Canadian identity in the Shadow of the USA	VI-4
(3) Canadian identity and the world	VI-4
(4) Trade liberalization, globalization, and productivity	VII-5
(5) Language, ethnicity, and the Canadian identity	V-1
6) Social values	VI-6 +
(7) What do Canada's regions owe one another?	V-6
(8) What do generations owe each other?	V-6
(9) Voluntary activity	VI-5
(10) The Canadian social contract and the welfare state: what do Canadians say they owe each other?	VI-6
(11) The social contract and the federal system	VI-7, VI-4

Building on Mendelsohn's study, Maxwell (2002) reports that the subsequent focus groups identified Canadian Quality of Life indicators as follows.

	Table ref.
(1) Political rights and general values	VI-4 +
(2) Health	V -(1-6)
(3) Education	IV-4 +
(4) Environment	VII-7
(5) Social programs/conditions	VI-6
(6) Personal well-being	IV-6
(7) Community	VI-(2-6)
(8) Economy and employment	VII-5
(9) Government	VII-4

Maxwell (2003) identified these values for an accessible healthcare system:

	Table ref.
(1) Access based on need	VII-6
(2) Universal coverage	VII-6
(3) Payment based on ability to pay	VII-5
(4) Responsive to individual need	V-2
(5) Quality care	VII-5
(6) Accountable and transparent systems	VII-4
(7) Efficient forms of delivery	VII-5
(8) Value for money	VII-5
(9) Prevention and wellness	VII-7

The early development in Vancouver: report of the community asset mapping project (CAMP, 2002) used the EDI tool to identify capacities in young children in the following five developmental area (see Appendix x for the indicators associated with each area) .

	Table ref.
(1) Physical health and well-being	V-2 +
(2) Social competence	VI-2 +
(3) Emotional maturity	IV-3
(4) Language and cognitive development	IV-2 +
(5) Communication skills and general knowledge	IV-3, V-2 +

In addition, the CAMP studies created location maps which quantified and located indicators in the population which were grouped as follows:

	Table ref.
(1) Cooperation	VII-2
(2) Freedom	VII-3
(3) Happiness	IV-3
(4) Honesty	VI-2
(5) Love	IV-2, VI-2
(6) Peace	IV-4, VI-4
(7) Respect	VI-3
(8) Responsibility	IV-4
(9) Simplicity	VII-7
(10) Tolerance	VI-7
(11) Unity	VI-8

The global values shared across cultures, that were identified in the Living Values An Educational Program (LVEP, 2000) were:

	Table ref.
A. Population count of all children (2 maps)	V-1
B. Vulnerable and EDI tested children by capacity (12 maps)	V-2
C. Household economics (7 maps)	VII-5
D. Social assistance/challenges/participation (8 maps)	VI-6
E. Child development services (8 maps)	V-6
F. Education resources (10 maps)	VII-5, VI-5
G. Literacy, numeracy indicators Grade 4 (5 maps)	IV-4

Appendix 3. Abbotsford community foundation grant evaluation report

The GRANT EVALUATION REPORT FORM is completed by each of the organizations that receive a Grant from the Abbotsford Community Foundation as research to map the ongoing development of community capacity.

Name of organization receiving grant, [plus other demographic, budget data ...]

What strengths and capacities of community did the project build upon and/or develop?

Each of the values below represents strengths and/or abilities that contribute to a balanced and healthy community. We are interested in learning all the ways that your project contributed. . Place an X beside any of the contributions that occurred as a result of your project.

- ☐ 1. provided the basic necessities of life; eg. food, shelter clothing
- ☐ 2. harmonized the values of kinship and familial traditions that bond people together most tightly.
- ☐ 3. contributed to the pure unrestrained energy of pleasure and enjoyment in community.
- ☐ 4. honored commitment and order to life and work, a sense of direction for a greater good, stability, and even recognition of duty to creating and sustaining it.
- ☐ 5. strived towards achieving great things together with strategic and goal oriented plans.
- ☐ 6. shared those elements that are about care and sensitivity to others, with an egalitarian perspective that celebrates diversity.
- ☐ 7. meshed flexibility, spontaneity, and knowledge as a spur to integrating community development.
- ☐ 8. contributed to community wholeness and global connections.
- ☐ 9. expanded possibilities for the future with good works for the common good.
- ☐ 10. Other (describe)

Specific Examples:

What kinds of new skills did individuals and/or groups have to develop for the project to be carried out?

There are many different ways for skills to contribute to a healthy and vibrant community. Mark an X beside any ways that your project developed skills.

- ☐ 1. **Skills related to personal intentions** (like attitudes) and self-development goals, such as emotional mental and spiritual growth. These skills are often invisible but show up in individual readiness and willingness to learn and change as he/she contributes to the project; eg. anger management, self-confidence, literacy.

- ☐ 2. **Skills related to individual behaviors, traits, and other physically observable characteristics**. These skills are usually action oriented – we can see individuals actually doing, performing and acting as he/she contributes to the project; eg. punctuality, physical coordination, abstinence from substance abuse.

- ☐ 3. **Skills related to culture, family, and relationships.** These skills help people to relate, connect with and/or engage each other as a group in a meaningful way as they complete the project; eg. hospice care, expressive arts appreciation, multi-cultural celebration.

- ☐ 4. **Skills related to producing effective workplaces, institutions, government policies**, and other social and eco-systems. These skills contribute to how groups produce and build strong structures in organizations, agencies and government as they complete the project; eg. expanding the food bank, improving a wildlife habitat, creating job fair.

- ☐ 5. Other (describe):

Specific Examples: ...

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Figure A1.

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