# Why Meta-Map the City of the Future?

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**Discovering Integral Capacities in the Global Village**
**Through Values Meta-Mapping**
by Marilyn Hamilton BA CGA PhD, 2003

**Abstract**

Today's City and the City of the Future are living systems with bio-psycho-social-cultural capacities, that emerge from the interaction of universal evolutionary processes. A four quadrant, eight level meta-map creates a common language to describe and understand the dynamic patterns and feedback loops amongst these forces. The meta-map can be used by regional planners, land-base and social planners and other professional city management communities of practice.

**What is a City?**

(Note: The literature uses different descriptors for what this article is considering as the same phenomenon; specifically Community, City, Cosmopolis, Global Village. Although in some contexts these words relate to different levels of scale, for the purposes of the article we use the terms interchangeably. (Stevenson & Hamilton (2001); Sandercock (2002); McLuhan and Powers (1989).

A City develops as a result of individuals and groups organizing to survive, adapt and reproduce in the context of their Life Conditions. (Hamilton, 1999, 2002).

The sciences that govern the study of Life Conditions are shown in Table 1.1.

**Table 1.1: Spectrum of Sciences and Life Conditions (Eddy, 2003)**

| Science Cluster | Sciences | Relevant Life Condition |
|---|---|---|
| Earth and Planetary Sciences: | Math, Physics, Chemistry<br>Astronomy<br>Geology<br>Hydrology<br>Meteorology<br>etc. | Universe<br>Earth<br>Matter<br><br>(C-Sphere cosmosphere) |
| Life Sciences | Biology<br>Microbiology<br>Zoology<br>Botany<br>etc. | Life<br>Environment<br><br>(B-sphere biosphere) |
| Social Sciences | Psychology<br>Sociology<br>Anthropology<br>etc. | Humans<br><br>(A-Sphere anthroposphere) |

Life Conditions emerge from the three interacting spheres of life (see Table 1.1, column 3), on a locational basis. Life Conditions contribute to the core values of the individual, organization, community, city, culture, bio-region, province/state and country (at all levels of scale) (Beck et al 1996). Cities develop economic bases from these life conditions and in turn influence geographic spans as indicated in Table 1.2.

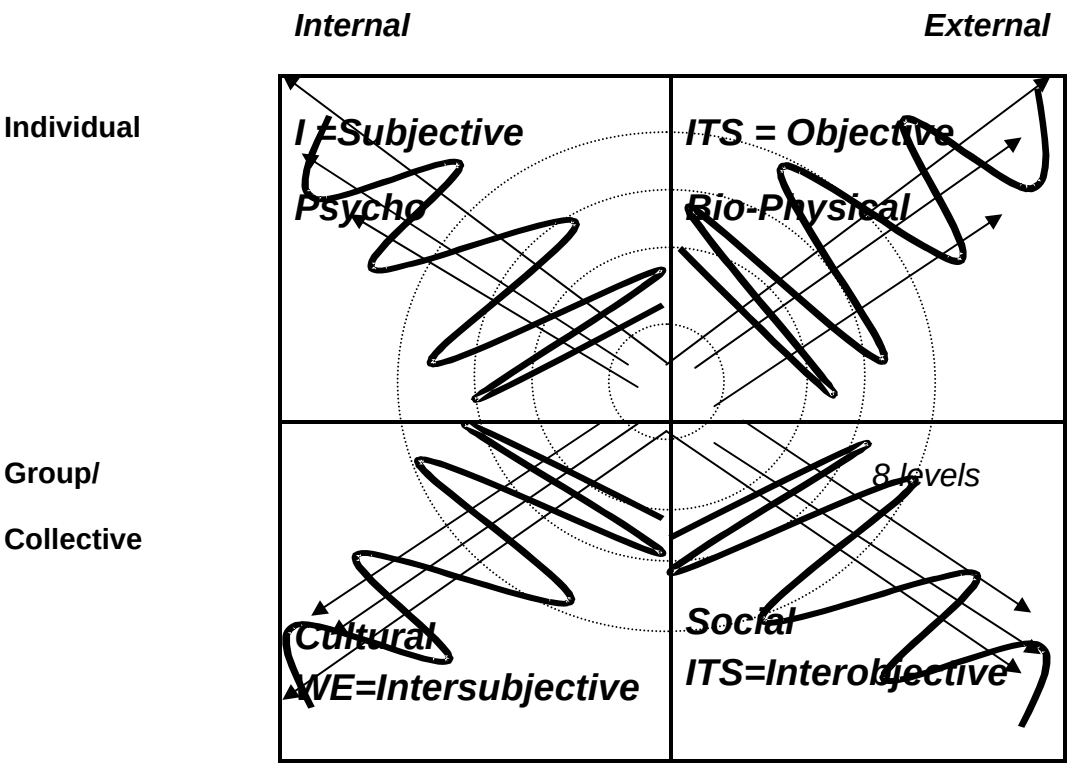
Table 1.2 : Economic Capacities & Geographic Spans

| **Level of Complexity (Wilber, Beck & Cowan)** | **Economic Capacity/Base** | **Geographic Span/Influence** |
|---|---|---|
| ***Beige*** | Gatherer | Local |
| ***Purple*** | Gatherer/Hunter | Local Extended |
| ***Red*** | Hunter/Horticultural | Region |
| ***Blue*** | Horticultural/Agrarian | State |
| ***Orange*** | Industrial | Nation |
| ***Green*** | Industrial/Informational | Multi-Nation |
| ***Yellow*** | Informational/Systemic | Globe (anthroposphere) |
| ***Turquoise*** | Ecosystem/Global | Globe (A, B, C spheres) |

Adapted from Wilber (1996), Beck and Cowan (1996), Eddy (2003)

Core values emerge in a four quadrant (4Q) bio-psycho-social-cultural (integral) evolutionary spiral of ever increasing complexity, as the success of one set of values co-emerges new life conditions that require a new set of values in order to solve the difficulties caused by the success of the previous set (Graves, as cited by Beck et al 1996; Wilber, 2000). On a macro global level there appears to be eight levels of complexity that have emerged as seen in Table 1.2 . We refer to these as 8L. Thus a city can be viewed from the multiple lenses of 4Q8L as in Table 1.3

**Table 1-3: 4Q8L View of City Values**




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 (eg. neighbourhoods) and it, in turn, is a holon nested in other wholes (eg. 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 (eg. energy and waste)
- is potentially affected by weak signals: butterfly effects (or weak signals) can affect the stable functioning of the city (eg. SARS, blackouts, forest fires)

- is field sensitive: the city is an energetic collision of multiple sources of energy from: cosmos, geology, biology, subjective, intersubjective, objective and interobjective fields.

**What is a Healthy City?**

WHO's European website 2003, describes a healthy city in 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, 2003)."

In ongoing Quality of Life Workshops and Work Groups, Canadian Indicator experts have identified Quality of Life Indicators that are :

- "Values based – emancipatory and empowering
- Community and structural approach towards health
- Grounded in lived experiences of people
- Strong action orientation"

Hamilton (1999) sees the city as a system that survives, connects with its environment and re-generates. It has distinct values reflected in its first, second and third person identities, relationships and communication processes.

Thus Waddock (1999) could be describing a healthy city, when speaking of a healthy community as one that is, "an integrated approach [that] allows the expression of individual meanings, feelings, beliefs, aspirations, hopes, and dreams as acceptable elements of organizational life and allows for the feelings of working collaboratively that create a sense of 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."

**What is a City of the Future?**

A City of the Future will emerge from Today's City and the complex life conditions that include (but aren't limited to):

- accelerated rates of knowledge generation
- population explosion
- migration
- demographic shifts
- globalization
- accelerating rates of change related to scientific, technological, communications and transportation
- increasing concentrated use of energy
- increasing diffusion of wastes and toxins

- declining access to the supporting resources of life (eg. water, food, energy, raw materials for production)

The City of the Future may respond ineffectively to these conditions and thus magnify the dysfunctions of Today's City. Alternatively, the City of the Future may discover a healthier life by responding to change with awareness of its change state and developing Vital Signs Monitors that track:

- effective processes that allow it to implement and operate systems that responsibly "metabolize" energy as an Ecocity (eg. water, air, waste, information management)
- resilient structures of a living system that are attuned to its habitat and responsive to local and global economies (eg. technology, transportation, utilitities)
- continuous learning from experience because of collaborative relationships internally and externally.

The City of the Future, therefore, requires different values than cities of the past (Smyre, 2002) including:

a. Balancing action, thinking, productivity and relationship values
b. Being open to new ideas
c. Integrating multiple ideas with non-linear thinking
d. Embracing connected individuality
e. Emphasizing dynamic sustainability

**How Will We Manage the City of the Future?**

In order to manage the City of the Future we will need a meta-map which conveys the relationships amongst the complex, adaptive, interconnected, dynamic qualities of the 4Q8L capacities. Such a meta-map will allow us to:

1. dynamically monitor on one 4Q8L map vital signs (eg. as graphically visual overlays of multiple sources of data)
2. conceptually integrate multiple sources of data into one meta-framework that shows the commonalities and/or disconnections in the data
3. use a common language –4Q8L language to express and translate between methodologies, lenses, frameworks and indicators for multiple users (Hamilton, 2003b)
4. translate between multiple interests of many community stakeholders who would benefit from an integrated framework
5. apply mapping to: strategic planning; analyzing group differences; community conflict management; developing communities of professional city management practice; threats; weaknesses; opprotunities
6. conduct comparative research, using the 4Q8L meta-framework to study different sub-groups and/or conditions within the community; and different communities within a region
7. view the meso level of values as a context for comprehending the interrelationship of micro ecologies (individual/group) and macro ecologies (bio-region, country, world)
8. explore the richness of community in the context of villagizing the globe (Wight, 2003)

**How Can We Develop a Community of Professional City Management Practice for the Future?**

Thought leaders propose that the fastest way to develop an integral practice of city management is for the professional managers (city staff) to engage in regular, intentional individual and organizational double loop learning that overcomes embedded planning norms and values. Such learning would include examining the tensions and intentions between:

1. participation of practitioners and public vs reification of planning
2. local focus vs global focus
3. identification of issues and process vs negotiability of issues and process
4. designed approaches vs emergent approaches

Wight (2000) proposes that Regional Aesthetic Appreciation, Analysis, Idealism and Institutions be integrated so that they inform one another, rather than be at cross-purposes. He suggests that the 4Q8L model provides the framework for doing so. Wight identifies the four traditions as relating to the integral model as set out in Table 1.4.

**Table 1.4: Regional Planning in the Integral Model (adapted from Wight, 2000)**

| | ***Internal / Subjective*** | ***External / Objective*** |
|---|---|---|
| **Individual** | I = Intentional<br>**Aesthetic Appreciation** | ITS = Bio-Physical<br>**Analysis** |
| **Group** | **Idealism**<br><br>WE = Cultural | **Institutions**<br><br>ITS = Social |

Wight lays out the Planning approaches that have emerged at different stages of city complexity in Table 1.5. Each approach will have appropriate applications in the City of the Future. The challenge for City management will be selecting appropriate planning frameworks, tools and interventions Table 1.5 speculates about the appropriate span of application in the City of the Future.

**Table 1.5: Different Types of Planning Related to Levels of Complexity**

| Stages of City Complexity (Wilber, Beck & Cowan) | Planning Type | Speculative Span of Application |
|---|---|---|
| ***Red*** | command and control | Neighbourhood Infrastructures |
| ***Blue*** | master planning and zoning | City Boundaries |
| ***Orange*** | strategic planning | Intra-City |
| ***Green*** | communicative action | Inter-City Region |
| ***Yellow*** | ecological | Ecocity<br>Habitat |
| ***Turquoise*** | holistic | Inter-Ecocity<br>Global Region |

Adapted from: Beck et al (1996); Wight (2002), Eddy (2003)

### What Do We Conclude?

Today's technology can provide the capability to nest, mesh and/or hyperlink multiple databases to allow a "weather mapping" approach to mining and summarizing data for the City of the Future. This will make it possible to map the dynamic complexity of the land/bio/mind-scapes that are converging in the spheres of influence of the City of the Future.

Moreover, the meso-scale role that Cities of the Future will play in such dynamic mapping processes, will leverage the value of using the 4Q8L common language to describe the change factors and change states in our modern world, on the micro and macro levels.

Finally the use of 4Q8L approach embraces multiple existing data gathering methods and sources. A 4Q8L meta-map makes it possible to integrate all the indicators of change at different levels of scale as well as to describe complex interconnectedness within the City of the Future. Such a meta-map can create opportunities for new participatory planning processes and a framework for monitoring the Vital Signs of the quality of life.

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