

Macrohistory and City Futures

Phillip Daffara
University of the Sunshine Coast
Australia

Abstract

Where our cities are headed is a question being investigated globally by many stakeholders of our urban futures. This piece examines the possible, probable and plausible futures of the city, and what these may look like. The method used to extrapolate these futures is macrohistorical analysis. Positioning the current state of our globalised cities within different models of cultural/historical change gives us the grand patterns for the future of the city. The conclusion shows the ways in which the city is a tangible cultural product of civilisation and how the city can be positively used as a catalyst towards the development a planetary human civilisation.

Introduction

How do cities, impacted by the current context of tumultuous upheaval, manage the change process? The traditional tools of strategic and urban planning seem blunt in the face of the combined challenges of population growth or movement from rural to urban areas, the cost of infrastructure, pollution, and meeting basic needs for water, food, housing and energy. Are there deeper patterns or synergies that may be used to make wiser decisions about creating better urban futures?

This piece explores these synergies within the city, examining the macrohistorical models of thirteen thinkers and applying them to the city as a cultural unit. The twelve perspectives they developed were chosen for their diversity and for the contribution they make to the field of cultural change. They are Augustinus Aurelius, Nikolai Kardashev and Freeman Dyson, Pierre Teilhard de Chardin, Karl Marx, Adam Smith, Riane Eisler, Pitirim Sorokin, Prabhat Rainjan Sarkar, Ibn

Khaldun, Arnold Toynbee, Oswald Spengler, and James Lovelock.

The first task is to identify links between the key themes of macrohistorian *X* and macrohistorian *Y*. What are the commonalities amongst the different macrohistorical perspectives about the city? Within the twelve models, three grand patterns can be discerned - linear, cyclic, and spiral macro-histories. Linear models of historical processes depict critical changes as irreversible and evolution as progressive. There is a distinct starting point, and an undeviating path forward. Cyclical models assert that history follows a rise and fall, or expansion and contraction, pattern; there is repetition of particular patterns of events. Spiral models suggest that history folds back on itself: there is progress in some areas and cycles in others. (Inayatullah 2002: 172) In this spiral conception, historical processes are both linear and cyclical, just as light exhibits both particle and wave properties through different frameworks or experiments.

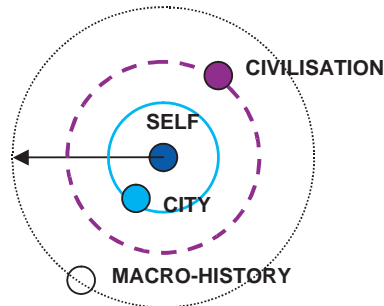


Figure 1: Hierarchy of Habitation

The city will be used as the cultural unit of analysis for civilisation. This means that the city as a holon (Koestler 1967), or basic unit of organization in biological and social systems, cannot exist without civilisation but civilisation can exist without the city. Figure 1 depicts this relationship. First, each macrohistorian will be presented with their model and the model's implications for the city described. From this context mapping, I then create a discourse between the various models, in search of commonalities, and six focus areas or dimensions of the city are identified. How these dimensions interact with each other within the city creates cultural synergies or contradictions. I conclude that a multi-dimensional approach is the only effective way to develop policies for urban transformation.

Linear Models

Augustinus Aurelius

Much of western Christian theology (theory of knowledge and reality) has been influenced by the metaphysics of Augustine. (*The City of God*, a compilation of 22 books published between A.D. 412 - 427) His interpretations of platonic philosophy shaped medieval western cosmology and the work of Thomas Aquinas. Reality for Augustine has three planes of being: body, soul and God; and three categories of things: matter, living entities and conscious living beings capable of knowledge. Humanity began at the moment of Adam and Eve's deceiving (failure) by the serpent in the Garden of Eden. Henceforward, humans have

existed as corruptible beings - separate from purity. God and the eternal soul are incorruptible beings. When things are in perfect harmony, the body is controlled by the soul, which is controlled by God. Human time has a beginning and an end with history in-between, given by God for redemption through Christ. The river of life flowing towards an ocean of eternity becomes a powerful metaphor for Augustine's linear macrohistory. For Augustine, however, it is God's macrohistory or plan that he is expounding. Human existence and history will end after the seventh age - with Christ's millennial reign on Earth with the New Testament Church from New Jerusalem - when Satan's final rebellion is crushed and the Day of Universal resurrection and Judgement begins.

The implications for the future of the city through Augustine's macrohistory are clear: all cities will be modelled on the sacred archetype. The City of God is a recurring western meme and archetype for the sacred city or utopian ideal. The New Jerusalem is powered by spiritual/cosmic energy; ruled by Christ, it is a holy theocracy, administered by the just servant church, dispensing health, wellbeing and a divine economy. Beyond the city walls the Earth is renewed and made whole. During Christ's millennial Reign, the Church serves as cultural change agent, co-creating and ministering within the healing City of God. This Christian city image has endured for nearly two thousand years and still influences those who believe that humanity needs a benevolent hierarchy to impose order within chaos.

Nikolai Kardashev and Freeman Dyson

Astrophysicists Nikolai Kardashev and Freeman Dyson have proposed types of civilisations based on energy demand and source. Such a model propounds a mathematical linear progression of continued growth, driven by the civilisation's science and technology energy needs. For Kardashev and Dyson there are only three energy sources, Planet, Star and Galaxy, and four types (or progressive stages) of civilisation: the first is powered by a planet's exhaustible fossil fuels (Type 0); the second relies on a global network of the planet's renew-

able sources (Type 1); the third taps into the planet's Star more directly (Type 2); and the final taps into the cosmic energy of a galaxy (Type 3). The quantum physicist Michio Kaku (1998) argues that Kardashev and Dyson's evolutionary model of civilisations serves as a model to our own thinking about the evolution of our planet for the next several thousand years.

The implication for human civilisation and the city of this perspective is that we are still deeply embedded at the Type 0 civilisational stage. Our cities and their transportation systems are predominately powered by non-renewable fossil fuels or toxic nuclear fission. The issue here is that the present "modern plutocracy" - divided by nation states and powered by toxic non-renewable energy sources (fossil fuel and nuclear) - needs, in the next stage, to transform to "planetary democracy" powered by a global network of shared renewable energy sources. Drivers for such change are the sustainability ethics of "energy futures", and planetary governance, equitable development and survival of the human species. This was Buckminster Fuller's message thirty years ago. (1969)

Transformation from a Type 0 to a Type I civilisation is critical if we are to avoid the risk of annihilation or ecological collapse. Likewise, such transformations are required at the city level. Regarding urban form alone, our sprawling energy and resource consuming cities need to become more compact, and energy and resource efficient.

Pierre Teilhard de Chardin

Teilhard de Chardin - a Jesuit Priest educated in the dualistic philosophy of Thomas Aquinas (who in turn was influenced by Augustine) - sought a synthesis between matter and spirit. Kardashev's macrohistory aligns with Teilhard de Chardin's (1961), agreeing that the evolutionary process of civilisation tends towards greater socialisation, complexification (synthesis) and centrality. For both, evolution is eternal, but Teilhard de Chardin believes that evolution is also tending towards the spirit - towards pure radial energy (love). He recognises the continual tension of the universe towards

increasing entropy (disorder) within his model, and that at times the socialisation process (noogenesis) is counter-evolutionary. When this happens, society succumbs to entropy, individualism and depersonalisation, and falls away from the spiritual.

The implications for the city of this position are that:

1. City design transforms to allow, promote and reflect the spiritual development of all citizens. The sacred places within the city need to be redefined.
2. The City as an organisation develops a collective and reflective consciousness - City Noosphere. (The city is alive and mindful.)
3. The City becomes more complex, organised, and will tend to synthesise and converge in space and energy. (More multi-layered, dense and compact.)
4. When the city reaches its point of maximum synthesis, it attains a new, different level and organisation of its wholeness.
5. If the city acts incongruently with spiritual evolution, it will tend toward entropy, individualism, depersonalisation and self-extinction.

Karl Marx

Marx's macrohistory is focussed on techno-economic stages. It is based on the relationship of four variables in a linear, one way causal flow: from the means of production (technical structure), to determining the mode of production (economic structure), to determining the superstructure (social and political systems), and thence to determining the social consciousness (spiritual process of life). This model has proven to be too rigid and problematic, as history has shown. (Galtung & Inayatullah 1997: 64 - 65) But, what can be learnt from this model if it is reframed as holons within a holarchy, instead of as a linear hierarchy - that is, if it is reworked to maintain the four variables while allowing greater emergence and inter-relational flow between them? The lesson for the city is that to transform the superstructure (civic, political and

cultural systems), intervention would be required at all levels - at the technical, economic, and spiritual. A multi-dimensional approach is fundamental in this age of chaos theory and systems thinking. Marx is concerned about the reproducibility of social/political systems. (How does it reproduce itself without exploitation?) This concept is similar to today's struggle for sustainability. How will cities reproduce the quality of life expected or demanded by its citizens? How will they be sustainable?

Adam Smith

Smith's macrohistory is a linear rise and fall model. Movement through the stages (moral progress) is through realising the greatest prosperity and liberty for individuals within a society. This moral progress is driven by the unity of self-love and love for others as the motivation of a society's individuals. If this motivation exists, the society is likely to ascend towards the next developmental stage. Smith deduced that the moral goal of a society was a genuine economy of exchange and common welfare for all citizens. He also deduced the dangers and stagnation of advanced capitalism, where self-love dominates love for others, leading to a decline of morality and of material conditions for the majority of society. Smith's (1776) utmost concerns are with the material and spiritual, and their dynamic balance and tension within society, and are reiterated by Sorokin (1957) who developed his cyclic macrohistory based on the same dialectic between the material and spiritual.

Smith's model reflects the actual history of the development of the western city. His macrohistorical stages, and their implications for the city are:

1. Age of nomadic hunters - city as shelter.
2. Age of pasturage - city as storehouse.
3. Age of Agriculture - Imperial City.
4. Age of Commerce:
 - Maritime Trade - Renaissance City.
 - Industrial Age - Industrial City.

Trajectories for cities after the industrial phase of development, but still within his Age of Commerce are:

- Information Age - Informational City.

- Knowledge Economy - Creative/Learning City.

There are two key inferences for the city from Smith's work. Firstly, there is an implicit warning that the city should be designed to combine self-love with love for others - the unity of the material and the spiritual. Consequently, the city is the social laboratory for human civilisation where the dialectic tension between self-love and love for others is tested and manifested. Secondly, some western cities are in different states within Smith's age of commerce. Some are in decline (e.g., Detroit, USA - Industrial City) whilst others are in ascendency. (Bilbao, Spain - Industrial City transforming into Creative City)

Cyclic Models

Pitirim Sorokin

Sorokin's *Social and Cultural Dynamics* ([1957] 1985, written between 1913 and 1941) provides a macrohistory based on the "mentality" of the culture. These cultural paradigms do not carry geo-historically identifiable names; rather they are typologies of how cultures perceive the nature of reality. He categorises cultures as being predominately:

- Ideational (spiritual) - nature of reality concerned with ideas (meta-empirical or transcendental).
- Sensate (materialistic) - nature of reality concerned with matter and satisfying the senses.
- Idealistic (eclectic/integrated) - nature of reality concerned with or balanced by both matter and ideas.

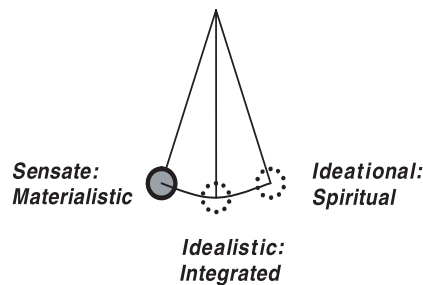


Figure 2: Sorokin's Macrohistory

Sorokin (1957) argues that socio-cultural change is cyclic, in the form of a pendulum, swinging (as illustrated in Figure 2) from Ideational through Idealistic to Sensate, and back to Ideational. His theory, which describes seven socio-cultural mentalities and the dynamics of change, will not be reiterated here. However, Sorokin's evidence correlating the styles of Greco-Roman architecture and

Christian/western architecture with the cultural swing from Ideational to Sensate will be used.

As shown in Table 1, Sorokin's macrohistory fits independent historical accounts of the evolution of the city within occidental civilisation, based on the work of Henri Pirenne (1925), V. Gordon Childe (1950), H. D. F. Kitto (1951), and M. Savage and A. Warde (1993).

Table 1: Evolution of Occidental Cities align with Sorokin's Macrohistory (super rhythm) of Cultural Paradigms

Evolution of Occident Cities from Savage & Warde	History of Occidental Cities from Pirenne, Childe & Kitto	Principal city role or characteristic	Sorokin's Macrohistory of Cultural Paradigms streamed against evolution of cities
Primordial urbanisation 15000 BC – 4000 BC	Mesopotamian and Egyptian Cities. Greek Doric architectural Order (pre fifth century BC)	City of God/deity King role, storing agricultural surplus.	<i>Ideational</i> (spiritual)
Pre-industrial "definitive urbanisation" Up to 1700	Greek Polis Ionic architectural Order (fifth century BC)	Community, Defence, Religion	<i>Idealistic</i> (eclectic/integrated, with a emphasis on the ideational)
	Greek Hellenistic & Roman Cities (post mid fourth century BC – fifth century AD)	Imperial Empire	<i>Sensate</i> (materialistic)
	Medieval City - Christian architecture – Byzantine to early Gothic (sixth – twelfth century AD)	Theocratic	<i>Ideational</i>
	Renaissance Ideal City High Gothic to Mannerism & eclecticism (thirteenth – sixteenth century AD)	Pluralistic	<i>Idealistic</i> (eclectic/mixed)
	Highly visual eclectic styles: Baroque, Rococo, Classicism and various revivals	Bourgeoisie – display power & wealth	<i>Cynical Sensate</i> (materialism with false mask of spirituality)
Industrial "definitive urbanisation" After 1700	Friedrich Engel's 1844 Critique of Industrial Towns/City	Capitalism + labour markets	<i>Sensate</i>

Interpreted using Sorokin's model, present western culture is Sensate. This premise is based on our empirical reality, a reality that is underpinned by scientific reductionist observation and social values of wealth, comfort and material resource consumption to benefit our utilitarian morality. The meta-architecture of the city that has emerged during the modernist twentieth century is similarly reductionist, sprawling, utilitarian and resource consumptive. The modern rationalistic city and the post-modern eclectic city both serve the cosmology of our time - the gratification of Spengler's money spirit.

The major implication of this model for city futures is that the city will continue along the trend towards a hyper-Sensate culture with cities making a grab for limited global resources. Before ecological collapse, those cities that will survive do so by facilitating a rising Ideational (spiritual) culture that will, in turn, transform the city's physical manifestation or typology. This rise or revolution may be already apparent in western societies, with the rise of the "cultural creatives" (Ray & Anderson 2000), individuals seeking sustainable humanistic solutions in life, with consequent impacts on their consumer choices. Another current trend supporting Sorokin's cultural shift from the Sensate towards the Ideational is the lifestyle "downsizing" phenomenon occurring in America and Australia.

Ibn Khaldun

Khaldun's macrohistory (1377) is a cyclic rise and fall model. The causes of historical change are endogenous (internal) - what causes the rise, leads to the fall. The cycle follows a path of conquest, consolidation, blossoming, living off capital, waste and squandering, and decline; thence returning to conquest. Khaldun's model, illustrated in Figure 3, has three pillars that provide the cultural dynamism:

1. Primitivism - rural/nomadic culture;
2. Civilisation - city culture; and
3. *Asabiya* - literally, the fibre or sinew by which a group is held together. *Asabiya* binds people into effective groups. This is achieved through struggle and social unity of purpose.

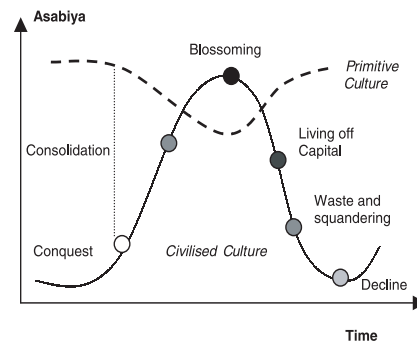


Figure 3: Khaldun's Model

The rise and fall of *asabiya* drives cultural change within Khaldun's model. Primitivism (tribal survival in the wilderness) provides the environmental context in which *asabiya* can thrive and new moral leaders emerge, whilst Civilisation (leisure and narcissistic individualism) provides the urban context for *asabiya* to fragment and morally decline. The cycle is linked to four generations and their cultural capacity and memory for *asabiya*. The rise comes with the first generation, which exercises the creative power to learn and leave a legacy. The second generation witnesses the efforts of the first and consolidates the legacy. The third generation loses the capacity to innovate and relies on imitation and tradition, whilst the fourth generation has no cultural memory of the creative struggle of their forebears and of the *asabiya* they nurtured and possessed. The original legacy is virtually spent by the succeeding generations, and decline provides the context for a new rising culture/generation.

The implications of Khaldun's model for the city are that cities can expect decline, as the second generation, unlike the first, will be unable to rise to the challenges of their time. Decline ends when outsiders take over the reigns of power and the cycle starts again. Can decline be arrested through social interventions? Is community-visioning of the future the answer to creating *asabiya* within our cities - the shared goal that binds a community together? One modern response - the Oregon community visioning model - provides a tool to get

ahead of the drivers of change affecting a community and create a better future. However, community visioning needs to become a way of life and governance for future generations to likewise create better futures - lest we forget the *asabiya* that binds us.

Arnold Toynbee

Arnold Toynbee's *A Study of History* (1972) (written between 1934 and 1961), provides a macrohistory that is a cyclic rise and fall model; he argues that societies change, just as individuals are born, mature, grow old, and die. Toynbee's model is similar to that of Khaldun; however, in Toynbee's macrohistory the creative response to challenges comes from a creative minority within the social system (renewal from the internal proletariat), rather than from nomadic outsiders (the external proletariat). As well, Toynbee's process of civilisation is more general and can be applied to either the rural or urban contexts, whereas Khaldun's cyclic progression is from rural/nomadic to urban contexts.

Toynbee's genesis for a civilisation begins with the challenge and response cycle, in which the creative minority perceives the challenge and generates an adequate and creative, not merely ritualistic and routine, response. Development of the civilisation is dependent on the continual application of the challenge and response cycle, and the enhancement of this to a challenge-response-mimesis cycle. Here, a mimetic majority freely imitates the responses. I believe this social mimesis is very similar to Innovation Diffusion theory developed by Everett Rogers (1962) in his book *Diffusion of Innovations*. The process of innovation diffusion is how a new idea - usually originating from a visionary thinker or inventor - is adopted by society. Galtung and Inayatullah (1997:124) state that similarities also exist with Tarde's *Laws of Imitation* (1903). In Toynbee's view, for civilisation to avoid decline and move towards greater unity and vitality, it must operate the challenge-response-mimesis cycles all the time. If this cycle is arrested, then decline sets in, beginning with the proletariat withdrawing their mimesis, and unity breaks down. The cre-

ative minority then take control as the dominant minority to institutionalise the state and keep the proletariat in check. Total dissolution proceeds, as the proletariat resists the fossilised state, and their only hope lies in the coming of a Saviour.

For the city, the implication of Toynbee's macrohistory is that the city must nurture a culture of the creative, learning community or else suffer waves of decline, missed opportunity or ecological overshoot and collapse. Sir Peter Hall, renowned city planner and urban historian, claims that Charles Landry's book *The Creative City* is a "truly millennial book and shows how modes of thinking can regenerate cities facing the challenge of survival." (Landry 2000) In that book, Landry argues that creativity is the lifeblood of cities, and cities have one crucial resource - their people - that affects their ability to adapt and survive, more so than location, natural resources and market access:

Today many of the world's cities face periods of transition [and decline] largely brought about by the vigour of renewed globalisation. These transitions differ from region to region: in some areas, like Asia, cities are growing, while in others, such as Europe, old industries are disappearing and the value added in cities is created less through what is manufactured and more through intellectual capital applied to products, processes and services. (Landry 2000: xiii)

Oswald Spengler - The maturation and decay of cultures

Oswald Spengler's macrohistory, described in his work, *The Decline of the West* (1926), is isomorphic with the life cycle of the individual, and in this respect is similar to Toynbee's position. Where Spengler is different, however, is that he is a cultural relativist, arguing that the true meaning of culture is gained by understanding its mystical soul - which is unique and has its own possibilities of self-expression. Spengler believed in many cultures, each with its own identity and path, each following a general four stage pattern of birth, growth, maturity, and death. These stages were also detailed as pre-culture, early culture, late culture, and mass civilisation. The cultural life cycle begins with a metaphysical birth in time and space of

the culture from the formless protosoul. The cultural soul takes form through the development of its cosmology - its central idea that motivates the people. There are similarities here to Khaldun's *asabiya*. Spengler's model is illustrated in Figure 4.

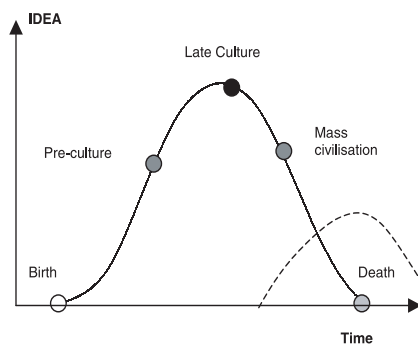


Figure 4: Spengler's Model

The purpose of culture is to actualise the sum of its possibilities, its spirit or central idea through its various systems such as language, myths, art, sciences, technology, and states. The life cycle anticipates growth to the late culture stage and then a decline towards mass civilisation, meaning urbanisation dominated by the desire for money. Upon death the culture reverts to protosoul. Spengler sought not an empirical social science for historical change, but rather levels of truth or insights into the metaphysical structure of historical humanity as artist or poet. The means of understanding that culture is by revelation of the whole through the parts, in this case through the systems that manifest the culture's cosmology.

The implications for city futures through the perspective of Spengler's macrohistory affect Identity and Spirit. Firstly, cities as a system within a culture emerge with a unique identity and architecture as they actualise the cultural spirit in time and geographic space. Architecture is well understood as a system through which a culture expresses its spirit, episteme and cosmology. Sorokin recognised this when in his work he used the development of Greco-Roman and Christian architecture to test the validity of his proposed super rhythm of

cultural mentalities. As a result of this cultural expression through architecture, a city's spirit of place - or what Aldo Rossi (1982) defines as locus - emerges. However, as the cultural life cycle continues towards mass civilisation, locus - the city's spirit of place - degenerates. This pattern is evidenced in many cultures today as a postmodern, western international architecture supplants regional vernacular architecture in cities - for example in the rapid development of the S.E. Asian cities of Kuala Lumpur, Bangkok, Singapore, and Beijing. The result is sameness amongst the world cities and a loss of cultural diversity. Secondly, cities will mature and die, losing their "spirit" in the mass civilisation stage.

Spiral Models

Riane Eisler

Eisler's model (Galtung & Inayatullah 1997: 144) focuses on the dynamic interaction of two movements:

1. The tendency of social systems towards greater complexity; and
2. The cultural shifts between two organisational forms or ways of relation:
 - Dominator model - patriarchal social structure based on the ranking of men over women in domination hierarchy.
 - Partnership model - neither half of humanity is ranked over the other within a generally more democratic political and economic structure.

The result of this multi-dimensional dynamism is a spiral model, where both linear and cyclic patterns are observable in history.

The implications are readily seen in the governance of our cities. City administrations or local governments shift over time between the dominator model and the partnership model, changing the way they relate to their citizens and how they develop and implement policy.¹ Meanwhile, the tension between these organisational models grows as each continues to develop and struggle for legitimacy within cultures. Eisler (1987) also argues that the emergence of our species initiated the age of human coevolution or co-creation through our technol-

ogy. This being the case, our cities - as the major instruments of our technical prowess - are also fundamental habitats for this co creation and coevolution.

Prabhat Rainjan Sarkar

Sarkar's cyclic theory of cultural change does not rely on external variables or life conditions. Rather, the mindset or collective psychology of the cultural class (social group) is the source of their downfall within the system and drives the evolutionary cycle. The next cultural takeover seeks to address the past era's cultural exploitations. The flow of these dimensions is illustrated in Figure 5, and the nature of each social cycle is summarised in Table 2.

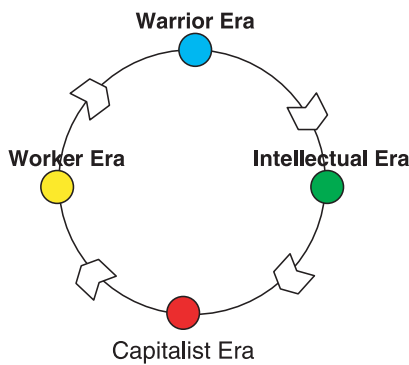


Figure 5: Sarkar's Model

Situating the world at the end of the *Vaeshya* era in Sarkar's model, two implications for the future of the city emerge. Firstly, in terms of its urban morphology, the *Vaeshya* city of our capitalist era has dominated the ecology and its ideas (culture). As a result, the internal urban contradictions that have trended upwards - such as unsustainable habitats and lifestyles - will drive further change towards *Shudra* city. This phase of development will focus on the needs and wellbeing of the city's citizens, but subjugate them beneath the needs and health of the local/global ecology (biosphere). *Shudra* city seeks to be the ecologically sustainable city and its workers are likewise focussed on saving the environment, mimicking its bio-efficiencies and being led by a new social order and logic. This *Shudra* revolution reinstates equity and justice, but keeps the learning of the previous capitalist era. Secondly, in terms of a transformational leadership, the *Sadvipra* are needed to make this transition towards *Shudra* city, because the *Shudra* mind seeks to live in the material present and pursue pleasure. *Sadvipra* is the balanced and integrated leader, who moves society forward by creating innovation when the cyclical downward trend begins.

James Lovelock

Lovelock's Gaia hypothesis or *bio-cybernetic universal system tendency/homeostasis* (1979)

Table 2: The stages of the social cycle

<i>Shudra</i> (Worker)	Dominated by Environment. <i>Shudra</i> mind lives in the present.
<i>Ksatriya</i> (Warrior)	Struggles with and dominates Environment. <i>Ksatriya</i> mind lives in the past and present.
<i>Vipra</i> (Intellectual)	Struggles with and dominates Ideas. <i>Vipra</i> mind exist live in the past present and future. The vipran future is often transcendental – related to the Idea.
<i>Vaeshya</i> (Capitalist)	Struggles with and dominates Environment and Ideas. The <i>Vaeshya</i> mind also lives in all three times, but their future is about resources and its commodification.
<i>Sadvipra</i> (servant leader)	Struggles with the social cycles to create social revolution on a spiral of human development - to move society forward and minimise exploitation.

provides a cosmic model as context to understand the macrohistory of human civilisation upon the Earth. The Gaia hypothesis is that: "Life maintains conditions favourable to the existence of life on Earth". Gaia theory is based on planetary system dynamics, and suggests that the earth behaves functionally as a self-regulating single super-organism (Moughtin 1999: 90) to maintain homeostasis. Homeostasis is a state of constancy that organisms maintain when the environment around them is changing. Lovelock's planetary modelling strongly suggests that the more variables in the cybernetic system (species), the more robust and viable the system becomes. This supports the case for the protection of biodiversity to maintain the long-term stability of planetary self-regulation. Within the Gaian system, changes are produced by internal (e.g., biological waste) and external forces (e.g., solar radiation), and contradictions to life that result from these forces tend to be resolved through the process of synthesis. This Gaian system's tendency towards greater complexity at the cosmic and geo-physiological level is also used by various macrohistorians to understand the past, present and future of humanity. Teilhard de Chardin (1961), Toynbee (1971), Sarkar (1983) and Eisler (1987) all use the tendency towards new synthesis or greater complexification to resolve contradictions within social systems.

Humanity as a species is part of the symbiotic relationships within Gaia; however, our technology has now become the major source of planetary change, disrupting the homeostasis or ecological balance. This factor makes it imperative that human civilisation is considered in the context of planetary history, geo-physiology and our relations with nature. Using Teilhard de Chardin's macrohistory, Wilber (2001: 97-99) argues for an integrated approach where the physiosphere is nested within the biosphere, which is nested within the noosphere, which is nested within the theosphere. Gaia theory integrates the physiosphere and the biosphere as a super-organism; however it is still nested within the human noosphere (super-consciousness). This means that Gaia as a holon can live without humans, but the human noos-

phere cannot live without Gaia.

The implication for the city of the Gaia hypothesis is that its future, being the future habitat of human culture and civilisation, cannot be segregated from the future viability, health and maintenance of Earth's life-sustaining homeostasis (Gaia). I propose that the normative theory for city design and urban form would be grounded in the same Gaian principles of:

- Complexification of energy and matter;
- Synthesis of systems;
- Symbiotic relationships;
- Self-regulation and bio-mimicry (or learning) towards dynamic balance (homeostasis).

The resultant city form would be compact, energy efficient, zero net waste and zero emission, equitably accessible, and symbiotically one with the ecology. In the past, such visions - such as Paolo Soleri's (1969) concept of "arcology" - were considered impractical: a city in the image of man. The Gaian imperative, however, now fundamentally challenges our modernist and neo-traditional forms of city design. City form in the future, I believe, must follow function and function will be reassessed to follow life.

Synergies between Macro Historical Perspectives

Macrohistories by nature are grand and diverse in their scope, time frames, and social unit of analysis. Galtung and Inayatullah (1997: 216) show that these diverse perspectives are complementary, not contradictory. The intent of using different macrohistories is not to predict the future, or literally apply the models to the city as if each theory represented the whole truth. Rather, my aim is to seek out the diverse implications that affect the city as a holon and part social unit through the diverse perspectives provided by macrohistorians. The commonalities that emerge around city futures through these 12 perspectives (six linear, four cyclic and three spiral models) are mutually supportive and robust. These common focus areas are:

1. The city collapse scenario;
2. The sustainable city;

3. The complex, compact, cybernetic city;
4. City governance and its transformation;
5. The humane and spiritual city;
6. The emerging city noosphere; and
7. The renewable energy-powered and efficient city.

The City Collapse Scenario

The linear macrohistorians, such as Augustine and Teilhard de Chardin, with their occidental worldview, and clear model of a beginning and end, share Spengler's view of the life cycle: there is a time for decline and death. As such, a city as a social unit or culture can expect the same. The reason for city collapse from Augustine's perspective is that humanity is imperfect and so too their products are corruptible. Ultimately, the great city of corruption - symbolic Babylon - will be wiped away when the City of God descends upon the Earth. For Teilhard de Chardin, city collapse is probable when the city acts incongruently with spiritual evolution. The city's citizens will tend toward entropy, individualism, depersonalisation and self-extinction. Likewise, Spengler saw the urbanisation of cultures at the mass civilisation stage as a similar process of decline and dispirited peoples. From Marx's perspective, if a cultural system is unable to reproduce itself, it collapses. Marx's concept of reproducibility with minimal exploitation was a prototype of the Brundtland Commission's concept of sustainability (1987): a city that is unsustainable will collapse or experience revolution.

Cyclic macrohistorians such as Khaldun, Sorokin, and Toynbee also anticipate cultural decline. The reason for city collapse in Khaldun's model is the loss of *asabiya* or social purpose. Here, a city can lose a competitive advantage in our rapidly changing global world when it loses sight of its vision or purpose. For Sorokin, city collapse is inevitable when the dominant cultural paradigm is materialistic and individualistic, and our nature of reality is concerned only about matter. This narcissistic behaviour trends towards chaos before renewal in the opposite Ideational direction. For Toynbee, city collapse occurs when the cultural change agents are

unable to respond creatively to challenges that threaten the city. Complacency is the indicator warning of a fall.

The Sustainable City

The sustainable city focus is common to Gaia theory, Marx, Sarkar, and Eisler. From the cosmic perspective of Gaia theory (Lovelock 1979), the city and its citizens need to maintain the Earth's homeostasis or dynamic balance. Eisler (1987) and the partnership model of organisation share this concept of stewardship and oneness. Eisler also argues that human technology initiated the age of co-creation with nature, but that, equally, it has the potential for co-extinction. The driver for both is that the city must be sustainable. For Marx (Marx & Engels [1848] 1975), the sustainable city allows inter-generational reproducibility of culture without environmental, social (class) and economic exploitation. The city must provide the basic human needs of its population: food, housing, health, and wellbeing.

My extrapolation of the *Shudra* city, from Sarkar's macrohistory, likewise focuses on the needs of the workers (downtrodden mass), whilst ensuring that the ecological health of the city's biosphere is maintained. Sustainability is a virtue from Sarkar's perspective, releasing society from the capitalist era's exploitation of the entire system, a system where nature is heading towards collapse and the society as a whole is comprised of two great classes directly facing each other across a wealth divide: the bourgeoisie and the proletariat (Marx & Engels 1975: 33). From Sarkar's perspective, the *Vaeshya* (Capitalist Bourgeoisie) and *Shudra* (Proletariat - *Ksatriyan*, and *Vipran* as they too serve the *Vaeshya's* pursuit of accumulation) collective minds have nowhere to go except revolution. It is not inevitable that this revolution has to be a violent struggle; rather, it may be peaceful if it is defined as the sustainability revolution. Here, all of Sarkar's self-conscious varnas unite to transform the system and ultimately themselves towards the qualities of *Sadvipra*. The *Sadvipra* embodies a new type of synergistic leadership that champions sustainability.

This sustainability revolution is observable today through the implementation of *The Natural Step* programme (Robèrt 2002) by states, cities or organisations, or the creation of Natural Capitalism (Hawken, Lovins & Lovins 1999) to transform the current world's capitalist economic system. Natural Capitalism uses four principles to drive the transformation process: (1) radically increase resource productivity; (2) copy the way nature does business (bio-mimicry); (3) re-invest in natural capital (assets); and (4) ensure no net loss of human or natural capital. The major benefit from cities following the principles of Natural Capitalism would be that humanity's habitation would be brought into a symbiotic relationship with Gaia. At a deeper level, Sarkar argues for a spiritual ecology where humanity is not put at the centre of all political, economic and cultural discourses (Inayatullah 2002: 28). Rather, humans are among many inhabitants of Earth, a view consistent with Gaia theory. The achievement of prama or dynamic balance between and within the societal, ecological and personal dimensions is fundamental for Sarkar, and reframes the meaning of sustainability, yet is strikingly similar to Lovelock's planetary homeostasis or dynamic balance.

The Complex, Compact, Cybernetic City that Creates Identity

This focus area is common to Gaia theory, Spengler (from the cyclic change camp) and Teilhard de Chardin (from the linear change camp). The central idea that emerges for the city is the process of complexification of urban form/design - maximising synthesis and bio-mimicry.

The concept of complexification - the idea that social organisations tend towards greater complexity in their evolution - is not uncommon in social theory. Whether comparing the unilinear change path of Teilhard de Chardin's model, the life cycle change path of Spengler's model, or Gaia theory's biological evolutionary path, the progressions from smaller to larger, simpler to more complex, rural to urban, and

low technology to high technology are universal in the long run. For Teilhard de Chardin, if the city acts congruently with evolution, the city becomes more complex and organised, and will tend to synthesise and converge in space and energy. When the city reaches its point of maximum synthesis, it attains a new different level and organisation of its wholeness. In a practical sense it becomes more multi-layered, dense and compact. Urban sprawl is transformed or abandoned for more energy-efficient organisational forms. Using biology as the analogy, I liken our current sprawling cities to a simple replicating virus, dependent upon its host and at the same time killing it. The next phase of development would liken cities to beneficial bacteria living within the host, contributing to its overall health.

For Spengler, the advent of the city or urbanisation was the stage of maturation for a culture. Architecture is a system of culture, and as such reflects that culture's spirit and central idea - collective *dharma* or purpose of being. Ideally, for Spengler, the architecture of a city provides cultural identity; however, as the process of maturation continues towards mass civilisation, the unique vernacular architecture tends towards mass production and global standardisation. The result is a city devoid of its cultural heritage. Teilhard de Chardin's notion that society likewise tends towards depersonalisation and entropy corresponds with Spengler's decline, driven by the money spirit, and Sorokin's "Sensate" cultural paradigm. The alternative to the sprawling urban form of sameness is synthesis of urban form. Design synthesis may reverse the trend towards sameness and re-create Rossi's "Locus" - the spirit of a place. Cities, as they bio-mimic nature's (Gaia's) synthesis of systems and complexification of energy and matter, may likewise become identifiable, beautiful, inspirational places and entities.

Transformation of the City and its Governance

The focus of the transformation of the city is common to Sarkar, Marx, Eisler and Khaldun.

The idea that becomes apparent is the need for our cities to continually transform to create better urban futures, and that governance is a key driver for such transformation. Sarkar's model emphasises the need for transformational leadership through the *Sadvipra* group mind. Linking city leadership and governance with the sustainability innovation provides the *Sadvipra* with a new agenda. Here, sustainability innovation towards Natural Capitalism is the leader's motivation and the leader must possess the skills of the traditional types: worker, warrior, intellectual, and trader to achieve their agenda. This means they must be energy based to improve productivity or services, whilst reducing resource consumption; courageous to challenge waste and injustice; wise to create human/social capability with no net loss of natural capital; and innovative enough to create new wealth. The *Sadvipra* are willing to construct a self that has aspects of all four *varnas* - servant, protector, intellectual, and innovator - and are highly evolved spiritually.

The leadership lesson for the city from Marx's perspective is that to transform the city's superstructure (civic, political and cultural systems), intervention would be required at all levels - the technical, economic, and spiritual. A multi-dimensional approach is fundamental in this age of chaotic cultural and systemic change. Sarkar's *Sadvipra* would likewise be skilled at implementing transformation towards a better urban future, using a multi-dimensional approach of social development. This multi-dimensional development of the city as a social unit would require, from Sarkar's perspective, a spiritual ideology and practice, a socio-economic theory, a social justice and solidarity ethic, city texts providing urban theory, meaning and inspiration, and finally a preceptor or change agent for urban innovation (Inayatullah 2002: 212). Sarkar argues that these six dimensions must be active for a successful civilisation, and thus, in an increasingly urban world, I suggest that they must be present in a successful city as well.

For Khaldun, what is important in transformational leadership is *asibiya* - the collective purpose, unity and memory that binds a group.

Applied alongside Sarkar, *asibiya* provides the shared city vision for the city's leaders (*Sadvipra*) across governments, business, NGOs and the citizenry. Here, Eisler's organisational model provides further insight as shifts occur between the dominator and partnership styles of civic and corporate governance. Within the multi-dimensional milieu that creates the city, partnerships between the city's stakeholders will be more effective if they are motivated by a collective purpose and vision (*asibiya*).

The era of hierarchical and regulatory forms of leadership may well be long gone if the aim is to provide learning city leadership able to rapidly adapt to and navigate the current and projected waves of chaotic cultural change. I propose that leaders who navigate cities through this change towards a better future will leverage sustainability innovation, by possessing multiple *varnas* (group minds/perspectives) and will be able to see and implement multi-dimensional processes to create effective partnerships bound by *asibiya* (collective purpose).

The Humane and Spiritual City

This focus area is common to Smith, Augustine, Teilhard de Chardin, Sorokin, and Sarkar. The implication for the city is the need for it to be a habitat for the human and spiritual development of its citizens.

Smith (1776), when formulating his *theory of moral sentiments*, may not have been influenced by Augustine but he was clearly influenced by Christianity's second "great law": "love your neighbour as you would love yourself". For Smith, an ascending society and, by association, an ascending city, would be one where the citizens combine self-love with love for others - the unity of the material and the spiritual - in their daily morality. The city becomes the social laboratory for human civilisation where the dialectic tension between self-love and love for others is tested and manifested. City design, then, is constructed not only to materially benefit its citizens by providing personal liveability, but also to spiritually benefit its citizens by providing public welfare. Contrary to this, Augustine believed humanity was incapable of creating

such a society or city, as our human condition embodies the imperfection of being motivated by self-love. For Augustine, the divine love for others (*agape*) is only possible through the soul controlled by God, Christ being the prototype of this love and the King destined to rule New Jerusalem - the sacred City of God. What is relevant from Augustine's model is the fact that New Jerusalem remains a powerful archetype or metaphor for Christian civilisation - the righteous city-church with centralised power collecting tithes and, in return, dispensing justice to the heathen colonies outside the city.

Teilhard de Chardin's evolutionary model of the universe describes how it tends toward the Spirit. Incongruence with this spiritual development of humanity leads to entropy, individualism, depersonalisation and, finally, self-extinction. The first three traits are observable in most if not all of our cities and would be of no surprise to Sorokin (1957). He too argued that western culture was currently dominated by a materialistic worldview or sensate paradigm, driving itself toward chaos before a swing towards an ideational (spiritual) cultural paradigm. His study of the development of architecture throughout his proposed cultural super-rhythm showed that the architecture of the city - whether rationalistic (modern) or eclectic (postmodern) - likewise is sensate. For Sorokin, the spiritual city would consist of ideational architecture, dedicated to building transcendental values within the citizenry by communicating the meaning and value of what is beyond the material world. The city would be manifest with spiritual symbolism.

The current dearth of compassion within our developing cities, and lack of balance between the material and spiritual in our western cities, has not gone unnoticed by the United Nations. The message that UNESCO brought to the City Summit (Habitat II) in Istanbul, targeting this dearth with a clear agenda, can be expressed in three words: "Humanising the City". Humanising the city for all ages (stages) of the life cycle would be a practical step towards initiating Sorokin's swing towards an Ideational cultural paradigm and spiritual city. For Sarkar, however humanising the city would only satisfy

the basic needs of material existence (*asti*) - access to shelter, food, clothing, education, and health services. Real progress (*bhati*) is only spiritual and is made possible through the existence and development of the six factors of civilisation described in the previous focus area. Those cities that have these factors will lead them to bliss (*ananda*), where individuals live in peace and justice and where spiritual development is possible. (Inayatullah 2002: 213) Inayatullah proposes that Sarkar's model and agenda seeks a spiritual planetary civilisation whose goal is to go beyond survival, and create a society where internal development - mental bliss - is possible. (ibid: 27) The spiritual city, for Augustine, Smith, Teilhard de Chardin, Sorokin, and Sarkar, is one where city design transforms to allow, promote and reflect the spiritual development of all citizens. The implication of this urban prerequisite is that our current sacred places within the city need to be redefined to free us from our constraining episteme of what is real. Instead, our sacred places need to nurture an expansive, universal spiritual ideology that allows open-ended exploration and evolution.

The Emerging City Noosphere - Learning, Conscious, Creative and Identifiable

This city noosphere focus is common to Teilhard de Chardin, Toynbee, Spengler, and Eisler. What I propose from their work is the idea that the city may become a conscious entity, able to respond to internal and external forces of change.

Teilhard de Chardin (1961) introduced the idea of the noogenesis as an evolutionary stage in his human macrohistory. It is the advent of human reflective consciousness and the shift from the biological condition to the cultural condition. The noosphere is the collective nature of human reality - the accumulation of successive intelligences and memories. For Spengler (1926) also, the "spirit of culture" is essentially collective consciousness focussed on actualising its central thought or idea. Add to

Teilhard de Chardin's and Spengler's shared notion of collective consciousness the fact that our cities are the technological hubs, enabling what Eisler argues is humanity's capacity to be co-creators within the universe, and the city emerges as the nexus for the next creative revolution. The city noosphere is reflective, conscious, creative and identifiable - capable of changing our evolutionary course. *The Matrix* movie is, I propose, the cultural expression of what the western collective consciousness fears most - the domination of the artificial intelligence of the city noosphere over the human noosphere. The virtual reality of this noosphere bondage and exploitation forms the Matrix. The reverse of this scenario is portrayed as more fruitful - the liberation of the human noosphere to pursue its spiritual path, enabled by the exploitation of artificial intelligence, genomic and nano-technologies. By 2025, with the projected convergence of these technologies, the city noosphere may well be a reality. Michio Kaku (1998) shows how the world will be changed by the convergence of three scientific revolutions - the computer revolution, the biomolecular revolution, and the quantum revolution. In this world, the Smart (Cyber) City is created, where all things potentially are seamlessly linked to the global neural network of the World Wide Web. The result of this convergence creates a highly interactive, dynamic and sentient form of human habitation (city), cohabitating in a symbiotic relationship with its citizens.

Till then, Toynbee's "creative minority" will have to guide the city through the anticipated waves of technological and social change with the appropriate creative responses to meet the challenges ahead. Toynbee's twentieth century model of cultural change is supported by Landry's (2000) twenty-first century argument for the "learning, creative city". Landry's central belief, that the learning city is the driver for the creative use of culture in urban revitalisation, fits Toynbee's model of social evolution. To quote Landry (2000: 267):

A developing city within society needs to be learning and a creative one. For Landry, a true learning city is one, which develops by learning from its

experiences and those of others. It is a place that understands itself and reflects upon that understanding - it is a "reflective city" and self-evaluation is a defining feature. As a result the learning city is able to develop successfully in a rapidly changing socio-economic environment. Where the unconcerned city flounders by trying to repeat past success for far too long, the learning city is creative in its understanding of its own situation and wider relationships, developing new solutions to new problems. The essential point made by Landry is that any city can be a learning city.

What he describes is essentially also Teilhard de Chardin's noosphere, actualising at the city level of collective consciousness: a probable scenario when enabled by the future technology of the Smart Cyber City.

Spengler also offers the city the key to developing a unique identity, against the tide of sameness caused by globalisation or what he terms mass civilisation and urbanisation. The city noosphere must maintain architecture as a vital system of its culture to express its spirit, episteme and cosmology. There are links here with the need for the spiritual city and its Ideational architecture. What is also useful is Spengler's analogy linking culture to a "personality". Combine this idea with the city noosphere, and the result is an actualising conscious entity with an identifiable personality. Teilhard de Chardin's process of complexification and synthesis gives birth to an "intelligent" city culture - possessing not only the conscious ability to learn and create, but also expressing an identity and personality that is the city noosphere. In this reality, the meta-architecture of the city noosphere is its exoskeleton and/or endoskeleton and ultimately the locus for its identity.

Renewable Energy-powered and Efficient Cities

The focus on efficient cities, powered by renewable energy is common to Kardashev, Lovelock, and Sarkar. The idea that emerges is that a significant driver of change for cities is the transformation of energy generation and supply.

Using Kardashev's model, our world and its

cities are deeply embedded at the Type 0 civilisational stage, where cities are predominately powered by non-renewable energy resources. This dependency on a finite resource makes our competitive systems vulnerable to ecological, social and economic collapse due to resource depletion, war and/or the failure of our means of technology and production. For Kardashev and Buckminster Fuller (1969), the only path to survival lies in the transformation of our nation states' plutocracy to a Type I civilisation - planetary governance powered by a global network of shared renewable energy sources. Cities in this global network are the nodes of solar energy generation and transmission. For example, in the daylight, cities would be generating power for themselves and for the cities on the 'night side' of the planet. Here, energy becomes the catalyst and driver for human development and global co-operation.

Energy generation and use within our cities currently make them the largest producers of entropy on the planet. From Lovelock's Gaian perspective, this phenomenon is disrupting the earth's dynamic balance (homeostasis), and, to reverse the trend towards greater entropy and the collapse of the earth's life support systems, our cities must become more energy efficient. Gaia theory, however, also provides the answer for our cities. They must model themselves on our ecology's frugal processes using the principles of bio-mimicry. The resultant city form would be compact, energy efficient, zero net waste and zero emission, equitably accessible, and symbiotically one with the ecology.

At this point, Sarkar enters once again and makes a contribution on the energy focus of cities from the meta-physical perspective and the nature of what is real. For Sarkar, the real is composed of waves of consciousness. In his cosmology, these waves transform into various forms of energy (Inayatullah 2002: 28) - physical matter being the final, most dense form of energy and consciousness. The physical fabric of the city is likewise a denser form of energy and space and is a part of the cosmic pattern of energy flow - never created nor destroyed and always transforming. With this cosmic view,

perhaps our cities could symbolise this deeper nature of the real and likewise reorganise their meta-architecture to enable continuous recycling and reconstruction within. The city, then, not only generates energy for use by its inhabitants, but its physical fabric is embodied energy and perhaps affects its citizens more deeply than we understand at the meta-physical level.

Conclusion

The lessons for the future of cities from a macro-historical perspective are simple. Change within the city may occur within different parts of the system and in different directions within those parts. The city's leadership may be pro-sustainability, whilst the economic system is pro-growth and in favour of increasing gross domestic product. As a result, we can expect decline in some city systems (e.g., leadership, social capital, natural capital) and renewal in other city systems (e.g., constructed capital - infrastructure, economy).

For effective policy development, implementation, and change navigation within our cities, an integrated and multi-dimensional approach is needed. Comparing the commonalities amongst different macrohistories when focussing upon cities revealed six dimensions of the city critical to its symbiotic future with human civilisation and development. These dimensions reveal a city's subsystems that are the hotspots for change intervention. Using a multi-dimensional approach with these subsystems, some of the indicators of change gleaned from the macrohistorical analysis of cities are:

Expect decline within a city system or subsystem where/when:

- Leaders are unable to respond creatively to challenge (complacency).
- Loss of *asibiya* - community purpose.
- Mass civilisation and urbanisation dominates.
- Materialism and individualism dominates.
- Class divides deepen - modes (economy) and means (technology) of production drift apart.

Expect renewal within a city system or

subsystem where/when:

- Creativity and learning abound.
- Spirituality develops - increase in *asibiya* with a grand vision or civic idea.
- Unique cultural identity is developed.
- Sustainability (Natural Capitalism) is a way of life.
- Transformation towards a planetary culture/civilisation abound (Think globally, Act locally).

The significance of this piece and the discourse between macrohistory and the development of cities as a cultural product is that four futures of the city emerge:

1. The *possible* future from the discourse between Smith, Augustine, Teilhard de Chardin, Sorokin, and Sarkar is the "Spiritual City".
2. The *probable* future from the discourse between Augustine, Teilhard de Chardin, Spengler, Khaldun, Sorokin, and Toynbee is the "Collapse Scenario".
3. The *plausible* future from the discourse between Sarkar, Spengler, Khaldun, Smith and Marx is "Mass civilisation and urban sprawl" - megalopolis.
4. The *preferred* future from the discourse between Lovelock, Marx, Sarkar and Eisler is the "Holistically Sustainable City".

Currently, most western cities are trending towards mass civilisation, urban sprawl and megalopolis, and the above dimensions gives a clue to where the cultural impetus for transformation will need to focus in order to shift it towards an alternative future. The city is the tangible cultural product of civilisation and as such can be positively used as a catalyst towards the development of a planetary humane civilisation.

Correspondence

University of the Sunshine Coast, Faculty of Arts & Social Sciences, Contact: Maroochydore DC, Qld 4558, Australia; pdaffara@usc.edu.au
Research findings based on PhD programme.

Note

1. For example the Maroochy 2025 Alternative Futures and leadership model was explored at a community visioning summit on April 3, 2004. Patriarchal hierarchy, strong regulation with top down expert leadership to dominate all stakeholders to save the environment was contrasted with Learning, participatory, strong partnerships and community governance to save the environment. 74% of the 369 participants preferred the latter leadership model.

References

- Brundtland, Gro Harlem. 1987. *Our Common Future: The World Commission on Environment and Development*. Oxford University Press.
- Buckminster Fuller, Richard. 1969. *Operating Manual for Space Ship Earth*. Simon & Schuster.
- Childe, V. Gordon. 1950. "The Urban Revolution." *Town Planning Review* 23: 3-17.
- Eisler, Riane. 1987. *The Chalice and the Blade: Our History, Our Future*. HarperCollins.
- Galtung, Johan & Inayatullah, Sohail. (Eds.) 1997. *Macrohistory and Macrohistorians - Perspectives on Individual, Social and Civilisational Change*. Praeger.
- Hawken, Paul, Amory Lovins, & Lovins. L. Hunter. 1999. *Natural Capitalism*. Little, Brown and Company.
- Inayatullah, Sohail. 2002. *Understanding Sarkar*. Brill.
- Kaku, Michio. 1998. *Visions - How science will revolutionize the 21st Century and Beyond*. Oxford University Press.
- Khaldun, Ibn. 1377. *The Muqaddimah*. [Khaldun's macrohistory is discussed in detail in Galtung & Inayatullah, op cit., 31.]
- Kitto, H. D. F. 1951. *The Greeks*. Pelican.
- Koestler, Arthur. 1967. *The Ghost in the Machine*. Hutchinson.
- Landry, Charles. 2000. *The Creative City - a Toolkit for Urban Innovators*. Earthscan.
- Lovelock, James. 1979. *Gaia*. Oxford University Press; Jones, Christopher. 1997. "Cosmic Gaia: Homeostasis and Planetary Evolution." P 152 in *Macrohistory and Macrohistorians - Perspectives on*

- Individual, Social and Civilisational Change*. Edited by Johan Galtung and Sohail Inayatullah. Praeger.
- Marx, Karl & Engels, F. 1975. *Manifesto of the Communist Party*. Foreign Languages Press. [First published in London in 1848.]
- Moughtin, Cliff, Rafael Cuesta, Christine Sarris, & Paolo Signoretta. 1999. *Urban Design - Method and Technique*. Butterworth Architecture.
- Pirenne, Henri. 1925. *Medieval Cities*. Princeton University Press.
- Ray, Paul H., and Sherry Ruth Anderson. 2000. *The Cultural Creatives: How 50 Million People Are Changing the World*. Harmony Books.
- Robèrt, Karl-Henrik. 2002. *The Natural Step Story: Seeding a Quiet Revolution*. New Society.
- Rogers, Everett. (1962). *Diffusion of Innovations*. Free Press of Glencoe.
- Rossi, Aldo. 1982. *The Architecture of the City*. Institute for Architecture and Urban Studies and MIT.
- Sarkar, Prabhat Rainjan. 1983. *The Liberation of Intellect - Neo Humanism*. Ananda Marga Publications.
- Savage, Mike & Alan Warde. 1993. *Urban sociology, Capitalism and Modernity*. Macmillan.
- Smith, Adam. 1776. *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2 Vols., Everyman's Library (Methuen, 1950, 6th ed.).
- Soleri, Paolo. 1969. *Arcology: The City in the Image of Man*. MIT Press.
- Sorokin, Pitirim A. [1957] 1985. *Social and Cultural Dynamics : A Study of Change in Major systems of Art, Truth, Ethics, Law, and Social Relationships*. Transaction Books.
- Spengler, Oswald. 1926. *The Decline of the West*. Alfred A. Knopf. [Spengler's macrohistory is discussed in detail in Galtung & Inayatullah, op cit., 99.]
- Tarde, Gabriel. 1903. *The Laws of Imitation* (Les Lois de l'imitation, 1890). Henry Holt and Company.
- Teilhard de Chardin, Pierre. 1961. *The Phenomenon of Man*. Harper and Row.
- Toynbee, Arnold. 1972. *A Study of History* (rev. ed.). Oxford University Press. [Toynbee's macrohistory is discussed in detail in Galtung & Inayatullah, op cit., 122.]
- Wilber, Ken. 2001. *A Theory of Everything: An Integral Vision for Business, Politics, Science and Spirituality*. Shambhala.