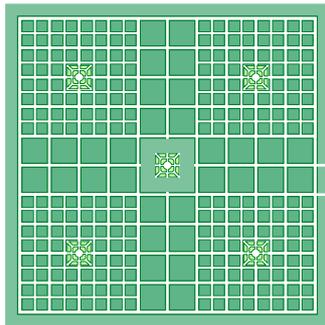


The Syncretic Role of Maharishi Vedic Science and Vedic Architecture in Ecological Urbanism



Dr. Neil Hamill

Institute of Vedic City Planning
MAHARISHI UNIVERSITY OF MANAGEMENT
THE NETHERLANDS

Email: VedicCityPlanning@maharishi.net

The Syncretic Role of Maharishi Vedic Science and Vedic Architecture in Ecological Urbanism

The United Nations Population Fund (UNFPA) predicted accurately in 2007, that by 2009 more than half the global human population would live in urban areas.

In some nations that proportion is already much higher; for example approximately 90% of the present population of the United Kingdom is suburban/urban (office of Deputy Prime Minister ODPM, 2001).

In his introduction to the book, Ecological Urbanism Mohensen Mostafavi (2010) states: “Increased numbers of people and cities go hand in hand with a greater exploitation of the world’s limited resources. Every year, more cities are feeling the devastating impacts of this situation.”

Mostafavi asks the question: “What are we to do? What means do we have as designers to address this challenging reality?”

This paper outlines a solution to this most urgent issue that threatens the viability of our biophysical environment.

Mostafavi notes that “the prevailing conventions of design practice have demonstrated a limited capacity both to respond to the scale of the ecological crises and to adapt their established way of thinking.” Mostafavi goes on to urge that we reconsider the core of disciplines that help us think about the phenomena of the urban, and “develop a cross-disciplinary and collaborative approach towards urbanism developed through the lens of ecology.”

The literature includes two polarised and conflicting view points:

- i. The thinking developed by social ecologists, social reformers and philosophers and
- ii. The thinking of those adopting the more traditional western scientific paradigm.

This paper examines these inherently conflicting view points and outlines a syncretic solution through Maharishi Vedic Science and Vedic Architecture that bridges these views.

For ease of discussion these disparate viewpoints will be referred to as:

- a) Ecological Urbanism with an Ecosophical perspective – an extension and broad application of the ethico-political articulation introduced by Guattari in his “Three Ecologies.
- b) Ecological Urbanism with an Ecological Science perspective – which is based on a western scientific approach.

a) Ecological Urbanism with an Ecosophical perspective.

Some of the conceptual scaffoldings of this subject were espoused by Friedrich Schiller, the great German philosopher of the late eighteenth century. In his Letters Upon the Aesthetic Education of Man, Letter IV, 1794, Schiller stated “It may be urged that every individual man carries, within himself, at least in his adaptation and destination, a purely ideal man. The great problem of his existence is to bring all the incessant changes of this outer life into conformity with the unchanging unity of this ideal.”

Schiller saw these idealised truths of art (and architecture) captured in stone.

Some of the more recent and eminent ecosophic thinkers of our times are Naess, Bateson, and Guattari.

Naess (1973) developed his theories of Deep Ecology because he felt that ecological science dealt primarily with isolated variables and logic, and did not deal with ethical questions about how we live. For Naess, ecological wisdom and realisation of the higher Self were inseparable. Naess quotes Verse 6.29 of the Bhagavad-Gita,

“He whose self is established in Yoga (Union), whose vision everywhere is even, sees the Self in all beings, and all beings in the Self”.

His view was: the more we expanded the Self of the individual to identify with people, animals, plants and the ecosphere itself, the more embodied we became in being, thinking, and acting in ecological wisdom and harmony. He coined the term Ecosophy (a portmanteau word combining Ecology and Philosophy). Naess prescribed a move from what he viewed as an anthropocentric, scientific paradigm to a more cosmic and egalitarian paradigm where all corporeal beings had an equal right to all the resources of the ecosphere.

Gregory Bateson, in his ‘Steps to an Ecology of Mind’ wryly notes “There is an ecology of bad ideas, just as there is an ecology of weeds!” Bateson argued that a healthy ecology could be defined as “a single system of environment combined with high human civilisation in which flexibility of the civilisation shall match that of the environment to create an ongoing complex system, open ended for slow change of even basic characteristics”.

He went on to define a 'high civilisation' as one that "shall contain whatever is necessary (in educational and religious institutions) to maintain the necessary wisdom in the human population and to give physical, aesthetic and creative satisfaction to people".

Bateson, unlike Darwin, saw the key unit to survival in evolution as the organism AND its environment. He also reminds the reader that multiple determination is characteristic of all biological fields and therefore any system is the product or outcome of multiple determination. And furthermore, any feature of a biological system is generally not controlled exclusively by the need which it fulfils. For example in humans, eating is not only governed by hunger, but also social convention, appetite and habit. The multiple causes of eating ensure the performance of this biological requirement under a variety of circumstances and stresses, whereas if eating was controlled only by hypoglycaemia, any disturbance of this single pathway would result in death.

Engineers and planners design to meet needs in a much more specific and direct manner, and therefore, according to Bateson, their products are less viable.

Bateson goes further to say "It is impossible, in principle, to explain any pattern by invoking a single quantity" and laments the fact that "occidental epistemology" requires an artificial isolation of variables and therefore is by nature fragmented. He concludes that science has an inbuilt arrogance that is not useful in that it propagates the notion that man exists outside the Mind, and this leads man to believe in what Bateson calls "the philosophy of control, based on false knowledge".

Bateson maintains that the pathologies of our time may be broadly attributed to the erosion of the flexibility of the biological and physical resources of the ecosystem. He defines flexibility as "the uncommitted potentiality for change" and concludes that if a "budget of flexibility" is central to how the environment – civilisation works, and if a category of pathology is related to unwise spending of this budget, then surely the flexibility of ideas will play a pivotal role in maintaining a healthy environment.

Felix Guattari, a French militant and a psychoanalyst and poststructuralist philosopher, has been a much quoted thinker in the field of Ecosophy. He was heavily influenced by Bateson's thinking. In his *The Three Ecologies*, Guattari maintains "nature cannot be separated from culture".

In *Chaosmosis*, Guattari (1995) poses the question "How do we change mentalities, how do we reinvent social practices that would give back to humanity – if it ever had it – a sense of responsibility, not only for its own survival, but equally for the future of all life on the planet, for animal and vegetable species, likewise for incorporeal

species such as music, the arts, cinema, the relation with time, love and compassion for others, the feeling of fusion at the heart of the Cosmos?”.

Guattari answers this question in *The Three Ecologies* where he develops his ethico-political concept of Ecosophy in the form of three ecological registers – the environment, social relations and human subjectivity. He maintains the only true response to the ecological crises can be achieved on a global scale, “provided that it brings about an authentic political, social and cultural revolution, reshaping the objectives of the production of both material and immaterial assets”.

Guattari urges that we “rid ourselves of all scientific references and metaphors” and that we embrace a new ethico-aesthetic paradigm.

Guattari notes the role of “media fatalism”, which he equates to a misunderstanding of a number of essential facts, including the possibility of a “sudden mass consciousness-raising” in the human population.

This field of social ecology has been commented on by a plethora of viewpoints. Ecofeminists, a term attributed to a French feminist, Françoise d’Eaubonne, say the problem is rooted more in androcentrism than anthropocentrism.

Ecofeminists such as Diamond (1990), Orenstein (1990), Shiva (1993), and Warren (1997) have written compellingly in the fields of environmental ethics and ecofeminism.

Social ecologists such as Bookchin (1987) maintain that “ecologically sustainable societies could still be socially exploitive”, a notion that Deep Ecologists generally dismiss as an anthropocentric fallacy as it is equally possible for a socially egalitarian society to continue to exploit the ecosphere.

These philosophical approaches to Ecological Urbanism, in many cases, seek a solution that is devoid of the pragmatism of science and instead rich in the ethics of a new paradigm of social, aesthetic, cultural and consciousness based thinking.

b) Ecological Urbanism and Ecological Sciences

All fields of science have faced the accusation of causal oversimplification at some time in their history. This is because empirical sciences tend to isolate single factors to be proved or disproved.

Much of the ecosophical discussion reviewed in this paper has drawn attention to this fallacy of the single cause. However the field of ecological sciences abounds with profound thinkers in ecology and conservation biology. The challenge facing this field of ecological urbanism is the multidisciplinary collaboration (e.g. Mostafavi,

2010) of these gems of research with research gems from other disciplines that have the ability to influence and shape the urban such as: orientation, geography, pollution, weather, sound and smell, cultural and spiritual.

The ability to string these gems into one coherent necklace of inter-related, interdisciplinary knowledge is today's challenge that is facing ecological urbanism.

No study of ecological sciences could fail to mention the work of the 'father of modern ecology' – Richard T. T. Forman. Forman's publications have provided a coherent framework for the study of the swift spread of urbanisation (which Forman calls an 'Urban Tsunami') since the early twentieth century.

Forman (2010) defines Ecology as the study of interaction of organisms and the environment. Urban ecology, Forman says, has emerged as a core field for societal solutions. As such it must also seek to explain biodiversity and the movement of materials and energy through living environments – the measure of the health of an ecosystem in its climatic zone.

In addition ecological urbanism must consider cultural, aesthetic, intellectual and spiritual factors.

Bateman voiced the concept of the "metabolism of civilisation". Wolman (1965) described the concept of the metabolism of cities. Urban metabolism (Kennedy et al 2009) has become a central concept in understanding the science of cities. Shane, 2009, notes a true urban ecology provides feedback mechanisms to safeguard its future. This notion of urban homeostasis reflects Bateson's calls for a 'budget of flexibility in the environment – civilisation relationship', and he uses the example of an acrobat on a wire, moving from one position of instability to another in order to stabilise the fundamental variables of his environment. This concept of urban homeostasis is touched on by Outram et al, (2010), where they use microelectromechanical systems (MEMS) to collect real-time data on-flows of objects (and people) to provide information for 'feed-back loops' in a concept described as 'self engineering'.

There is a plethora of research on the sustainability sciences. This paper limits itself to consider two case studies:

- (a) One that deals with the most significant of human effects on nature – Greenhouse Gas emissions (GHG)
- (b) One that deals more with the microscopic sensory impact of our urban environment – soundscapes.

These subjects are reviewed in terms of the merits and limits of their contribution to understanding Ecological Urbanism and by extension the merits and limitations of ecological sciences in explaining the holistic impact of ecologic urbanism.

(a) Greenhouse Gas Emissions

Kennedy et al, (2009), completed an elaborate and erudite study on Greenhouse Gas emissions from 10 global cities. The study demonstrates how the metabolism and GHG emissions of a city are strongly dependent on several factors such as:

- i. Climate and in particular heating degree days. Kennedy notes this could change with a revised building code that ensures tighter building envelopes, thereby providing another variable.
- ii. Urban form – transportation energy use and GHG emissions inversely correlated with population density. Kennedy notes the density of a city may be a result of other factors such as the age of the city, fuel prices, or simply the availability of land for urban growth. These factors lead to other variables which may further complicate the findings.
- iii. A balance of other geophysical factors such as access to resources, and gateway status, as well as technical factors such as power generation, urban design and waste processing also determine the GHG's attributable to cities. Kennedy et al further note that within overall trends, cities with more or less public transit as well as building codes and size of dwellings require additional research.

The study suggests that cities may best learn from sister cities with similar geophysical environments, but in all cases other socially driven policies such as building codes and city spending on transit may well skew the findings.

The above considerations illustrate some of the pitfalls arising from isolating single causes in a complex and interactive system.

Alain de Botton, (2006), reminded us of Le Corbusiers' observation "we must always remember that the fate of our cities are decided in our Town Halls".

These political processes have, undoubtedly, a significant influence on the metabolism and therefore the metabolites of the urban environment. Understanding and influencing political policies must be a relevant rate-determining step in the improvement of the urban environment.

De Botton, (2006), notes 'the failure of architects to create congenial environments mirrors our inability to find happiness in other areas of our lives. Bad architecture is in the end as much of a failure of psychology as of design.' The same could perhaps be said of our city planners and city fathers. This demonstrates why a multidisciplinary approach better serves the needs of Ecological Urbanism.

Moore, (2010), comments that it is critical in the wider arena, to stop dividing things into bite-sized pieces, be they biological or cultural, of scientific or artistic concern. She notes: “it is the whole thing, the ideas and values we hold and their expression in physical form, be it green, grey or blue, that defines us.”

This discussion reveals some of the limitations of relying exclusively on ecological sciences to provide a holistic solution to the problems of Ecologic Urbanism.

b) Soundscapes

Irvine et al, (2009), used Porteous and Mastin, (1985), definition of a soundscape as the overall sonic environment of an area, ranging in size from a room to a region. The study examined greenspace, soundscapes and urban sustainability from an interdisciplinary viewpoint. Their research suggested that decisions to increase biodiversity in urban green spaces can generate ecological and psychological benefits through enhanced soundscape quality, contributing to urban sustainability. However, Irvine et al note that there is a complex interplay between personal, ecological and physical/spatial factors in shaping the perception, evaluation and use of public urban green space.

The paper notes for instance (Yang and Kang, 2005), research that suggests age differences are present in the evaluation of acoustic comfort and sound preferences. Younger people seem to prefer mechanical sounds more than older people who prefer more natural sounds.

Irvine et al note that past research by environmental psychologists have often:

- i. assumed the natural environment is an inert backdrop to personal experiences and actions
- ii. reduced habitats to a mono dimensional independent variable called levels of vegetation, and overlooked the structural complexity of urban habitats and the potential significance of particular biodiversity features such as bird song
- iii. by-passed non-visual sensory aspects of how urban green space is experienced, e.g. acoustic aspects of hearing passing traffic, construction and children playing. Green spaces are clearly experienced on a multi-sensory level

The modern day Japanese definition of the term “Wabi-sabi” is “wisdom in natural simplicity”. Gaining the ‘wisdom’ of the collective sensory and psychological experience of soundscapes is a truly multi-disciplinary task.

Earlier research on soundscapes that did not take into account this multi-disciplinary approach, did not provide such a valuable understanding of the role of green spaces in urban sustainability.

McDonald, (2008), calls for an evidence-based philosophy that pulls ecologists and conservation biologists out of the internalised nature of their own disciplines and into a more inclusive and more collaborative venture.

The future credibility of ecological urbanism lies in the melding of scientific thinking into the broadest philosophical framework that accounts for the cultural, spiritual and aesthetic factors intimately bound to the urban.

Architectural Approaches to Ecological Urbanism

Once again there is a plethora of studies in the literature, that offer architectural solutions to the ecology of the urban. The Leeds and Greenstar approaches have great merit in individual and larger scale built environments. Baubiologie is truly comprehensive on a localised scale, but it does not offer scalable, structurally relevant solutions to the tectonic upheaval experienced in 2011 in Christchurch, New Zealand and Sendai, Japan.

These urban environments localised on the Pacific Ring of Fire, require more environmentally responsive solutions such as the use of High-Force-to volume (HF2V) dissipators, (Mander et al 2009) and overall Damage Avoidance Designs (DAD) using steel beams and columns. Sustainability in these seismically profound regions is more about the fundamentals of stable hysteresis and repeatable energy dissipation, than it is about electrosmog or Faraday cages.

Naess, Bateson and Guattari called for global scale solutions. Shane 2009, notes that “small scale ecofriendly solutions do not address fundamental issues of social justice and equity that are also part of the foundations of a true urbanity”.

The field of Ecological Urbanism desperately requires a technology and strategy that can syncretically uphold the polarised but tautologically sound views of objective sciences and subjective philosophy. This will need to be an ‘evidence-based’ philosophy (McDonald 2009) that has the scope to accommodate the Self referral Ecosophy of Naess, Bateson and Guattari whilst preserving the evidence based and empirically ground requirements of ecological sciences.

Such a profound science and technology not only exists but is well researched. This is known as Maharishi Vedic Science and Technology (MVS) and has embodied in its principles, Maharishi Vedic Architecture. An overview is presented in this paper.

Maharishi Vedic Science and Vedic Architecture

Maharishi Vedic Science identifies a single, universal source of all orderliness in Nature. This holistic seat of Natural Law, (Maharishi Mahesh Yogi, 1995), has its seat in the Atma or Self of everyone, the self-referral intelligence of everyone. The Self (Atma) is at the base of the intellect, mind and senses.

The term, Natural Law, refers here (Nader 2000) to the integrated, balanced and holistic functioning of all the Laws of Nature. Maharishi Vedic Science describes the source of these fundamental Laws of Nature as an unmanifest state of absolute pure Being, devoid of anything outside of itself. This universal source of all the Laws of Nature (Nader 2000) is self referral and self sufficient. It is in its state of pure consciousness, conscious of itself. Maharishi Mahesh Yogi (1996) notes that all the Laws of Nature in their unmanifest state are located in the dynamics of self-referral consciousness.

Nader (2000) notes that this total potential of Natural Law on the self referral level of individual intelligence is fully enlivened by the attention of the conscious mind through the applied technologies of Maharishi Vedic Science, which includes Maharishi Transcendental Meditation and the TM Sidhi Programme. Nader notes the extensive body of research in these technologies which have been shown to create coherence in collective consciousness and to lead to the elimination of collective stress. For example, in 1972, it was clearly demonstrated that when 1% or more of the population practised TM, crime dramatically decreased. (Orme-Johnson et al) This has been repeated in many cities of the world since then. Social scientists have dubbed the net effect of this phenomena as the Maharishi Effect. (Orme-Johnson et al)

These technologies enable individuals and societies that constitute the urban, to have enlivened at the very seat of their own self-awareness, the Laws of Nature that so desperately need to be respected and preserved in the greater environment. When these Laws of Nature become enlivened at this level of intimacy of the Self, the state of Pure Being, then this level of intimate respect of nature is offered by the individual back to the ecology of the urban. This creates that perfect ecology of the mind, that Bateson searched for. It also satisfies the fundamental 'Naessian' platform of Deep Ecology, where all of the Laws of Nature are viewed in terms of the higher Self.

Maharishi Mahesh Yogi (1996) notes the dynamic equilibrium of the human physiology is upheld by a hierarchy of self regulatory processes called homeostatic feedback loops. The whole physiological dynamics with its homeostatic feedback loops is constantly referring back to its self-referral source, the DNA, whose intelligence has evolved the whole physiology. The dynamic equilibrium of the hierarchy of urban self regulatory processes ("urban homeostasis") is upheld at its self referral source by Maharishi's Vedic Technology which locates the seat of self referral consciousness in the ecology of the urban. This self-referral source of Pure

Being is the basis for the “budget of flexibility” and the flexibility of new ideas and new sentiments that Bateson called for in his Ecology of the Mind.

McDonald, (2009), notes the design of cities of the 21st Century, good or bad is fundamentally a human decision. He also notes that the form of urban development, which is clearly linked to energy use and CO² emissions, will control resource use for generations to come.

This is an opportunity for urban planners, designers, architects and ecologists to adopt the principles of Maharishi Vedic Architecture (MVA), which brings the knowledge of Natural Law to architecture. MVA recognises that ecologically auspicious urban form has to take in consideration that most fundamental source of Natural Law, the Sun, as well such factors as orientation, proportions, dimensions, density, influences of the environment and even locations of bodies of water. Vastu is the Vedic term used for the design and structure of a building or city that is in harmony with Natural Law. Nader (2000) notes that when specific dimensions and proportions of a building are calculated using the ancient formulae of MVA, then the relationship of the owner of the house with his cosmic counterparts of the greater ecology of Nature is maintained in perfect resonance.

John Ruskin in *The Poetry of Architecture* (1839) and *The Seven Lamps of Architecture* (May 1849) notes that all good architecture is the expression of national life and character. The genius and character of a nation is unmistakably stamped on its architecture. With the Greeks this was refined perfection, with the Romans the grandeur of construction, with the Gothic the passion for new forms – with Maharishi Vedic Architecture it is the ability to build in accord with Natural Law and in unity with the environment.

This is extremely important when considering the effects of architecture and urban planning. The effects of architecture and planning differs from other forms of art or spatial planning, because the individual not only views the structure from the outside, both from an individual house to an urban settlement, but also lives within it and experiences its living effect.

The relationship between the form of the building and the form of the urban, and its relationship to human scale is considered to be very important in MVA.

The goal of Maharishi Vedic Architecture is to create structures that are in harmony with the structure of the universe, and bring the expression of Natural Law into the life of every individual and every urban form.

Maharishi Mahesh Yogi (1998) defined MVA as the most ancient and complete system of architecture and planning according to the solar, lunar, and planetary influences on the earth with reference to the north and south poles and the equator – connecting individual life with Cosmic Life, individual intelligence with Cosmic Intelligence

According to UNPD, 2005b, by 2030, 1.7 billion new people will move into settlements not yet in existence. Predominantly these will be found in the developing

world (UN-HABITAT, 2006). It is of critical importance for the sustainable future of our planet, to build these new urban environments so that they function sympathetically with Natural Law.

Because of the dispersed nature of future urbanisation, McDonald, 2009, suggests that any technologies or strategies aimed at increasing urban sustainability must have the following categories:

- i. **They must be scalable, that is feasible to implement in thousands of cities.** Maharishi Vedic Technology and Vedic Architecture can deal with small cabins through to large cities, from individuals to urban populations. There is, in addition, a large source of highly experienced, well trained individuals and companies to carry out this task.
- ii. **They must be flexible, able to adapt to a myriad of local circumstances.** Maharishi Vedic Technology and Vedic Architecture has recently been taught and practised in most countries of the world. It does not require religious faith or beliefs and can be adopted successfully by all cultures.
- iii. **Must be fairly inexpensive, within the budget of most developing countries.**

As McDonald points out, developed nations have a role to play in supporting sustainable development. The 'urban tsunami' occurring in developing countries needs to be conducted in a responsible manner. It is to the benefit of developed countries to ensure they assist financially in this urbanisation as they too benefit from responsible global development.

Many conservation NGOs have developed systems known as "Payment for Ecosystem Service" or PES. PES schemes can be devised and paid for by developed countries to assist developing countries adopt Maharishi Vedic Science and Vedic Architecture.

The corresponding rise in global collective coherence in consciousness, and the enrichment of our ecology by urban forms built in accordance with Natural Law is a joint financial responsibility of all humans dwelling on and inheriting our Planet.

This is the role of Maharishi Vedic Science and Vedic Architecture in Ecological Urbanism.

Bibliography

Bateson, G. *Steps to an Ecology of Mind*, Jason Aronson Inc, Northvale, New Jersey, London

Bookchin, M. (1987) *Social Ecology versus Deep Ecology: A Challenge for the Ecology Movement*, *Green Perspectives / Anarchy Archives*

D'Eaubonne, F.

de Botton, A. (2006) *The Architecture of Happiness*, Penguin Group, ISBN 13;978-0-241-142419-3

Diamond, I, Orenstein, GF, (1990) *Revealing The World: The Emergence of Ecofeminism*, Sierra Club Books, San Fransico, ISBN 087-1566230

Forman, R.T.T. *Urban Ecology and the Arrangement of Nature in Urban Regions*, pp 312-323, *Ecological Urbanism*, Lars Muller Publisher ISBN 978-3-03778-189-0

Guattari, F. (1995) *Chaosmosis: An Ethico-Aesthetic Paradigm* translated by Paul Bains and Julian Pefanis, Indiana University Press, Bloomington & Indianapolis

Guattari, F. *Three Ecologies* translated by Ian Pindar and Paul Sutton, The Athlone Press, London and New Brunswick, NJ

Irvine, K N, Devine-Wright, P, Payne, S R, Fuller, R A, Painter, B, Gaston, K J. (2009)*Green space, soundscape and urban sustainability: an interdisciplinary, empirical study*, *Local Environment*, 14:2, 155 - 172

Kennedy, C, Steinberger, J, Gasson, B, Hansen, Y, Hillman, T, Havranek, M, Pataki, D, Pholungsilp, A, Ramaswami, A, Mendez, GV. (2009) *Greenhouse Gas Emissions from Global Cities*, *Environmental Science & Technology*, Vol 43, No. 19

Mander, JM, Rodgers, GW, Chase, JG, Mander, JB, McCrae, GA, Dhakal, RP. (2009) *Journal of Structural Engineering* Vol 135, No. 11, pp1390-1397

McDonald, RI. (2008)*Global Urbanisation: can ecologists identify a sustainable way forward?* *Front Ecol Environ* 2008: 6 (2): pp99-104

Moore,K. (2010) *Nature Cultur,e* pp 468-472, *Ecological Urbanism*, Lars Muller Publisher ISBN 978-3-03778-189-0

Mostafavi, M. *Why Ecological Urbanism? Why Now?* *Ecological Urbanism*, Lars Muller Publisher ISBN 978-3-03778-189-0

Nader,T. (2000) *Human Physiology expression of Vedic and the Vedic Literature*, Maharishi Vedic University, Vlodrop, The Netherlands, ISBN 81-7523-017-7

Naess, A. (1973) *The shallow and deep, long range ecology movements: a summary*, *Inquiry (Oslo)*, V 16: pp 95-100

Naess. *Deep Ecology*.

ODPM. (2001) *Habitat UK national report*. London: HMSO

Orme-Johnson D W, Farrow J T. *Scientific Research On The Transcendental Program*, Collected Papers, Vol 1-6. ISBN 3-88333-001-9

Outram, Biderman, Ratti. (2010)*Self-Engineering Ecologies* p168, *Ecological Urbanism*, Lars Muller Publisher ISBN 978-3-03778-189-0

Porteous, J D, Mastin, J F. (1985) *Soundscape*, *Journal of Architectural and Planning Research*, 2 (3), 168 - 186

Schiller, F. (1794). *Letters Upon the Aesthetic Education of Man*, Letter IV.

Shane,G. (2009)*The Emergence of 'Landscape Urbanism' Reflections on Stalking Detroit*, *Harvard Design Magazine*, Fall 2003/Winter 2004, Number 19

Shiva, V, Mies, M. (1993) *Ecofeminism and the politics of identity in the developing world*, London and New Jersey, Zed Books

UNFPA. (2007) *State of World Population 2007: Unleashing the potential of human growth*, New York: UNFPA

- UNPD (UN Population Division). (2005a) *Population Challenges and development goals*, New York, NY: UN Population Division
- UN-HABITAT (UN Settlements Programme). (2006) *State of the World's Cities*, New York, NY: UN Settlements Programme
- Warren, K, Nisvan, E. (1997) *Ecofeminism: women, culture, nature*, Indiana University Press, ISBN 0-253-33031-9
- Wolman, A. (1965) *The Metabolism of Cities* 213 (3): *Scientific American* 179-190
- Yang, W, Kang, J. (2005a) *Soundscape and sound preferences in urban squares: a case study in Sheffield*, *Journal of Urban Design*, 10 (1), 61 - 80
- Yogi, M. (1995) *Maharishi University of Management, 1958*, ISBN 81-7523-001-0
- Yogi, M. (1996) *Absolute Theory of Defense, 1996*, ISBN 81-7523-000-2
- Yogi, M. (1998) *Celebrating Perfection in Administration, 1998*, ISBN 81-7523-015-0