Source: NASA

Source: Liz Jone

Source: NASA

Source: Roger Saunders

Indian Cities

Today, The Cities in India are faced with the aftermath of Increased Globalisation and Economic Development.

There is a scarcity of resources; from living space, to power, water and transport.

Various Factors impede the process of Sustainable Urbanization: Poor civic infrastructure, Urban Governance and government policy, Planning bias towards metros, Decay of small cities, Slow industrialization and Climate Change.

Evolutionary Environments

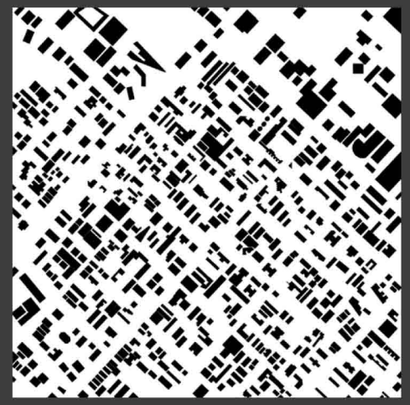
There is a fundamental transformation taking place in culture; scientific culture and epistemological culture. New theories of Nature which emphasise the multiple, the temporal and the complex, and technology which promotes connection as opposed to separation are radically redefining our conception of space.

Even though there have been prior changes in the conception of space, from the rigid mathematical rationalized space of the 14th and 15th century, to an anthropometrically perceived space with the rise of perspective, the change today is fundamental, moving from a static physical model to an evolutionary biological model.

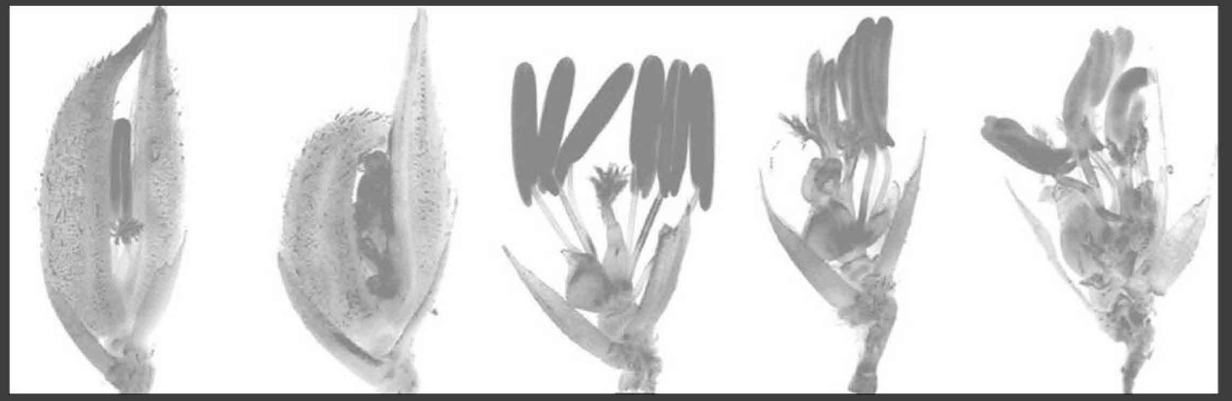
Complex Systems and Patterns coexist and create a dynamic in nature in various organizational capacities.

New York

London



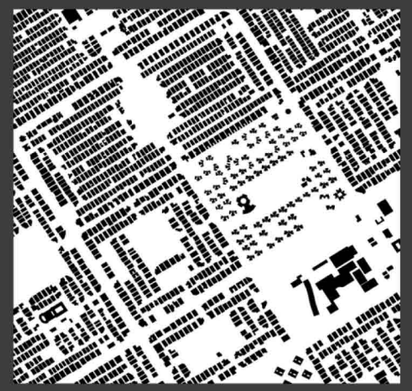
Sao Paulo



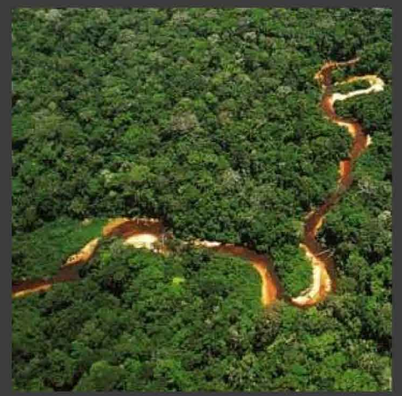
Nature systematic growth

Mumbai

New Delhi



Kolkatta



Source: Urban Age

India: Cities and Urban Morphology

Larger and yet more compact cities allow for provision of better public transport infrastructure. This has a direct impact on the environment through reduced emissions and fuel-use.

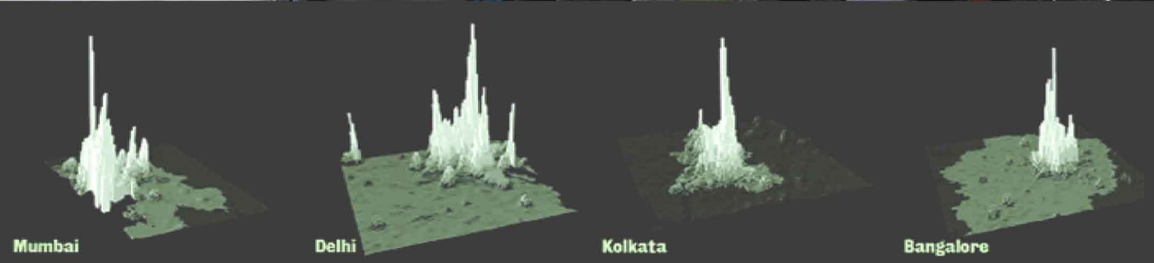
Rapidly Growing Cities are the hubs of boom in Economic activity and are the source of Increased Energy Use, Waste Generation and Pollution.

Plagiarising Processes from Nature

Current models of City Planning tend to place emphasis on quantifiable data and are empirical.

The evolutionary environment attempts to model more intangible data; subject to the more emotive, spatial realm of human experience; data which does not easily lend itself to the language of symbolic logic; data which supports no rational nexus.

A new model is hence proposed for the creation of form, structure and organization in emulation of the morphogenetic processes of nature in order to achieve in the built environment the characteristic symbiotic behaviour and metabolic balance found in the natural environment.



Source: Lee Coursey

Source: Aaron Escobar

Source: Hobvias Sudoneighm

India: Population and Pollution

The percentage by which the population of India increases by each year is 1.3%. This is equivalent to 10 million people (the total population of Mumbai).

An increase of 1% in Urban population increases Energy consumption by 2.2%.

Although Not a developed country, India is the 4th largest CO2 emitter: 1.34 Billion Tonnes per annum[1] (After China, US and Russia respectively).

Delhi, Kolkatta and Mumbai are amongst the 10 most Polluted cities in the world.

The Tree as an Evolutionary Model

The Tree is one of the most striking examples of nature's design process and is inspirational in nature. The average tree self repairs damages, continuously generates new prototypes, adapts and reacts to seasons etc.

The tree has a coded description that can divide and multiply. Its growth depends on the environment and its own genetic code. Each growth procudes a change in the environment which further depends upon other relationships. This leads to a different growth pattern in the next generation.

The tree is metaphoric of the inherent processes in nature and the embodied knowledge within the seed of the tree must be replicated in the organic city-making processes.