

# Urban Ecologies<sup>1</sup>

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The 20th century marked a quantum leap in human evolution: the transition from rural to urban life. Resulting in enormous – and enormously disparate - increases in material welfare.<sup>2</sup>

The astonishing growth-rates of this period were largely made possible by the mechanization of the urban environments, which were planned and managed as machines for mass production and consumption.

In these environments both time and space is divided into discrete elements and each element is assigned a specific function.

The ‘urban machine’ depends on (centralized) control, standardization, repetition and predictability, thus any unexpected change is a threat to its stability. But this is also what makes it vulnerable in a world in which “the flap of a butterfly’s wings in Brazil may set off a tornado in Texas”.<sup>3</sup> And what impedes the creative potentials of its inhabitants.

Furthermore, it demands an ever-increasing input of material/energy, which leads to the exhaustion of natural resources, the disruption of eco-systems and the reduction of biodiversity. At the same time its output includes hazardous waste like toxic particles and substances, and greenhouse gasses contributing to global climate change.

While urban populations often benefit from better living standards, job opportunities, health care, education etc., they frequently suffer from bad air-quality, contaminated soil, lack of clean water, poor nutrition and sanitation.

The urban environment of the 21st century is different.  
It is healthy, clean and safe.  
It creates no waste.  
It is fueled by renewables.  
It recycles or regenerates everything it consumes.  
It is everywhere and it is connected to everything.  
It integrates the distributed intelligence of many networks.  
It satisfies a great variety of individual interests.  
It adapts to constantly changing needs and demands.  
It combines big and small, slow and fast, high and low, old and new ...  
It sustains and is sustained by creativity and innovation.  
It is self-organized.  
It is not a dumb machine, but a sophisticated ecology!

#### **Notes**

1. The concept of urban ecologies refers to manmade environments – of all scales – in which people co-exist while adapting to constant changes.
2. Through massive migration from rural to urban areas and extensive expansions of existing urban areas, the world's urban population increased from 10% in 1900 to 50% in 2000 while GDP per capita increased about five fold. In the so-called 'developed' world, where urban services and facilities were dispersed to even the remotest rural areas, urban population increased from 25 to 75 percent while GDP per capita increased about ten fold.
3. Edward Lorenz, 1972