

To Build a Sustainable City “As a Living Organism: The City”

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Abstract

In the 21st century we live in, the issue of sustainability, which humanity deals with great interest, is basically fed by the instinct of human survival. For this reason, in order for life to continue -for humans to survive- in this Earth piece, the issue of sustainability from human scale to city scale needs to be sensitively examined as "a self-sufficient life cycle that can establish mutual relations with others and feed each other". Examining the analogy between the universe we live in and an organism/living being at a much smaller scale, with the thought that structures of different scales may have similar qualities with each other, may offer creative solutions to the issue of sustainability in design and perception. The study focuses on 'the city: as a living thing' with an analogy established between human being and the city. The sample was constructed on the basis of the basic solutions established for the body to maintain its vitality. At this point, the agent systems that play a role in the continuation of the vitality in a body draw attention: such as the circulatory system, the respiratory system, etc. These systems carry out the actions in the living body in a holistic manner through a nervous system in a perfect cycle. Beyond this balance on the body scale, on a higher scale, there is a larger self-sustaining system within the framework of a mutual relationship: Nature. With the same logic, it can be argued that when moving from a living body to other scales, systems observe similar principles and establish/should establish similar life cycles. On the urban scale, the aim of establishing a fully functioning/living city like an organism can be observed in the design principles of leading cities in the 'smart city' theme. For example, in the Punggol region of Singapore, an urban planning that is like an organism draws attention that the green areas of the city are considered as lungs, the city's transportation routes correspond to the vessels and circulatory system, and the data collection and processing mechanisms of the city are equated with data collection and processing with the sensory organs and nervous system². Based on these analogies, a sustainable/living city can be built with a holistic design approach in which all its components are pre-planned and integrated with each other, with a holistic/synchronized urban construction theme like a living body. Just as a living thing establishes and nurtures its life cycle, the life of a city can be sustained with similar principles. In the title of 'as a living organism: the city', a living city can be established or a city can be kept alive.

1 The transition between snapshots of different scales in Eames' film 'Powers of Ten' can realize this questioning. (Eames, C., & Eames, R. (1977). Powers of ten. [Video])

2 Cheong expresses Punggol urban design principles with analogies through his living body. (Koon Hean, C. (2015). How we design and build a smart city and nation?. TEDxTalks. [Video])

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