

Living at the Southern suburbs of Athens is inspiring. The coastline from the ancient temple of Poseidon at the Sounion peninsula to the port of Piraeus is a fascinating drive for the Athenians. The glittering surface of the water and the seaside dandelion edges are a constant reminder of the endlessness of the coastline.

A few issues to be addressed are raised regarding the development of clusters within the boundaries of urban space and the expansion of clusters as a tendency to bring together entities with a common orientation towards innovation and the reconstitution of the comparative advantage of a region through the geographical proximity of the units (residential, business, institutions, organizations, etc.) operating within its boundaries.

The analysis of the Sounion - Piraeus coastline identifies homogeneous areas treated as a Mandelbrot set regarding the perimeter of the coastline, the study of specific urbanized surfaces and the study of areas in a phase of formation.

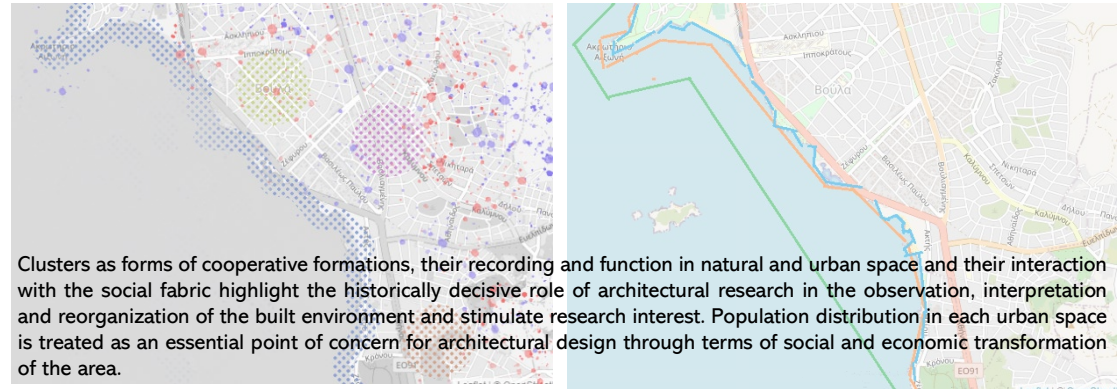


WITH THE VALUES OF EACH ERA REFLECTED IN ARCHITECTURAL DESIGN, ARE THE SPACES OF ACTION FOR THE INDIVIDUAL SUBJECT IN THE DESIGN AND THE FORMATION OF CLUSTERS AT SPECIFIC POLES OF THE URBAN LANDSCAPE DELINEATED?

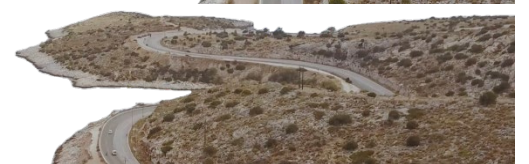


THE COASTLINE PARADOX : COASTLINES AS A MANDELBROT SET

In 1967 Benoit Mandelbrot explored the relationship between changing the length of a ruler and the measured length of a coastline. He argued that coastlines have a property he called “self-similarity “ : zooming in on one part of a curve results in an area that looks somewhat similar to the larger part of the curve. Mandelbrot would later call the feature of self-similarity , fractals.As your ruler gets smaller and smaller, the measured length of the coastline just keeps getting longer and longer. From clouds to mountains, snowflakes to river networks, broccoli to blood vessels, fractals can be noticed everywhere in nature.



Clusters as forms of cooperative formations, their recording and function in natural and urban space and their interaction with the social fabric highlight the historically decisive role of architectural research in the observation, interpretation and reorganization of the built environment and stimulate research interest. Population distribution in each urban space is treated as an essential point of concern for architectural design through terms of social and economic transformation of the area.



The complexity of the phenomenon of urban development, as a non-linear phenomenon , demonstrates the inadequacy of the traditional Euclidean view ?The fractal analysis approach is considered as a geometric approach , which through a binary logic distinguishes between the urban and non-urban area and introduces the treatment of the coastline as a Mandelbrot set .