ARCOSANTI, A PROTOTYPE ARCOLOGY

On Friday Feb. 16th, I presented a DMG “Outside the Box” talk regarding what I had learnt from working and living in Arcosanti. Arcosanti is an urban laboratory for the concept of Arcology. Arcology (Architecture+Ecology) is Italian architect, Paolo Soleri’s concept of highly integrated, complex and compact cities which are a part of, and participant in, evolving ecosystems. The arcology concept proposes a vertical, truly three-dimensional urban form contrasting with our two-dimensional horizontal cities. In developing this concept, Paolo Soleri was influenced by French philosopher Pierre Teilhard de Chardin’s idea of the Omega Point. Omega Point describes the maximum level of complexity and consciousness towards which the universe is evolving. Complexity is an inseparable part of an arcology, because the nature of complexity demands the rigorous utilization of all resources. The Arcology concept was formed while Soleri was observing the rapid two dimensional expansion of Phoenix, Arizona, from his experimental studio, Cosanti, located in nearby Scottsdale.
Phoenix Rapid Expansion

Soleri started this experimental research studio after completing an 18 month fellowship at Taliesin West with Frank Lloyd Wright. The word Cosanti comes from the Italian terms Cosa (things) and Anti (before or against). This anti materialistic view suggests leanness and frugality as the formulating basis for design, learning from the surviving desert ecosystems which are the best examples of lean living communities that use less to do the most. A completed Arcology would occupy about 5% as much land as a typical city with the same population. An arterial Arcology or a lean linear city, which suggests a mass-transit logistical system designed around people rather than cars and relying on renewable energy as much as possible, can have a density twice that of the city of Manhattan.
In the 1970s this research led to an actual experiment in the form of a prototype named Arcosanti, intended to be a demonstration of the arcology concept. Located in the high desert of Arizona, about 50 miles NW of Phoenix, Arcosanti includes living, working and public spaces designed in an integrated way with walking as the main form of transportation for citizens. Over the last 40 years more than 6500 people from around the world have put effort in building Arcosanti by participating in workshops, classes and internships. Currently, only 5 percent complete, the community has an approximate year-round population of 100. The next phases of the project include completing it for 500 and then 5000 people. Currently the town is mainly an education center and a tourist attraction.
In Arcosanti passive solar energy is the main concept shaping the buildings. All the buildings face the south and the apse effect, lets the building receive more solar energy in winter and stay shaded in summer. A proposed greenhouse or energy apron, which is partly under construction now, will provide a climate controlled renewable energy system while increasing the capacity for on-site food production. The heat rising from this sloped greenhouse will be directed towards the building with the chimney effect, helping to heat them during winter.
My presentation ended with images of two historic villages from my home country, Iran, which have gradually been built and preserved in a three-dimensional way using passive solar design elements. Observing these compact villages, in which the roof of one building often serves as the yard of the building above it, was one of main reasons for me to get interested in exploring Arcosanti, as an alternative design approach to urban sprawl. The comparison between traditional climate responsive designs and the concept of arcology, lead us to discuss the notion of necessity versus choice and the fact that in a traditional setting both architectural forms and the efficient and ‘lean’ way of life are achieved because of necessity, while in a place like Arcosanti this way of building and living is based on choice. While this concept could work as a promising and perhaps fashionable model in the 70s, today with the irreversible impact of our economic model which is based on infinite growth, on the ecology of the planet, a lean approach is an imperative. Perhaps the question is what it will take for more people and leaders to change their perception of time and admit that we are not going to be immune from necessity forever.

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