The architect’s view of nature and its effect in design processes for sustainable buildings

Without cultural and technological attitudes concerned with the relationship Man x Nature, architects have little basis to develop buildings that result in environmental sustainability. History proves that changes in collective and individual consciousness are directly related to changes in human behavior and its relation to nature. That is also true for architectural design. The architect’s behavior upon nature depends on prevailing ecological paradigms.

Conscious application of new ecological paradigms for sustainable buildings

Old and new paradigms of nature and their relationship to architectural design – both as technological and cultural expression – have been studied yet in academic fields and are little known among Brazilian architects. Therefore, they still have little influence in professional practice and academic education of architects. This research intends, for that reason, to organize some historical and philosophical support in favor of a conscious application of ecological paradigms in sustainable buildings.

Building technology and cultural expression in architecture ecological design

The design of sustainable buildings, from the technological point of view (ethics) as well as from the cultural (aesthetics), has been challenging architects all over the world. For students and professionals, the current ecological crisis arises two important issues: one is the environmental sustainability of the building technologies; the other is the cultural expression that translates into architectural forms, new ecological paradigms. The problem, however, is having these two subjects together in one single building, making a synthesis of technology and cultural expression.

The influence of the mechanical model of nature in Brazilian Modern Architecture and its environmental consequences

The mechanical philosophy and the Scientific Revolution of the seventeenth century have treated nature as an inanimate source of raw material. This kind of thought has reached Brazilian Architecture in the beginning of the twentieth century, mainly by the influence of Le Corbusier. According to him, the house (as well as the planet upon which we inhabit) was a “machine to live in.” He also said: “Man underlines and wants the Nature. He opposes himself to her.” Le Corbusier’s architecture work and vision of nature have been among the most important references for Brazilian Modern Architecture and have influenced several generations of Brazilian Architects. Nowadays, there is some evidence that his influence is partly responsible for the environmental consequences of buildings designed with borrowed concepts from the mechanical philosophy.

![Diagram](image)

**FIGURE 1** - Represents the architect’s vision of nature (green ring), which includes ethics (ethology) as well as aesthetics (cultural expression) in the design process (blue ring). It also represents architecture as a media that communicates to several parts of society (green rings), the idea of an ecologically sustainable relationship between nature and buildings. **FIGURE 2** - Represented by red circles, buildings have a social and environmental function to construct and patterns concerning a whole environmental enterprise. **FIGURE 3** - Represents different ecological paradigms in different periods of history. In parallel, there is a colored strip that compares these models with successive ideas of living nature, modern nature and “new” nature, combined with a blue strip that shows environmental impact levels of building technologies in each period.