

THE EFFECTS OF POLYGLOBAL CIVILIZATIONS ON THE PHILOSOPHICAL CONSTRUCTS OF ARCHITECTURE

Thomas M. Ciesla, President, Outer Space Environments, Spring, Tx. 77388

ABSTRACT

In turning his attention to space exploration, man enters a new age of exploration that invigorates the discovery of exploration and redefines it at the same time. The exploration of the presumably abiotic and insentient environment of the solar system will challenge many philosophies pursued by man. Man - the builder, *will* build in outer space, both on-orbit and on the surfaces of planets and satellites, and in doing so may be forced to redefine the paradigms of architecture.

Architecture will slowly evolve into two fields: terrestrial architecture and extraterrestrial architecture. While many of the techniques used by terrestrial architecture will transfer to other planets, many will not. Modified human factors, new materials, standards, and construction techniques will force architecture to shelter man with systems not yet available to us on Earth.

Terrestrial architecture varies in aesthetics and methodology, influenced by culture and climate. All architecture does however, share fundamental philosophical constructs which permeate our lives and effect every structure built, yet go relatively un-noticed:

1. Man is a Surface Dweller. Most of man's architectural efforts have been confined to land, and more specifically, on the surface of that land.
2. Man is a creature of gravity. Stable, Earth-normal gravity is endemic to man's nature. It shapes his architecture, his body, and his perception of reality.
3. Man exists in a benevolent atmosphere. In all variations of architecture throughout history, Earth's atmosphere (air) has moved freely into and out of man's structures. Architecture encloses the atmosphere, but rarely seals it out.

Once mankind extends his presence to other solar bodies, these constructs change. Gravity varies from world to world, the atmosphere if any, must be sealed out, and surface dwelling is difficult. The homeostatic relationship between man and planet no longer exists. That is not to say, however, that the Martian or Lunar environments are hostile. We may do ourselves a disservice by using the 'hostile' label, creating a mindset which restricts our solutions.

As we spread throughout the solar system, it is the role of architecture to ask how man can best coexist with these environments, rather than protect himself from them. The varied environments of these worlds may force architecture to evolve along planetary lines; with Earth, Martian and Lunar architectures all contributing to the overall philosophy of the discipline.

This paper will explore this new era of architecture, as well as the environments and issues that will help redefine it.