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New architectural, Strategic and Design Approaches to the Future of Human Space Flight (1)

Author: Mr. David Wong
United Kingdom, dykwong@hotmail.com

Dr. Regina Peldszus
European Space Agency (ESA), Germany, regina@spaceflightdesign.org

"LESS IS MORE"? - EXPLORING DESIGN PRINCIPLES OF MODERN ARCHITECTURE IN THE
CONTEXT OF SPACE HABITATION.

Abstract

This paper begins by asking a hypothetical question: "If Mies van der Rohe was to design a space station or a building on the Moon, what would it be like?"

German-American architect Ludwig Mies van der Rohe (1886-1969) is widely acknowledged as one of the masters of modern architecture that has defined generations of urban cityscapes around the world. For his minimalist approach towards design, he is often linked to the aphorism "less is more". Also his contemporaries – among them Austrian American Richard Neutra (1892-1970) – explored ways of reconciling compact, paired down designs with the needs of a new generation of dwellers for flexible living and a conscious integration into landscape context. The legacy of their work continues to be influential to the development of architecture today.

Considering space architecture that has been realised to date is, in many aspects, as removed as it can be from the sleek and discreet aesthetics often associated with modernism. This paper discusses aspects of space architecture by exploring how the thinking from some of the 20th century's greatest architects could be applied to planetary surface and interplanetary settings, whether their architectural principles are technically and conceptually relevant for the design of architecture in space today, and how they could influence design approaches to space architecture in the future.

The discourse begins by highlighting some of the architectural values which help define many modernist masterpieces, and put them in the context of space architecture: From the emphasis of a clarified structural order, to the ideology which determines the use of materials and the associated construction process, to the preference of free open space, the consideration of the exterior setting of a building and its users' needs, to the ultimate goal of becoming an expression of the ethos of a society.