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Contemporary Arts Practice and Outer Space: A Multi-Disciplinary Approach (3)

Author: Dr. Tibor Balint
Jet Propulsion Laboratory, United States

Prof. Paul Pangaro
College for Creative Studies, United States

THE EMERGING ROLES OF THE OBSERVER ON HUMAN SPACE MISSIONS

Abstract

The roles of art, design, and architecture on long-duration human space missions could have deep, significant impact on the functional capabilities of human environments in space, far beyond mere form and aesthetics. Yet, today's technology-driven paradigm of space design pays limited attention to "soft" disciplines that relate to artistic and designerly modes of operations. This current worldview is governed by engineers and project managers. "Soft" considerations are looked at as nice-to-have add-ons at the end of the project, dependent on resource availability. While sufficient for short missions, this unnecessarily constrained view of artistic and designerly modes must change for long-duration missions, as the crew spends nearly 100% of their time inside a severely limited volume, in virtual isolation. Thus, it becomes necessary for all the systems, usable objects, and artistic artifacts inside the habitat to be connected to the goal of facilitating engaging interactions with the crew. Artifacts—as boundary objects in the intersection of various disciplines—facilitate circular conversations between an observer (crew member) and the environment of the spacecraft, and have many important functions. They provide emotional connections and comfort, promote well-being, support autonomy, help thinking to evolve novel ideas, and aid discovery and entertainment. When designing for experiences and interactions in space, artists, designers, and architects are able to look at artifacts from the perspective of the crew as observers, and imagine a rich set of interactions through various aspects and stages of the spaceflight. As a result, these artifacts support the higher-level needs of the observer, beyond basic physiological, psychological, and safety needs. They are designed for the well-being of the crew members, while sustainably utilizing the habitat volume and resources. In this paper we systematically show how human-centered roles and circular conversations between the observers and their environments can be incorporated into the culture of designing for space travel through the involvement of artists, designers and architects, from an early stage of designing the mission and its elements. This process is inclusive of the people who envision and create the environments and user experiences, and those who experience, use, and evolve them. Making the case about the importance of these considerations may help artists, designers, and architects to reframe the discourse of their contributions to space exploration and, in effect, find a stronger acceptance from the decision makers of a technology-driven human space exploration paradigm.