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THE SPACE OPTION CONCEPT – THE URGENCY OF EXPANDING THE HUMAN ARENA

Abstract

At the XLIV International Astronautical Congress, the authors introduced the Space Option concept. From the multitude of reasons for the overall astronautical endeavour, the Space Option concept was defined to restrict and focus actions in terms of purpose time and utility, by calling for (i) the use of extraterrestrial resources, but not only for in-situ utilization, (ii) the import to Earth of space products from said resources, not on a sporadic basis but (iii) to provide for a conspicuous fraction of the primary needs of ground-based societies. Twenty-five years later, it seems opportune to review the development of space utilization efforts and of the Space Option concept to assess their actual state.

Many elements listed went back to the work of numerous researchers (like Ehricke, Criswell, Lewis). The basic feasibility of the concept was given, as no new technologies were assumed beyond ad-hoc improvements. The next section surveys subsequent in-house activities (resulting in a series of papers), quantifying the concept's importance. Eventually, ESA's Long-Term Space Policy Committee discussed the concept and covered it in their reports. Also reviewed are the works by several authors, prepared independently, but within a similar cognitive frame.

The subsequent section presents a comparative overview of the world situation, as basis for an assessment of the concept over the time interval: this shows that the reasons for implementing the Space Option have remained and strengthened, making this not only relevant but urgent. This urgency results, not from the expectation of some future catastrophe, but from the necessity to alleviate current, "routine," destruction and suffering.

The last section examines possible motives behind the current lack of activity (superficiality in analysis; ideologically-driven opposition; extreme risk-adverse behaviour; "irrational ignorance"). Although the space establishment has continually restricted its field of interest, the number of researchers acknowledging the significance of this idea seems to grow. Adversaries to the concept often build their argument on a "lack of urgency" claim.

In conclusion, the Space Option remains a valid, if limited, concept toward space development. The experience of the past quarter century suggests rejecting current statist control and ownership, and expanding the search for new development architectures. The concept ought to grow beyond its "utilitarian" limits and build, with living, economic and cultural elements, the vision of a "garden" in geolunar space.