

SPACE DIPLOMACY, GOVERNANCE & INCLUSION: FROM U.N. OUTER SPACE TREATY FORWARD TO MOON VILLAGE AND BEYOND. S. Asfour¹ and B.H. Foing¹, ¹LUNEX EuroMoonMars, EuroSpaceHub Academy, sirine.asfour at gmail.com, foing at strw.leidenuniv.nl)

Summary 180 char. : Respecting UN Outer Space Treaty, future Lunar Exploration beyond MoonVillage Concept will be shaped by nations, private and commercial stakeholders, and issues of Governance, Space Diplomacy, Inclusion, Democracy, Connectivity and Interdependence.

Introduction: The adoption of the Outer Space Treaty by the UN institutions seals the creation of the most ratified convention on space law by the States, still today. It rules on the freedom of use and exploration of space and the status of astronauts as envoys of humanity. However, it sets the first limits to space activities by prohibiting all uses of space for military purposes as well as the absence of recognition of any sovereignty in outer space and on celestial objects. However, this international law, which can only bind States, does not represent the realities on the ground. In practice, alongside the States, private parties have also taken part in the will to explore and use outer space.

MoonVillage Concept: Aware of the necessity of international cooperation between these different actors, the European space agency decides the creation of a project accessible to both public and private parties. In this sense, the European Space Agency endorsed in 2015 and for the horizon of 2030, the establishment of a Moon Village [1]. The Moon Village concept is partly defined as a social experimentation that considers geopolitical aspects without reproducing exclusive national interests. This experimentation is part of an open space policy where private and academic organizations can take place. The term "village" chooses to support the will to constitute a community and not a base or a colony. It could be constituted by humans or robots according to a pre-bureaucratic organization where the establishment is done organically. It is supported by the will to have neither leading powers nor the setting up of hierarchy. In a political consideration, it may seem that this Moon Village, or at least the vision depicted here, considers the implementation of an archaic situation that will question humans and their nature in a rather anarchic configuration. Secondly, if the Moon Village belongs to everyone (and to no one) its governance seems to be everyone's business.



Fig 1. Artistic View of MoonVillage Precursor Milestone (Credit ESA, Norman Fosters)

Governance and Space diplomacy: How could governance, or at least a common responsibility, be set up in this context? Our terrestrial world, which is a multipolar organization that does not limit the acquisition of territory and does not prohibit military activities, has as an outcome an internationalization of conflicts. The Moon, which tends towards a multipolar organization, seems to be protected by applicable treaties from all conflicts related to the acquisition of territory and military interference. But won't the lack of regulation of resources lead to the same result? For the moment, nobody seems to be able to define the outcome to which multipolar governance on the Moon could lead. For the rest of this work, we decided to consider that to define the dynamics of a diplomatic strategy, it was essential to define in which current the interactions between the different multi-stakeholders are inscribed. It is necessary to understand the motivations and incentives of space actors to define a "new space diplomacy". The field of international relations is the most likely to provide us with a theoretical framework and methodology for analyzing the interactions between actors in the extra-atmospheric domain. International relations present several currents which, although converging towards the current configuration of multi-stakeholder, are differentiated on the appreciation of human nature. The appreciation of human nature seems to be the foundation of the main ideological currents of international relations. The realist current considers an analogy between the behavior of states and human nature. States would be part of an anarchic international structure where the rivalry between states leads to a security dilemma. International organizations would only be arenas of political power that would rely on the support of the great powers. Here then, anarchy, that is, the

absence of order in international relations, would be the result of the conflicting nature of humans, characterized by his distrust, his duty to dominate, and his desire for power. According to the realists, anarchy is a dangerous situation because it is defined by an absence of security. The security dilemma would therefore explain that the setting up of agreements at the international level would only be an attempt to seek security (and at the same time power) in the face of states with the same interests. Interests are thus rational and politics functions through power. Morgenthau [2], a classical realist author, explains that the aim of this realist theory is not an aggressive foreign policy, on the contrary, his "homo politicus", his ideal of the head of state, underlines the importance of "political wisdom", i.e. prudence, moderation, judgment, courage,... It seems quite intuitive to admit that space policies, both public and private, are set up to achieve through political action their interests. Also, let us recall that the space race is registered in the context of the cold war to promote purely realistic interests of domination and rivalry. By choosing for the Moon village a structure that considers the geopolitical aspects without the interference of national interests, Wörner, Foing et al seem to forget that it is these same national interests that direct the current space policies. Also, it seems to be underappreciated that in an anarchic situation, in which would be found the Moon village without predefined bureaucratic organization, the interests of the States are those of security and power. By the stakes of militarization of the current outer space, we can only imagine realistic interests highlighted. However, neither the realist nor the neo-realist theory seems to apply precisely to the case of outer space. Considering the States as the central and most dominant actors, these theories do not adapt to the multi-stakeholder approach particularly specific to the Moon. This multi-stakeholder approach seems an essential component and causality with the legal definition of a Moon as a common good of humanity.

Democracy, connectivity and interdependence:

Also, we would like us to consider a less pessimistic approach to human nature. In recent years, a new theory has emerged. While considering the existence of realist interests, this theory considers neuroscientific advances to address human nature in a more nuanced way. Also, this approach considers three other dimensions: global anarchy, instant connectivity, and interdependence. These three dimensions form with the neurobiological dimension, a set of interlocking aspects to address the dynamics of the global system. In the following, we will try to convince you that this theory is the most effective paradigm related to space and issues of a Moon village. Professor Nayef Al Rodhan [3] is at the initiative of this theory whose application to the field of space and more precisely to colonization is brilliant. This professor is interested in considering the colonization of Mars according to his theory. He reminds us that according to the Fermi paradox, civilization would inevitably move towards exploration, colonization, and survival.

Consequently, the "Moon Village" project would have, according to Fermi, a colonizing and survival aim - which would inevitably be contrary to the principles of International Space Law. While the realist approach considers a zero-sum game, symbiotic realism imagines an absolute gain to cooperation since survival and prosperity are no longer limited to one domain, originally the military domain. Indeed, cooperation would be necessary to avoid a situation of permanent conflict in an environment more hostile and unpredictable than on Earth. He also argues that the relations between states on Earth would determine the holders of power in outer space as well as the probability of future conflict. What about private companies? If private companies are involved in the Moon village process, Pr. Al Rodhan reminds us that it would be necessary to ask whether these companies would impose a political system on one of their colonies. In this sense, Space X has already announced that it would be in favor of a direct democracy system.

Acknowledgments: we thank Me Dane Tacchini and Ava Hutchinson from EuroSpaceHub academy for discussions. S. Asfour acknowledges a research grant from ¹LUNEX EuroMoonMars & EuroSpaceHub Academy

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