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OUMUAMUA: APPLYING A MULTI-MESSENGER APPROACH TO FUNDAMENTAL LEGAL AND ETHICAL ISSUES FOR DEVELOPING GOVERNING FRAMEWORKS ON SPACE MINING

Abstract

In September 2017, our solar system had a chance encounter with an interstellar interloper who entered our solar system and danced a fine slingshot around our sun at 196,000 mph. The anomaly, nicknamed 'Oumuamua' (meaning "a messenger from afar arriving first"), befuddled the astronomers who discovered her, by demonstrating comet-like acceleration and displaying an unusual elongated shape and convoluted asteroid features. By January 2019, she had already flown past Saturn, exiting our solar system on her way out to the Pegasus constellation. A true 'star voyager', what treasure of cosmic data and resources might she render? What if we could capture Oumuamua, probe her, question her, dismantle her and use her alien resources and knowledge to improve our quality of life? For whom would this serve? What then?

Space mining and in situ resource utilization are hot topics for many reasons: such activities invoke the imagination of a spacefaring civilization, the aspirations of a technologically sophisticated society, and enough political questions to debate for decades. Equitable frameworks for authorizing and managing actors and the distribution of natural resources, however, is neither a new industry concept nor an outdated Utopian ideal ensconced in Space Law. At the core of this legal debate is the fundamental concepts and philosophical arguments on 'polis', 'justice' and 'rights'. For a nation or authoritative body to regulate space mining, it has to acknowledge an actor's right to do so, both in regards to lawful activity and property attributions to the claims and use over natural artifacts. And if everyone holds this right, how do we balance and prioritize the rights and interests of all 'right holders'? 'Social justice' may inform us of who ends up being marginalized or excluded. Analogies also exist in the Law of the Sea and the Moon Agreement to legal equitable sharing schemes. Significantly, to establish a sustainable and prudent framework for the future we shouldn't let our quest for legal formality exclude considerations of fundamental values. Practical ethics can provide a rational approach here when law is silent or lacking, by identifying the fundamental values at stake and framing approaches to the issues. In adopting astronomy's 'multi-messenger approach' to discovery, this paper will analyze these fundamental space mining legal and ethical questions to provide a deeper understanding and inclusive view on space mining issues and governance.