

Who Owns the Moon?: Extraterrestrial Aspects of Land and Mineral Resources Ownership. By Virgiliu Pop. Berlin, Germany: Springer (Tiergartenstrasse 17, D-69121 Heidelberg), 2009. xi, 175 p. Space Regulations Library. Includes bibliographical references and index. ISBN: 978-1-4020-9134-6 (hardcover) \$169.00.

Virgiliu Pop is a “space lawyer” and researcher at the Romanian Space Agency who claimed ownership of the sun in 2001 to raise awareness of extraterrestrial property law. His book, *Who Owns the Moon?: Extraterrestrial Aspects of Land and Mineral Resources Ownership*, was published in 2009 and so about three years old now. Since that time there have been about 25 books published in the area of space law, and with the exception of, *The Development of Outer Space: Sovereignty and Property Rights in International Space Law*, by Thomas Gangale, also published in 2009, this is the only book that has dealt specifically with the ownership and development of extraterrestrial property. The other works published during this time period introduced space law as a field of study or dealt with the theoretical and policy related aspects of the law of space and activities in space.

This volume is the fourth in Springer's Space Regulations Library a series launched in 2001. This series will see its seventh volume released early this year with what should prove to be a nice compliment to Pop's book focusing on the regulation of commercial mining in outer space. *Who Owns the Moon* has eight chapters each with its own introduction and conclusion followed by a concluding statement for the book as a whole. And although the index is a little weak (e.g. the listings under 'Celestial bodies', 'Moon' or 'Property' list virtually every page in the book), there is a useful thirteen page bibliography of primarily English language materials followed by a very short table of cases. In addition to improvements to the index it might have been useful to include the texts of the Outer Space Treaty (1967) and the Moon Agreement (1979) or at least direct readers to the versions available on the UN Office for Outer Space Affairs website <<http://www.oosa.unvienna.org/oosa/index.html>>.

Pop takes a nice logical approach to laying out the law as it has been developing in this area. He starts by looking at the legal sources of landed property rights as it applies to outer space covering both the material and formal sources of the law. Because outer space lacks an appropriate *lex situs*, which determines which laws apply to the land in question, the jurisdiction falls to international law. He finds the consensus that has emerged orbits around the inability of international law to effectively deal with the inherent ambiguities of extraterrestrial property rights.

He follows this with a discussion of what constitutes a legal object in space noting that much of the ambiguity in the law exists because some of the key concepts have yet to be given formal legal definitions. For example, Article II of the Outer Space Treaty (1967) states: “Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means”, it fails to define the fundamental terms “outer space” or “celestial body.”

Pop's then examines what constitutes a “celestial body” considering the concept in terms of movable and immovable property. He then explores issues around property and sovereignty, the idea of the extraterrestrial realm as a commons regime, the applicability of “homesteading” in outer space, and provides a chapter on the common heritage of mankind which he argues is the “archenemy of space development.” His last chapter touches on the law as it relates to the status of samples and resources extracted from extraterrestrial property. He presents a number of different viewpoints and considers extraction for both scientific and commercial purposes.

There are many more legal questions than answers raised in this book starting with its provocative title

statement: “Who owns the moon?” The exploratory nature of the book is certainly one of the valuable aspects of this book. The moon is a natural starting point because its close proximity to earth makes it one of the most likely “celestial bodies” to be exploited in this way. Pop notes that a “cultural lag” can often mean developments in law will happen behind changes that occur in society. But because of the “novelty of space exploration” space law finds itself ahead of the facts anticipating the application of property laws and regulations in outer space. The expanded coverage of extraterrestrial property rights beyond the moon provides a valuable perspective in an area of law worth watching.

So, who owns the moon? If you ask Dennis Hope, CEO of the Lunar Embassy who has been selling plots of land on the moon since 1980, he would say that he is “the legal owner of the Moon of Earth and the other eight planets and their moons”, but as Pop and others concludes, “claiming is not owning.” This is a fascinating area of law which I would recommend either as a supplement to property collections or for any library collecting in the area of space law.

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