

MATTHEW J. KLEIMAN, THE LITTLE BOOK OF SPACE LAW (American Bar Association 2014)

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Review by William Gray

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Lawyers in Space: The Role of the Lawyer within the Space Industry

“Space lawyers will be at the forefront of helping the spaceflight community overcome these and other hurdles. Perhaps in a few years, when a rocket scientist needs a lawyer, she will be able to find one in outer space”¹

Space has captivated the imagination of mankind since they first turned their heads to the stars. Although thoughts of space travel may casually flutter briefly across the minds of the average person, the majority of us dismiss the practicality of such adventures and leave space travel to the characters aboard the *Starship Enterprise* or the *Millennium Falcon*. However, practical space privatization and travel may not be as far off as we thought. The modern-day space industry has seen a drastic increase in development and ingenuity in recent years. With these advancements, telecommunication companies have created global connectivity, SpaceX has invented a reusable rocket that makes supply runs to and from the International Space Station, and plans to establish the first settlement on Mars are currently in the beginning stages.

¹ MATTHEW J. KLEIMAN, THE LITTLE BOOK OF SPACE LAW 169-70 (ABA, 2014).

Mankind's new celestial capability has left a slew of legal issues needing to be addressed in order to safely and efficiently progress in the development of space faring technology. In *The Little Book of Space Law*, Matthew J. Kleiman has brilliantly compiled the current legal doctrine in order to better explain the way the law interacts with various elements of the space industry.

Matthew J. Kleiman is the former Corporate Counsel at Draper Laboratory in Cambridge, Massachusetts.² Draper Laboratory is a not-for-profit aerospace research and development organization that has played a significant role in numerous successful missions to space.³ Since working at Draper Laboratory, Kleiman now teaches space law at Boston University and chairs the Space Law Committee of the ABA Section of Science & Technology Law.⁴ In addition to authoring *The Little Book of Space Law*, Kleiman has channeled his lifelong fascination with outer space into also writing *The Laws of Spaceflight: A Guidebook for New Space Lawyers*.⁵

The Little Book of Space Law delves into the ever expanding field of space law and attempts to organize and present legal doctrine in a way for the typical space enthusiast to comprehend without attending law school. To reduce confusion, Kleiman has organized *The Little Book of Space Law* into four parts, each dealing with different, yet essential, aspects of space law. The first three parts of this book deal with the various stages of spaceflight: launch, orbit, and reentry.⁶ The final portion of this book deals with the ownership rights of interstellar property.⁷ Kleiman breaks down each section of his book into various subsections to further aid the reader in understanding the law. He takes a very orderly and concise approach to explaining each topic. Instead of analyzing each issue in typical legal fashion, Kleiman breaks down the

² See Keilman, *supra* note 1, at V.

³ See Keilman, *supra* note 1, at V.

⁴ See Keilman, *supra* note 1, at V.

⁵ See Keilman, *supra* note 1, at V.

⁶ See Keilman, *supra* note 1, at XI.

⁷ See Keilman, *supra* note 1, at XI.

relevant legal doctrine in a clear manner and spares the reader from debating legal jargon. By creating a time line including major space flight accomplishments, ranging from *Sputnik* to the docking of SpaceX's *Dragon* rocket on the International Space Station, Kleiman is able to grab the reader's attention and keep it throughout the book.⁸

Throughout Kleiman's rendition of space law doctrine, he continuously returns to several main themes. First, Kleiman discusses responsibility and takes time to explain the 1967 Outer Space Treaty.⁹ A reoccurring theme throughout the book looks to article 1 of the 1967 Outer Space Treaty. Article I reads "[t]he exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind."¹⁰ The concept of bettering mankind is a strong theme throughout Kleiman's piece and it is clear, through the discussion of current legal doctrine, that it is the responsibility of all Earth's inhabitants to prevent the abuse of outer space and its celestial bodies. Kleiman places lawyers at the forefront of this issue and tasks them with the interpreting the current law and drafting new legal doctrine designed to ensure that outer space is used in a safe and environmentally friendly manner. This issue is heavily discussed throughout *The Little Book of Space Law* in terms of satellites in a "junkyard" orbit around Earth, the future colonization of celestial bodies, and safe and successful launches.

A second theme addressed by Kleiman is safety and liability. Kleiman returns to this theme in several sections of *The Little Book of Space Law*. He makes it clear that the launching or reentry of a rocket must be done in such a way to ensure the safety of the passengers, crew,

⁸ See Keilman, *supra* note 1, at 169.

⁹ See Keilman, *supra* note 1, at XIII.

¹⁰ See Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410 *hereinafter* Outer Space Treaty.

observers, and everyday citizens. He addresses this issue by explaining that “the acceptable risk for a proposed mission is measured in terms of the expected average number of casualties (Ec) per mission to the general public and to any particular individual.”¹¹ It has been determined that the acceptable average number of casualties for the general public at large is 0.00003 per mission and for any one individual is less than 0.000001 per mission.¹² If the FAA calculates that the mission fails to meet this standard, then the mission is postponed until which time the standard may be met.

In addition to the safety of the general public and crew members aboard the spacecraft, this theme also addresses the issue of liability. It has been established by the 1972 Liability Convention that “[s]tates are strictly liable for damage their spacecraft cause on Earth or to aircraft in flight, regardless of fault, but are liable for damages caused in outer space only ‘if the damage is due to its fault or the fault of the persons for whom it is responsible.’”¹³ This essentially means that states are held strictly liable for any malfunction in which the damage, whether foreseeable or unforeseeable, may be traced back to the responsibility of the state. However, due to the uncertainty of space, the members of the convention found it to be unfair to hold a state strictly liable for the damage their spacecraft may cause, only when the nature of the malfunction may be traced back to their own error.

One of the more interesting topics addressed by Kleiman in his work is the need for space law to continuously evolve and adapt to the new practicality of spaceflight and interstellar missions. There are several organizations who have pledged to establish the first settlement on Mars within the next twenty or so years. However, Kleiman has previously established that

¹¹ See Keilman, *supra* note 1, at 116-17.

¹² See Keilman, *supra* note 1, at 117.

¹³ See Keilman, *supra* note 1, at 6.

Article I of the Outer Space Treaty states that space and its celestial bodies are to be “the province of all mankind.”¹⁴ This means that no single nation may lay claim to ownership to a celestial body in space. If the Mars project is successful and a settlement is established on the planet, then who owns it? This is a major issue that must be addressed in the future discussion and drafting of space law doctrine. A potential solution, in accordance with Article I, would be to simply make the mission an international objective and label the settlement as an international interest, similar to that of the International Space Station.

Although the topic of space law is still in its infancy, especially compared to other legal topics such as torts or property, it is made abundantly clear throughout this book that lawyers must play their role in the space industry in order to establish a safe and fair environment for all those capable and wishing to participate. This book may not be an exhaustive discussion of all space law doctrine, but it is a formidable foundation in which lawyers, as well as all those interested in space and spaceflight, may begin to understand the ever-evolving field. Kleiman, like many others, sees space as the future of industry and human expansion. This means the law has a long way to go in order to fully cover all of the potential scenarios involved in human advancement amongst the stars. Even to the most skeptical, Kleiman has made a valiant effort to win the reader over to his point of view and identify the importance of this topic.

I truly enjoyed reading *The Little Book of Space Law*. From the very first pages, Kleiman was able to hold my attention by intertwining existing legal doctrine with science and history. His use of quotes from notable members within the space industry gives the reader a refreshing break from the law. As a space enthusiast myself, I have always wondered what laws apply to activities outside of the Earth’s atmosphere. Kleiman was able to explain this in a way that even

¹⁴ See Outer Space Treaty, *supra* note 10.

someone with no legal background could understand. I believe this book applies to multiple fields of law and may be a valuable resource for people engaging in a variety of industries. From telecommunications to engineering and even to current tort law, *The Little Book of Space Law* addresses the legal issues addressed within spaceflight. I would highly recommend this book to, not only lawyers, but to anyone within the telecommunications industry, or that has an interest in space itself. *The Little Book of Space Law* is a quick and easy read and the knowledge within its bindings may prove valuable to people interested in the future of business and the space industry.