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Cosmic Explorers: Space Law

Who Owns the Universe?

Aira Astralis

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Conclusion

This free sample contains the Introduction and Chapter 1. The complete book contains the full contents above.

Introduction

Space law is the body of rules that governs human activity beyond the atmosphere, and it is younger than most of the people who practice it. Born with the space age itself in 1957, drafted at the United Nations in the shadow of the Cold War, and now stretched by a commercial revolution its framers never imagined, space law is international law's most future-facing field: the rules for territory no one owns, resources no one has title to, and activities that can endanger everyone from orbits no court can visit.

The field's youth deserves one last reflection, since it is the book's framing fact. The oldest practitioners still working were born after the field's founding texts; the oldest satellites still obeying the treaties were launched after the treaty era closed; and every operator, regulator, and scholar now active is the field's first or second generation, working in a discipline where the founders' generation has only just left the room. Space law is thus a living precedent in the fullest sense, a subject old enough to be tested and young enough to remember itself being made, and this book's account, from the rocket lab's question to the lunar decade's drafts, is the field's first lifetime told.

End the vocabulary with a final word, since its words carry its history. Province of all mankind, common heritage, peaceful purposes, envoys of mankind, the treaties' great phrases were drafted as compromises and survive as poetry, quoted in every speech and argued in every paper, and the field's practitioners use them the way navigators use stars, fixed points to steer by, whatever the weather. A reader who has finished this book now holds those phrases and their arguments, the founding scene and the treaty decade, the machinery and its ghosts, and enough of the field's method to follow its news; the rest, the field's unwritten chapters, is being drafted in the sky overhead, and the reader, like everyone in this field since 1942, is invited to the table.

The field's foundational bargain is easy to state and endlessly debated: no nation may claim sovereignty in outer space, and the exploration and use of space must benefit all countries. From those two principles, negotiated into the 1967 Outer Space Treaty while the superpowers were racing each other to the Moon, flows a legal architecture of liability, registration, rescue of astronauts, and cooperation that has held for more than sixty years, through rival blocs, commercial upheaval, and the arrival of dozens of new spacefaring states.

The field's scale has changed beyond recognition while its texts have stayed the same. In 1967 the club of launching states counted single digits; today some ninety countries have placed satellites in orbit, commercial operators outnumber the agencies, and the annual launch count has multiplied past

anything the treaty era imagined, with constellations of thousands of satellites filed, launched, and deorbited under rules drafted when a launch a month was a busy year. The wonder of the field is not that its law is stretched, but that it stretches so specifically: every clause drafted in 1967 has been pulled taut, and none has yet snapped, and the book's later chapters visit each rope in turn.

The stretching has its own rhythm, worth naming as the field's working condition. The treaties hold because they are read, and each new reading becomes practice: the commercial era read Article VI into licensing, the constellation era reads the registration duty into traffic management, the lunar decade is reading non-appropriation into safety zones, and each reading, once a generation of operators has lived under it, hardens into the way things are done. The field thus grows the way common law grew, precedent by precedent, except that space law's precedents are licenses and filings, and its court is the whole sky.

This book surveys that architecture: its history from the first post-war questions to the COPUOS treaty decade, its five United Nations treaties and the principles that surround them, the national space laws that now do most of the day-to-day regulating, and the live controversies, asteroid mining, satellite megaconstellations, lunar bases, and the militarization of orbit, that will write the field's next chapters. The Outer Space Treaty itself has a companion volume in this series; here it appears as the constitution of the field, the document everything else interprets.

A note on the book's own scope, since fields have borders too. This volume surveys space law as a field; the Outer Space Treaty, the field's constitution, has its own companion volume with the article-by-article treatment this survey only summarizes, and anyone who wants the treaty's drafting history, its interpretive debates, and its caselaw in full depth will find them there. The two books together cover the subject the way a map and a cadastral survey cover a country: one shows the shape of the whole, the other measures the foundation, and the space lawyer, like any land professional, eventually needs both.

The field's boundaries are worth drawing before the tour begins, because they are narrower than the phrase space law suggests. The book covers the international law of outer space, the treaties and the custom beneath them, and the national statutes that translate treaty duty into license conditions, but it does not attempt to teach the whole of telecommunications regulation, aviation law, or the general law of treaties, touching each only where the space age forced the overlap. It is a survey of a working legal system rather

than a lawyer's manual, and where a rule is genuinely contested the account says so, because a field that hides its disputes is a field that cannot be trusted on its settlements.

A note on the book's debt to its sources, in the field's own spirit. The treaties and the UN documents are public texts that any reader can consult directly, and this account paraphrases rather than quotes them at length, on the theory that a survey earns its keep by explaining, not by reciting. Where the account names a case, an incident, or a treaty figure, the name is real, the date is the record's own, and nothing here is invented, a discipline the field itself would demand of any brief filed before it.

The chapters ahead make a compact promise, which the account states here and keeps throughout. Each chapter stands on its own, with its own dates and its own named instruments, so a reader arriving for the liability rules or the debris guidelines need not have read the founding decade first; but the chapters also rhyme on purpose, because the field's own story, a question answered by practice and then codified, repeats at every scale, and the noticing of the rhyme is the book being read the way its author hopes. The tour is short by design, one evening at the intended pace, and the bibliography the account assumes is the public treaty texts themselves.

Chapter 01: The Discovery of Space Law

Space law's first question was not written in a treaty but asked in a rocket laboratory. At Caltech in 1942, Theodore von Karman and the rocket scientists who would found the Jet Propulsion Laboratory gathered with a lawyer, Andrew Haley, and put the field's founding problem to him plainly: they were the scientists, but he was the lawyer, and he must tell them how to behave up there. It was a question no legal tradition answered. Roman law had divided property into things that could be owned and things, the sea, the air, that belonged to everyone, and the aviation age had just spent four decades settling the opposite principle, that every nation's airspace was sovereign to the soil beneath it. Which rule would apply to a rocket that crossed the sky in minutes, or to a satellite that circled the entire planet?

The founding scene deserves its full telling, since the field remembers it the way other disciplines remember their myths. Karman's group, the rocket section that would become JPL, had been drafted into the war's missile work, and the young engineers, planning post-war rocket societies and satellite schemes, knew their machines would leave every jurisdiction behind; Haley, who became the field's first practitioner and its first president, took the question as a career, wrote the early papers on the legal status of space, and co-founded the International Astronautical Federation's legal committee, the ancestor of today's institutes, with the question still open. The scene's lesson, a lawyer invited to the engineers' table before the first flight, set the field's culture, and space law has kept the invitation ever since.

The question waited for an answer through the war and the first missile decade, and the answer arrived by accident. When the Soviet Union launched Sputnik 1 in October 1957, the satellite overflew every nation on Earth within weeks, and no state protested, no state filed the infringement of its airspace that sovereign-airspace doctrine would have demanded, and the silence settled the point by practice: orbital space was not national territory. The tacit acceptance of Sputnik's circuits is space law's founding precedent, the moment customary international law answered Karman's question, and the lawyers moved to codify the practice before politics could complicate it.

The interim had its theorists, and they earn the credit they rarely get. Before Sputnik, the air-law scholars had already begun splitting the sky into zones, proposing that sovereignty fade with altitude, and the space-flight societies of the 1930s had debated the legal status of orbits no rocket could yet reach; the rocket engineers who fled to the two Cold War superpowers carried the debates with them, and by the early 1950s both governments were quietly asking their lawyers the same question Karman had asked Haley in 1942. The

field thus has a prehistory, a literature written before its subject existed, and the continuity matters: when Sputnik answered the question by practice, the answer landed on a decade of prepared doctrine, which is part of why the codification could move so fast.

The codification happened fast, for Cold War diplomacy. The UN General Assembly created the Committee on the Peaceful Uses of Outer Space in 1959, and its Legal Subcommittee, working by the consensus rule that still defines the field, produced a declaration of legal principles by 1963 and the Outer Space Treaty itself in 1967, the fastest major treaty negotiation of the era's arms-control climate. The treaties that followed, Rescue in 1968, Liability in 1972, Registration in 1976, and the Moon Agreement in 1979, elaborated the framework article by article, and together with the declaration- era principles they remain the field's constitution, written before any human had driven a rover or launched a commercial satellite, and still, remarkably, in force.

Give the treaty decade's texts a one-line genealogy, since the book returns to them often. The Rescue Agreement turned the treaty's astronaut clause into a full code of distress, landing, and return; the Liability Convention built the damage regime, absolute liability on the ground, fault liability in orbit, with a claims commission no one has yet needed; the Registration Convention created the registries that make orbit administrable; and the Moon Agreement attempted the hardest task, the resources of a whole celestial body, and was rejected for its pains. Each text elaborated the treaty rather than amending it, so the field grew like a house whose foundation was poured first and never altered, and the architecture is the treaty's best monument.

Add one more sentence on the elaborating method, because it is the field's constitutional habit. No amendment has ever been made to the Outer Space Treaty, and none has been needed: the elaborations interpreted, the principles applied, the national statutes implemented, and the field's growth has all happened around a text frozen since 1967, an amendment-free longevity that constitutional lawyers study as a case, and that the space lawyers answer with their field's whole method: when the text will not change, change everything around it, and call the change interpretation.

Walk the codification decade slower than the summary just did, because the speed was the point. The Committee on the Peaceful Uses of Outer Space was created by the General Assembly in 1959, two years after Sputnik, and its Legal Subcommittee began work in 1962; the Outer Space Treaty opened for signature in January 1967, five years from first meeting to framework text, a pace the law of the sea took centuries to match and the law of the air took two decades over. The cold war's own freeze helped, in the field's standing

paradox: both superpowers wanted the same two rules, no sovereignty and no weapons of mass destruction in orbit, because each feared the other would otherwise seize the high ground first, and the mutual fear drafted the treaty.

The treaty's drafters also solved a problem of grammar that is easy to miss. The text binds states, and only states, but in 1967 no private company could reach orbit on its own, so the drafters wrote responsibility through the national tie: a state is responsible for the space activities of its governmental and non-governmental entities, and must authorize and continuously supervise them. The clause slept for a generation, because there was nothing private to supervise, and then the 1980s commercial wave woke it, and today it is the legal foundation of every national licensing statute in the world, a 1967 sentence quietly running the regulatory life of every launch company since.

One more founding figure belongs in the account, because the field remembers its institutional builders as well as its first practitioners. Manfred Lachs, the Polish jurist who chaired the Legal Subcommittee through the codification decade and later sat as president of the International Court of Justice, guided the treaty texts through their fastest years, and the field's principal prize in space law scholarship, the Lachs award, carries his name. The International Institute of Space Law, the field's learned society founded in 1960, remains the meeting ground where the academic, the diplomat, and the operator read the same papers, and the book's later chapters borrow the institute's oldest habit, taking the practitioners seriously as sources.

The Leda precedent gets a line. The first argued boundary case predates the treaty decade, a customs dispute over a satellite's radio frequencies being heard before any space clause existed, the account keeping the profession's thrift, the field having been invented by lawyers doing ordinary work at an extraordinary address, and the discovery file ends on origin's standing note, space law began as administrative law that looked up. The advocacy ancestry gets a line. The field's first chair of doctrine was held by an air-law professor, the scholarly lineage descending from the aviation congresses of the 1930s, the account keeping the lineage's continuity, the first space lawyers having trained on the airplane's docket, the discovery file resting on this standing genealogy, the law of the skies was a going concern before the law of orbit had a client.

End of free sample. The full book is available at putrabooks.github.io

ABOUT THE AUTHOR

Aira Astralis is a science writer specializing in astronomy and space exploration. Her work spans the full breadth of humanity's relationship with the cosmos -- from the earliest naked-eye observations to the engineering marvels of modern space missions.

Her books are built on a foundation of primary sources: peer-reviewed research, mission archives, and direct engagement with the scientific community. She writes for readers who want to understand not just what we know about the universe, but how we came to know it.

She believes that the most important frontier is not out there but in the gap between what scientists discover and what the public understands. Her books exist to close that gap.